



Prime UX

DESIGN SPECIFICATION

Version. 3.0

Note: Some of the Usage Guideline and Interaction Behavior figures are in the process of being updated.

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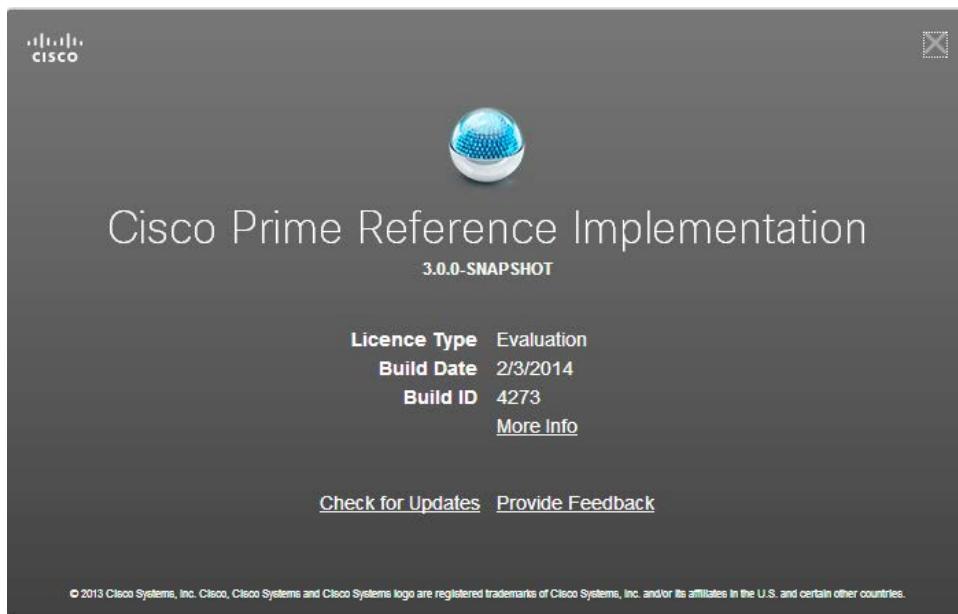
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ABOUT BOX

Usage Guideline

An About Box contains basic information, such as version, and legal information about the application. This information can help the user or a Cisco support engineer by allowing them to quickly determine if the user has the latest version of the application. About Boxes are opened as a "modeless layer" on-top-of the main application UI.



Why use this pattern?

The About Box provides high level information about the product in use, including version and license type. It also provides an opportunity for the user to check for updates to their product or to provide feedback about a product.

When to use it

This pattern is required for all Cisco Prime products.

Options

- Who the product is licensed to
- Links to other products, marketing collateral or feedback links
- Install dates
- License expiration date

Required

Contents

- Cisco Logo

- Close 'X'
- Product Logo
- Product Name
- Version
- Legal Information

Product Identity

The product name must start with "Cisco Prime" followed by the application name (e.g. Cisco Prime Collaboration)

Recommendations

- The About Box is typically available from the application's header
- The About Box appears as a layer, over the top of the main application UI, but unlike modal dialog boxes, the main UI underneath the About Box is not masked

Exceptions

None

Interaction Specifications

Recommendations

- About Boxes do not have any explicit controls, such as buttons but they may have links to navigate to another browser tab. To dismiss an About Box: 1) they come with a close icon, 2) user can merely click anywhere back on the main UI, or 3) click the ESC key on their keyboard.
- If there is an application menu the last menu item under Help should be "About (productname)", which invokes the About Box.
- About Boxes use the same wallpaper background (application theme) as is used by the other screens in the application.

Visual Specifications



Figure 1. About Box Example

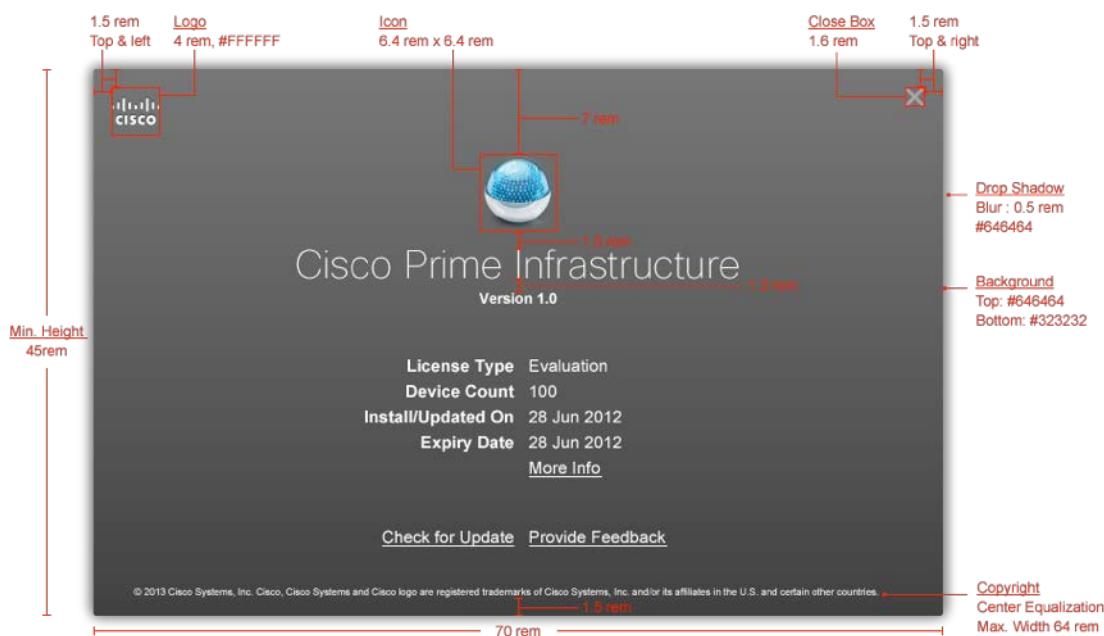


Figure 2. About Box Overview

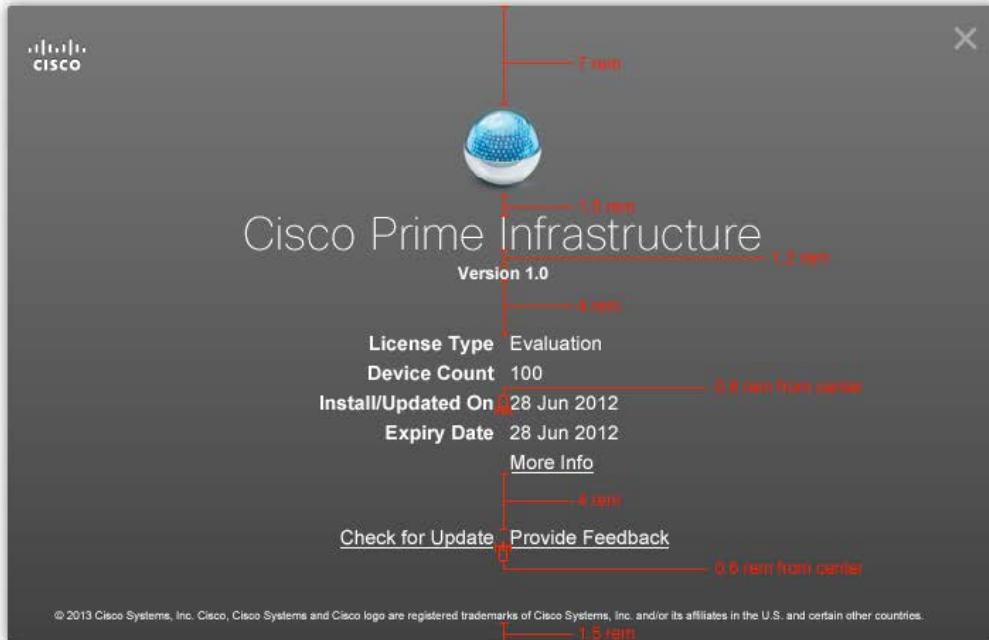


Figure 3. About Box with Two Columns



Figure 4. About Box with One Column

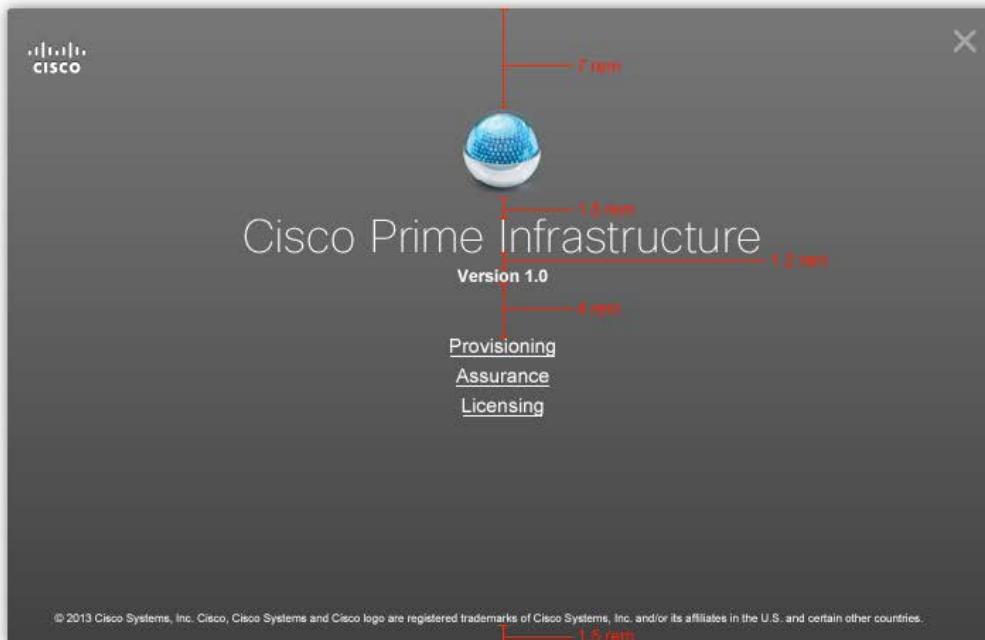


Figure 5. About Box with Links



Figure 6. About Box Overview

Font and Color Specification

Element	Font	Size	Style	Color
Product Name	CiscoSans	3.2 rem	Thin	#FFFFFF
Product Subtitle	CiscoSans	1.8 rem	Thin	#FFFFFF
Version Number	Arial	1.2 rem	Bold	#FFFFFF
Label	Arial	1.4 rem	Bold	#FFFFFF
Value	Arial	1.4 rem	Normal	#FFFFFF
Single Column Text	Arial	1.4 rem	Normal	#FFFFFF
Links	Arial	1.4 rem	Normal / Underline	#FFFFFF
Copyright	Arial	0.8 rem	Normal	#FFFFFF

Table 1. About Box Specifications for Fonts and Colors

ACCORDION

Description

An Accordion is a series of sections (drawers) that leads the user through a task in a controlled, step-by-step manner. Accordions are often used for complicated tasks because users often don't have the familiarity and expertise to complete such tasks. An accordion can be displayed in its own dialog window, or "in-page" within the content area of an application.

Usage Guidelines

A drawer may contain any widget.

Keyboard and Accessibility

- Focus is initially on the first drawer.
- The tab key moves down the field within the drawer.
- Shift-tab key moves focus from drawer to drawer.
- If a drawer is open, tab moves focus to the first element within the drawer

Interaction Specifications

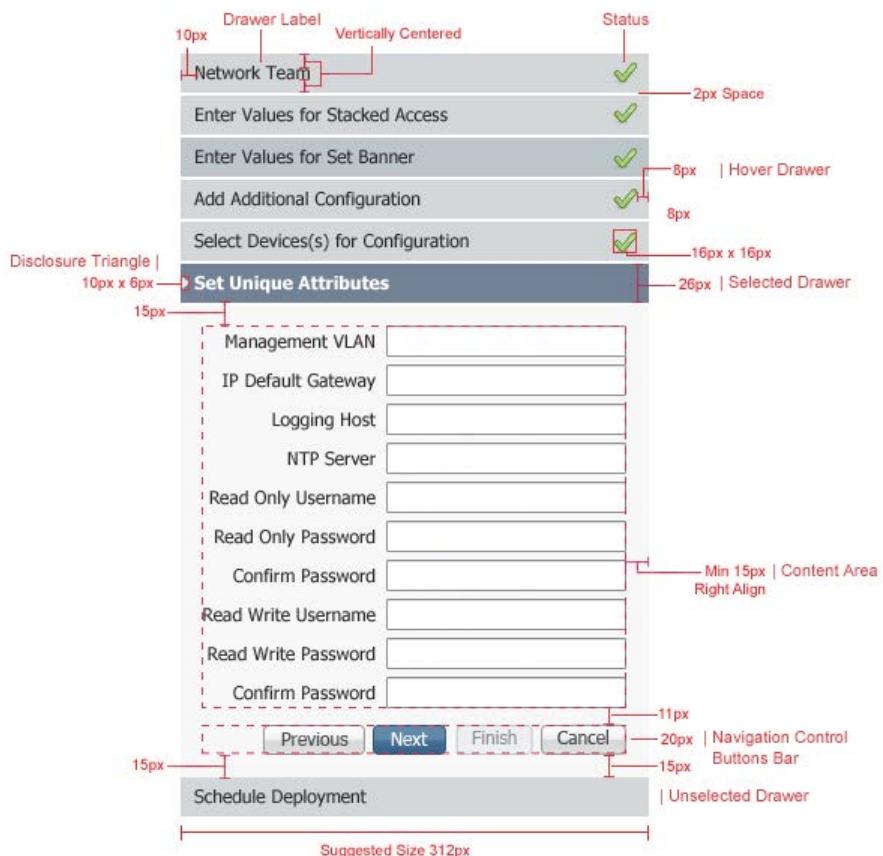


Figure 1. Specification for Accordion with Icon & Text

Elements

Element	Description	Required
Drawer Title Bar	Display the drawer (step) title and the status icon.	Required
Required Visual Cue	Visual indication for required steps.	Required
Completed Status Indicator	Is displayed on the right side of the title bar once the user has successfully completed a step and has moved onto the next step.	Required
Drawer Content	Displays the content of the open drawer and also contains the navigation controls	Required
Navigation Control Buttons Bar	Consist of the Previous, Next, Finish, and Cancel buttons to assist user navigate for one drawer/step to another or to cancel out of the task. Can also contain other workflow specific buttons. Examples are Save, View CLI, ect.	Required

Table 1. Accordion Elements

Behaviors

Accordion is used for both modes of guided workflows: static and branching/dynamic. For a task with a pre-defined set of steps, all the steps will be shown and kept consistently throughout the whole task. For a task which has steps dynamically defined as the user progresses through the task, new drawers will be dynamically display based on the user selection and inputs from previous steps.

Display of Drawers

- **Static tasks:** All steps are shown and the same set of drawers/steps are kept consistent from the beginning to the end of the task.
- **Branching/Dynamic tasks:** Only steps which are pre-defined will be display and as the user progresses through the current steps, new drawers/steps will be added to the accordion.
- All required steps should be display before optional steps.
- All required steps should have a visual indication to denote that it's a required step.

Opening/Closing of Drawers

Only one drawer can be open at a time. Be default, the very first drawer is opened. Opening one drawer closes the other opened drawer.

There are two methods of opening/closing a drawer:

- Clicking on Title Bar
 - Clicking on the drawer title bar will open the drawer and closes the other opened drawer.
- Using Navigation Control Buttons
 - Clicking on the Previous or Next button within the content area of the open drawer will open the above or below drawer.

Status Indicator

- The completed status indicator is shown at the right of the title bar upon successful completion of the step.
- The completed status indicator is shown upon successful completion of all required fields and validation of the step.
- There are two options of showing the completion status:
 - Only Icon - For use when there is no horizontal real-estate in the title bar to also include the text message.
 - Text and Icon - For use when there is horizontal real-estate in the title bar for both.



Figure 2. Title Bar with Icon and Text Completion Status



Figure 3. Title Bar with only Icon Completion Status

Navigation Control Buttons Bar

Always shown at the bottom below the content area of the opened drawer. Refer to visual specification above for exact placement of buttons. Depends on which drawer, the available buttons will differ. All four mandatory buttons should always be present in each drawer. The enabling/ disabling of buttons is dependent on the type of drawers. Workflow specific buttons (such as Save, View CLI, etc) can also be placed in this bar as needed. Workflow specific buttons are always left of the Previous button separated by a vertical divider.

- First Drawer
 - Enabled buttons - Next, Cancel
 - Disabled buttons - Previous, Finish
 - Default button - Next



Figure 4. First Drawer Navigation Control Buttons

- Middle Drawer with more subsequent required steps
 - Enabled buttons - Previous, Next, Cancel
 - Disabled buttons - Finish
 - Default button - Next



Figure 5. Middle Drawer with More Subsequent Required Steps

- Middle Drawer with no more subsequent required steps
 - Enabled buttons - Previous, Next, Finish, Cancel
 - Default button - Next



Figure 6. Middle Drawer with No More Subsequent Required Steps

- Last Drawer
 - Enabled buttons - Previous, Finish, Cancel
 - Disabled buttons - Next
 - Default button - Finish



Figure 7. Last Drawer Navigation Control Buttons

- Drawer with Workflow Specific Button
 - Optional button(s)
 - All 4 mandatory buttons (states depend on which drawer it is)



Figure 8. Sample Drawer that has Workflow Specific Button

Visual Specifications

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">▶ Accordion Menu *</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▶ Accordion Menu *</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▶ Accordion Menu</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▶ Accordion Menu</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▼ Accordion Menu</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td colspan="2" style="padding: 10px; font-size: small;"> Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. </td></tr> <tr> <td style="padding: 5px; text-align: center;"> Action 1 Action 2 </td><td></td></tr> <tr> <td colspan="2" style="padding: 5px; font-weight: bold;">▶ Accordion Menu</td></tr> </table> <p>* Required Step</p> <p>Suggested Maximum Width: 40 rem</p>	▶ Accordion Menu *	✓	▶ Accordion Menu *	✓	▶ Accordion Menu	✓	▶ Accordion Menu	✓	▼ Accordion Menu	✓	Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.		Action 1 Action 2		▶ Accordion Menu		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">▶ Accordion Menu *</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▶ Accordion Menu *</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▶ Accordion Menu</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▶ Accordion Menu</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td style="padding: 5px;">▼ Accordion Menu</td><td style="text-align: right; padding: 5px;">✓</td></tr> <tr> <td colspan="2" style="padding: 10px; font-size: small;"> Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. </td></tr> <tr> <td style="padding: 5px; text-align: center;"> Action 1 Action 2 </td><td></td></tr> <tr> <td colspan="2" style="padding: 5px; font-weight: bold;">▶ Accordion Menu</td></tr> </table> <p>* Required Step</p> <p>Suggested Minimum Width: 22.5 rem</p>	▶ Accordion Menu *	✓	▶ Accordion Menu *	✓	▶ Accordion Menu	✓	▶ Accordion Menu	✓	▼ Accordion Menu	✓	Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.		Action 1 Action 2		▶ Accordion Menu	
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Figure 1. Specification for Accordion - Recommended Width / Minimum Width.

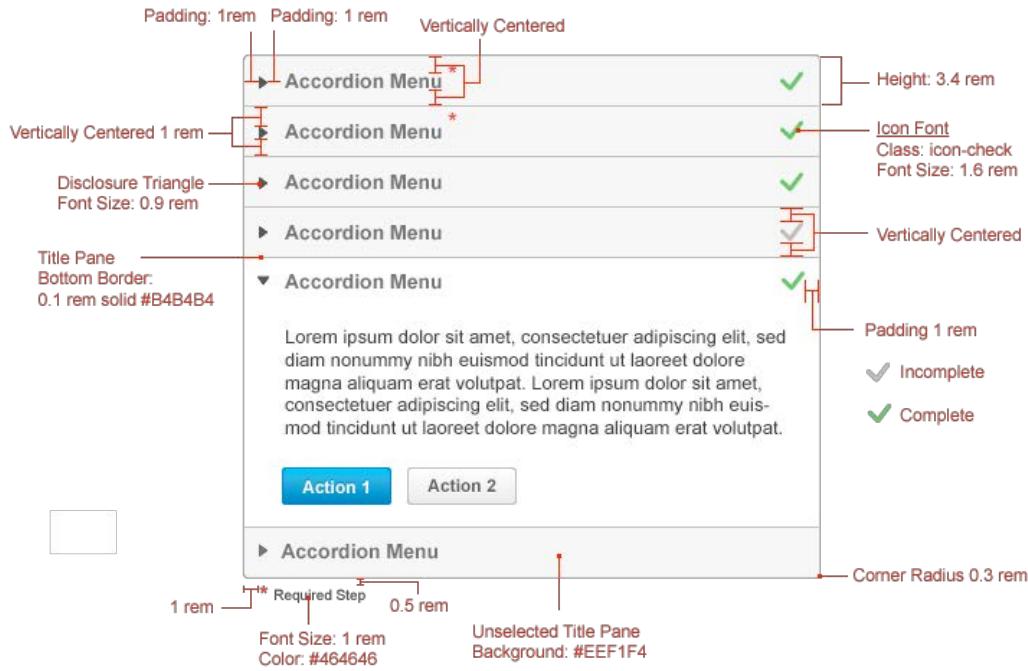


Figure 2. Specification for Accordion with form fields

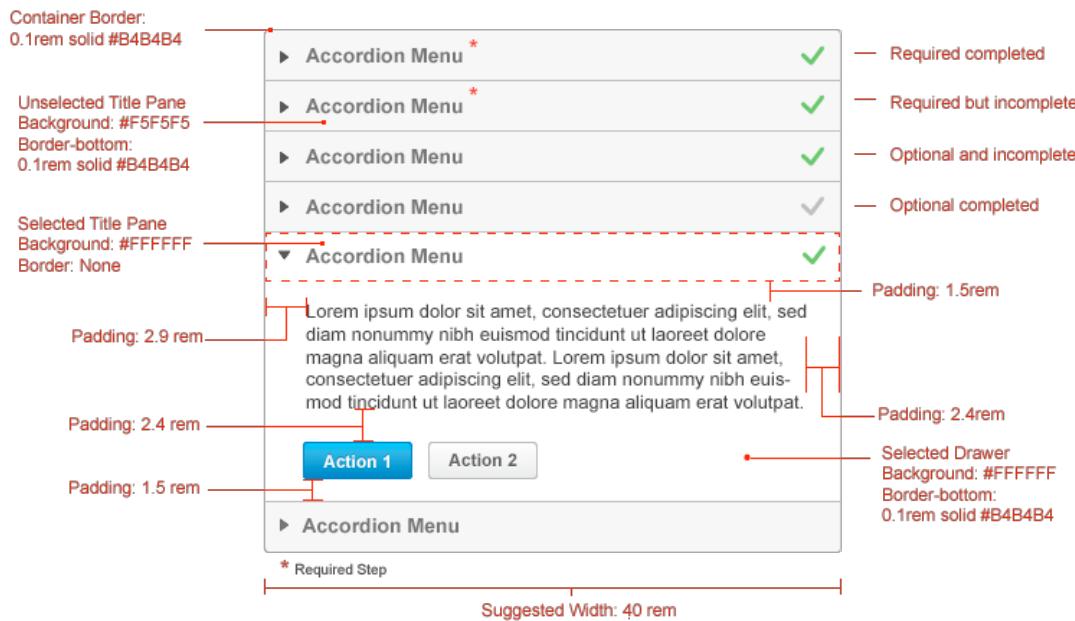


Figure 3. Specification for Accordion with Status.

Font and Color Specifications for Accordion

Element	Font	Size	Style	Color
Title Pane Header	Arial	1.3 rem	Bold	#464646
Completed Icon	IconFont	1.6 rem	Normal	#4180AD
Incomplete Icon	IconFont	1.6 rem	Normal	#969696
Disclosure Triangle Icon	IconFont	0.6 rem	Normal	#464646

Table 1. Accordion Specifications for Fonts and Colors

Background and Border Specification for Accordion

Element	Font	Size	Style	Color
Title Pane Header	Arial	1.3 rem	Bold	#464646
Completed Icon	IconFont	1.6 rem	Normal	#4180AD
Incomplete Icon	IconFont	1.6 rem	Normal	#969696
Disclosure Triangle Icon	IconFont	0.6 rem	Normal	#464646

Table 2. Accordion Specifications for Backgrounds and Borders

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Dropdown Arrow			icon_rotate90 (for rotation)	0.9 rem	#464646		

List Arrow		0.9 rem	#464646		
Tick		1.6 rem	#969696		
Gear		1.6 rem	#969696	#74BAD1	#379BBE
Arrow next to the Gear	 icon_rotate90 (for rotation)	1.6 rem	#969696	#74BAD1	#379BBE

Table 2. Icon Specifications

BREADCRUMB AND TITLES

BREADCRUMB - GLOBAL

Usage Guidelines

Breadcrumb - Global

Global breadcrumb is a navigation path track tool displaying path hierarchy from an application root 'Home' page to the current displayed page level. Breadcrumbs are a supplemental navigation tool that allows a user to see the location of a current selected item in a hierarchy and will often provide a fast navigation to parent objects in that hierarchy. For displaying a navigation path of any selected items within the context of a page a local breadcrumb is used.



Why use this pattern?

A breadcrumb is used to provide context to the current page or object by showing the hierarchical relationships/path of the objects. This pattern provides an additional navigation method and a quick access to previous pages visited within the application.

When to use it

- The application requires a supplemental navigation method beyond the regular means of application menu and inline contextual links
- The end user needs to keep track of her navigation path
- The end user needs a quick way to revisit pages along her navigation path

When not to use it

- Breadcrumbs represent navigation path hierarchy and should not be used for recent pages visited history.
- Do not use the breadcrumb as the primary means of navigation. It should always be used to supplement another navigational element, such as an application main menu or an object selector.

Options

None

Recommendations

- Each element in a breadcrumb should represent the corresponding object/page title in the hierarchy. E.g. If the hierarchy is California > San Jose > Cisco the breadcrumb should contain all of these elements.

- The global breadcrumb does not display the user navigation path. E.g. The user can navigate to 'Device Details' view from either 'Device Work Center' by clicking a device label in the table, or by clicking the 'Device Details' button in a device 360 view. In both cases the breadcrumb will show the path as 'Home > Device Work Center > Device Name' following the application menu navigation and will not reflect the user navigation path history.

Exceptions

None

See Also

Local Breadcrumb

Interaction Specifications

Global Breadcrumb Initial Display

- While navigating through the application space a global breadcrumb is being automatically built at the top left corner of the page below the application header.
- When the application is launched, the application home page is displayed by default and the global breadcrumb displays the Home page icon plus the page title that is selected at design time as the home page.
- The global breadcrumb is displayed as an hierarchical structure describing the application menu navigation path. At a minimum, the Global Breadcrumb will contain the home icon, a / and the page title.
- The breadcrumb format is using a common syntax using a forward slash ('/') to separate breadcrumb nodes while the user is navigating deeper in the application hierarchy. E.g. Home / Operate / Devices.
- The Global Breadcrumbs scroll off the page to the top as the user scrolls down the page.

The Global Breadcrumb Updates During User Navigation

- Every time the user navigates to another page using the application main menu or any inline contextual link, the global breadcrumb is immediately updated to reflect the current page displayed.
- If a parent node to the current object contains content, it is displayed as a link. Clicking the link changes the page to the one linked to this node.
- If a parent node to the current object is only used as a parent container and has no content it is displayed as a disabled node and it is not click able.

Navigating via the Global Breadcrumb

- Clicking on any of the click able breadcrumb nodes will jump to the page associated with it
- The breadcrumb is updated to reflect the path to new page displayed
- Clicking the Home icon will display the application Home page

Global Breadcrumb Overflow

- The following items should always be visible in the breadcrumb: the page node, the parent node of the current page, and the 'Home' node.
- Clicking the drop down arrow in the Home split button will display the overflow pop over.
- Selecting an item from the overflow pop over list will update the view to show the page associated with the selected item.
- Similar to the breadcrumb, overflow pop over list nodes that has no page associated/linked to them will display as disabled list items. Overflow pop over list items that has pages associated/linked to them will display as links

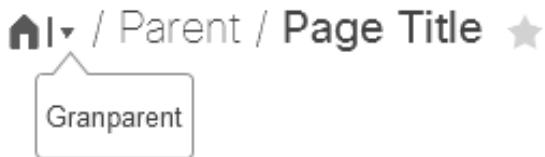


Figure 1. Global Breadcrumb Overflow

Additional Guidelines

- A breadcrumb should display a minimum of 1 level.
- Breadcrumbs should follow book case capitalization (1st letter in each major word is capitalized).
- The breadcrumbs should match the hierarchy exactly, without omitting any levels.
- The last item in the breadcrumb has to match the current displayed page.

Rationale, Rejected and Future Ideas

Rejected Ideas

We decided not to keep the Global Breadcrumbs present in a non-scrolling region because users are now familiar with web pages where breadcrumbs usually scroll off the page, leaving more room for interaction with the content or form. Users know that they can scroll back up to the top to view or interact with breadcrumbs. Breadcrumbs are not critical to keep visible at all times.

Future Ideas

We decided not to keep the Global Breadcrumbs present in a non-scrolling region because users are now familiar with web pages where breadcrumbs usually scroll off the page, leaving more room for interaction with the content or form. Users know that they can scroll back up to the top to view or interact with breadcrumbs. Breadcrumbs are not critical to keep visible at all times.

As our products and applications make the move to mobile, the need for responsive design will become even more important.

When displayed on a mobile device, if there is overflow, the home button will be turned into a split button with a drop down arrow and the remaining nodes are moved into an overflow popover (current implementation for both desktop and mobile).

When displayed on a non-mobile device, such as a laptop or desktop computer, the global breadcrumb overflow will incorporate an ellipsis instead of a split button/overflow popover.

Visual Specifications



Figure 1. Breadcrumb Overview



Figure 2. Breadcrumb Elements



Figure 3. Breadcrumb Without Overflow



Figure 4. Breadcrumb Specification



Figure 5. Breadcrumb with Drop Down List and Overflow

1 Aruba 105 Series

All Devices / ... / Device Type / Third Party Access Point

2 Aruba 105 Series

All Devices / ... / Device Type / Third Party Access Point

3 Aruba 105 Series

All Devices / West Coast / Los Angeles / Device Type / Third Party Access Point

Figure 6. Breadcrumb with Favorite Option

Font and Color Specifications

Element	Font	Size	Style	Color
Home Combo Button Pipe	Arial	1.5 rem	Normal	#969696
Hierarchy Node (Normal)	CiscoSans Thin, Arial	2 rem	Normal	#464646
Hierarchy Node (Hover)	CiscoSans Thin, Arial	2 rem	Normal, Underline	#464646
Hierarchy Node (Disabled)	CiscoSans Thin, Arial	2 rem	Normal	#C8C8C8
Page Node	CiscoSans Regular, Arial	2 rem	Normal	#464646
Text Link	Arial	1.2 rem	Normal	#28AAD7
Text Link (Hover)	Arial	1.2 rem	Normal, Underline	#28AAD7

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Home				1.6 rem	#464646	#74BAD1	#379BBE
Home Drop Down Icon			icon_rotate-45 (for rotation)	0.7 rem	#464646	#74BAD1	#379BBE
Open In New Tab				1.6 rem	#969696	#74BAD1	#379BBE
Refresh				1.6 rem	#969696	#74BAD1	#379BBE
Print				1.6 rem	#969696	#74BAD1	#379BBE
Help					#969696	#74BAD1	#379BBE
Favorite (Normal)				1.6 rem	#C8C8C8	#74BAD1	#379BBE
Favorite (Added)				1.6 rem	#FFCD00	#74BAD1	#379BBE

Table 2. Icon Specifications

BREADCRUMB - LOCAL

Usage Guidelines

Breadcrumb - Local

Local Titles and Breadcrumbs are two of the primary navigation mechanisms at the page level of the application. Local Title and Local Breadcrumb act as a reference point for users, providing them with a map to previously selected items in the left navigation.

Local Title (Catalyst6800-1)

Object Selector Breadcrumb / Device Details 01

Why use this pattern?

This pattern is useful where there is drilling down and navigation within the context of a page (such as in the Master Details paradigm).

When to use it

This pattern should be used when displaying a hierarchical navigation path of any selected items within the context of a page

Options

None

Recommendations

- When Local Breadcrumbs appear on a page, it will show all links leading up to the current page. The last node of the Local Breadcrumb will not appear if it is the same as the Local Title to prevent redundancy.

Exceptions

None

Accessibility

In addition to following Cisco's Accessibility Design Requirements, please be aware of the following additional requirements:

- Users must be able to visually see which item is currently selected using focus border/styling.
- Users must be able to tab all navigational elements on the page.
- Once a user is focused on a tab, the Left and Right arrow keys can be used to navigate between tabs. The Tab key can be used to alternate to the 2nd or lower level tabs.
- When the user hovers over any icon or truncated breadcrumb, a tool tip will appear immediately describing the action.
- When the user hovers over any link, a tool tip will appear after 2 secs to describe the link.

See Also

Global Breadcrumb, Master Details

Interaction Specifications

Basics

- The Local Breadcrumb only relates to pages with a left-side navigation, i.e. Object Selector or Accordion
 - If a page has a table with a Table Title that duplicates the Local Title, the Table Title will be hidden and only the Local Title will be shown instead
- By default, the Local Breadcrumb and the Local Title are present
- If there is no Local Breadcrumb, only the Local Title is shown

Local Breadcrumb Overflow

- The following items should always be visible in the breadcrumb: the root node and the lowest two levels of hierarchy.
- When the path has more than these three items, between the root node and the lowest two hierarchies, an ellipsis will appear. The remaining nodes will be hidden.
- Clicking the ellipsis will reveal all of the hidden nodes in the hierarchy
- Selecting a node from the list will update the view to show the page associated with the selected item
- Similar to the breadcrumb, nodes in the list that have no page associated/linked to them will display as disabled list items. Nodes in the list that have pages associated/linked to them will display as links
- If the breadcrumb nodes get to be too long to be displayed in one line when expanded, the nodes will wrap to the next line.

See figure below

- 1 - Breadcrumb with overflow
- 2 - Hover on ellipsis
- 3 - All nodes in breadcrumb revealed

Figure 1. Local Breadceumb Overflow

Deprecated, Rationale, Rejected and Future Ideas

Deprecated Ideas

Workbench



Figure 2. Workbench Screenshot from Prime Infrastructure V2.0

Workbenches have been removed from the framework. Navigation-links previously located in the Workbench toolbar will be relocated to the Global Navigation, Tabs or Page Toolbar, depending on their context:

- Items that are accessible via other applications (cross-launching) belong in the Global Navigation
- Items that are finite actions on the current object would be included in the Page-level toolbar.
- Actions or additional detail that require an additional view of the current object can be represented as tabs

Rejected Ideas

Tiered Breadcrumbs



Figure 3. Suggested Tiered Breadcrumbs

- Originally proposed when Local Breadcrumbs were to resemble Global Breadcrumbs, rejected to increase breadcrumb visibility and provide users with a more detailed road map to their application activity.

Future Ideas

Mobile Friendly Breadcrumbs

As our products and applications make the move to mobile, the need for responsive design will become even more important.

When displayed on a mobile device, the local breadcrumb overflow will work as described previously except that the root node will be turned into a split button with a drop down arrow and the remaining nodes are moved into an overflow popover.

When displayed on a non-mobile device, such as a laptop or desktop computer, the local breadcrumb overflow will utilize ellipsis in the case of overflow.

Aruba 105 Series

All Devices | ▾ / Device Type / Third Party Access Point

Figure 4. Drop down Breadcrumb

Accessibility

Ensure that users can navigate to and modify checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirement <http://csmtg-wiki.cisco.com/confluence/images/icons/linkext7.gif> to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

- Users must be able to visually see which item is currently selected using focus border/styling.
- User must be able to tab all navigational elements on the page.
- Once a user is focused on a tab, the Left and Right arrow keys can be used to navigate between tabs. The Tab key can be used to alternate to the 2nd or lower level tabs.
- When the user hovers over any icon or truncated breadcrumb, a tool tip will appear immediately describing the action.
- When the user hovers over any link, a tool tip will appear after 2 secs to describe the link.

Visual Specifications



Figure 1. Specifications for Breadcrumb

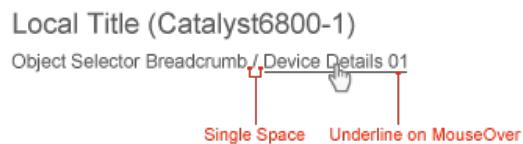


Figure 2. Specifications for Breadcrumb Placement Inside Content Area

Font and Color Specifications

Element	Font	Size	Style	Color
Breadcrumb Label	Arial	1.2 rem	Normal	#464646
Breadcrumb Link	Arial	1.2 rem	Normal	#464646
Breadcrumb Current Page	Arial	1.8 rem	Normal	#464646
Table 1. Specifications for Fonts and Colors				

BUTTONS

ACTION / COMMAND BUTTON

Description

A command button is a control that when clicked causes the application to perform an action. Command buttons differ in their usage and interaction behavior. Some buttons are generic and perform a set of actions, e.g., submit, while others are explicit and performs a single action, e.g., Close. Some buttons can be used to perform a single click action while others are used to expand a drop down menu or open a dialog.

Usage Guidelines

Use this component when...

The user needs to perform an immediate action.

Do not use this component when...

- A regular HTML link is more appropriate, such as linking to another web page.
- The buttons appear in a toolbar. Use a Toolbar Button instead.

Default Action Buttons

In a form or wizard, where there is a group of buttons, be sure to provide a default action button that is mapped to the "Enter" key on the keyboard.

Disabling vs. Hiding Buttons

Disabling (dimming) or hiding buttons are common techniques used to simplify a user's experience by eliminating inappropriate choices

Disabled Buttons

Use a disabled button when a function is not available (due to the state or logic of the application). For example; a 'Save' button should be dimmed until a change requiring a save operation has been made. At the first step of a wizard, the 'Back' button is dimmed because there is no a previous step.

Where possible provide an explanation as to why this function is not available, either using a tool tip (if the text is brief) or hint text above the area in which the disabled button appears.

Note! Some of the operating systems and browsers changes the mouse cursor upon hovering a disabled button to denote the button is in a disabled state. (e.g. the cursor changes to a 'blocked' symbol icon upon hovering a disabled icon). It is strongly recommended to keep the native OS and browser behavior and not alter or customize the mouse cursor for hovering disabled buttons.

Hidden Buttons

- Hide the button when a user does not have the user privileges to implement that button's function. For example; User 1 does not have the privileges to approve an activity. The Approve button would not be displayed to User 1.

Button Labels

- Keep button labels short, and use the suggested labels (listed below) whenever possible.
- Ensure proper placement of buttons within other components (refer to each component's specifications)
- Always try to use explicit labels for command buttons. The label should clearly describe the action the button initiates. Try to use a short, one or two word phrase or verb. For example: if the action is to schedule an event on a calendar, the button should be labeled "Schedule".
- If the action button combines multiple actions, you can use generic button labels. For example; Submit

Note! In Prime UI action/command buttons it is highly recommended **not** to use a combination of an icon and a label (i.e. button) in command action buttons.

Suggested Labels

The following table outlines suggested button labels for various cases.

Label	Type	Function	Usage Example	Pairing
Add	Explicit	Inserts an existing item into a list or table. Also enables manual entry of information in a dialog. When several steps are required to add an item, clicking Add should invoke a wizard.	Tables, Transfer Boxes	Delete
Apply	Generic	Commits a set of changes or pending transactions. The displayed screen remains open.	Dialog Boxes	Cancel and OK
Approve	Explicit	Approves an activity or job for deployment. Completes the final stage of the approval process.	Workflow	Reject
Back	Explicit	Returns to the previous screen.	Wizards	Next
Cancel	Generic	1. Halts an operation or process and returns to the prior state. 2. Ends a wizard process, returning the user to the screen from which they entered the wizard. 3. In a dialog the 'Cancel' button closes the dialog.	Dialog Boxes, Wizards	OK and Apply, Back and Next
Close	Explicit	1. Close a window or dialog. 2. Ends a user session, closing an activity. Releases the activity to be opened by others.	Dashboard, Workflow	
Copy	Explicit	Copies selected content for reuse.	Windows, Dialogs, Tables	Paste; compare to Duplicate
Create	Explicit	Function: Describes or defines a new entity (such as a policy) that can be added to a list or table. Also enables manual entry of information from a dialog. When several steps are required to describe a newly created item, clicking Create should invoke a wizard.	Tables	Edit and Delete; Compare to Add
Cut	Explicit	Removes content from its current location and stores it in memory.	Tables	Paste

Default	Explicit	Clears changes and restores to administrator-defined (or 'factory') settings.	Forms, Tables	Compare to Reset
Delete	Explicit	Eliminates a selected item.	Tables	Add or Create
Details	Explicit	Displays a popup dialog with additional information about a selected item.	Tables	
Duplicate	Explicit	Makes a copy of the selected item and displays it in an edit view for update.	Tables	Compare to Copy and Paste
Edit	Explicit	Allows the user to modify a selected item.	Tables	
Export	Explicit	Exports data to a user-defined target.	Tables	Import
Filter	Explicit	Performs a user-defined, data-narrowing function.	Tables	
Finish	Explicit	Completes a wizard. Returns the user to the screen from which the wizard was invoked.	Wizards	
Go	Generic	Executes a change following a user input (examples: sets the number of rows displayed in a table, applies a filter to a table, or changes a refresh rate) while remaining at the affected screen.	Tables and Reporting Framework	
Import	Explicit	Brings object information from an external source into the application.	Tables	
Insert	Explicit	Places content stored in memory, into a displayed view at a specified location.	Tables	
Move	Explicit	Relocates an item in an ordered list. Move Up and Move Down are acceptable derivations.	Tables, Transfer Boxes	
Next	Generic	Proceeds to the next step of a wizard.	Wizards	Back
No	Generic	Confirms that a selected action will not be completed. Closes the confirmation dialog.	Confirmation dialogs that are closed once No is invoked.	Yes
OK	Generic	Confirms an operation or input, and then dismisses the pop-up window.	Dialog Boxes	Cancel
Open	Explicit	Displays a window with the details of a job or activity.	Workflow	Close
Paste	Explicit	Takes the element stored in memory by Cut or Copy action and inserts it into the designated place.	Tables	Copy and Cut; compare to Duplicate
Pause	Explicit	Suspends an action.		Resume
Refresh	Explicit	Updates a screen based on currently available data.	Tables	
Reject	Explicit	Rejects a job or activity. Returns the activity or job to its editable state for corrections/modifications	Workflow	Approve
Remove	Explicit	Moves selections to the left in a Transfer Box Undoes changes made to the screen since the last Apply operation. Leaves the current screen open. The last content that was sent to the server is displayed.	Transfer Boxes	Add
Reset	Explicit	Alternatively, resets settings to factory defaults.	Tables, Forms	Compare to Default
Resume	Explicit	Continues a paused action.		Pause
Run	Explicit	Executes an operation, which optionally invokes a progress bar or confirmation window.		
Save	Explicit	Validates and saves data and leaves the current screen open. This button is dimmed until a change requiring a save operation is made.	Forms, Tables	
Submit	Generic	Validates and saves data and navigates to the previous screen.	Forms	
Test	Explicit	Initiates a function to determine the differences between expected and actual results.		
Undo	Generic	Reverts saved settings to previous values.	Tables, Forms	

View	Explicit	Launches a tabular or graphical report in a pop-up window. Allowing the user to view additional information.	Tables, Object Selectors, and Dialog boxes	Compare to Details (which launches details screens only)
Yes	Generic	Confirms that a selected action will be completed. Closes the confirmation dialog.	Confirmation dialogs	No

Table 1. Suggested button labels defined.

Ellipsis

Use an ellipsis command button when the flow to complete a task requires the display of additional views and user input.

For example, after clicking a Print... button, users are presented with a dialog box in which to specify various print settings. In contrast, a Print command that prints one copy to the default printer without displaying a dialog box would not require an ellipsis.

Colors...

Figure A. Ellipsis Used in a Button That Opens a New Window or Dialog box

Button Placement



Figure B. Action Button in dashlet

The button should be right justified with the dashlet and the set amount of padding for each dashlet.

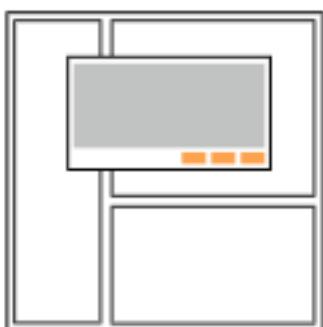


Figure C. Action Buttons in a dialog box

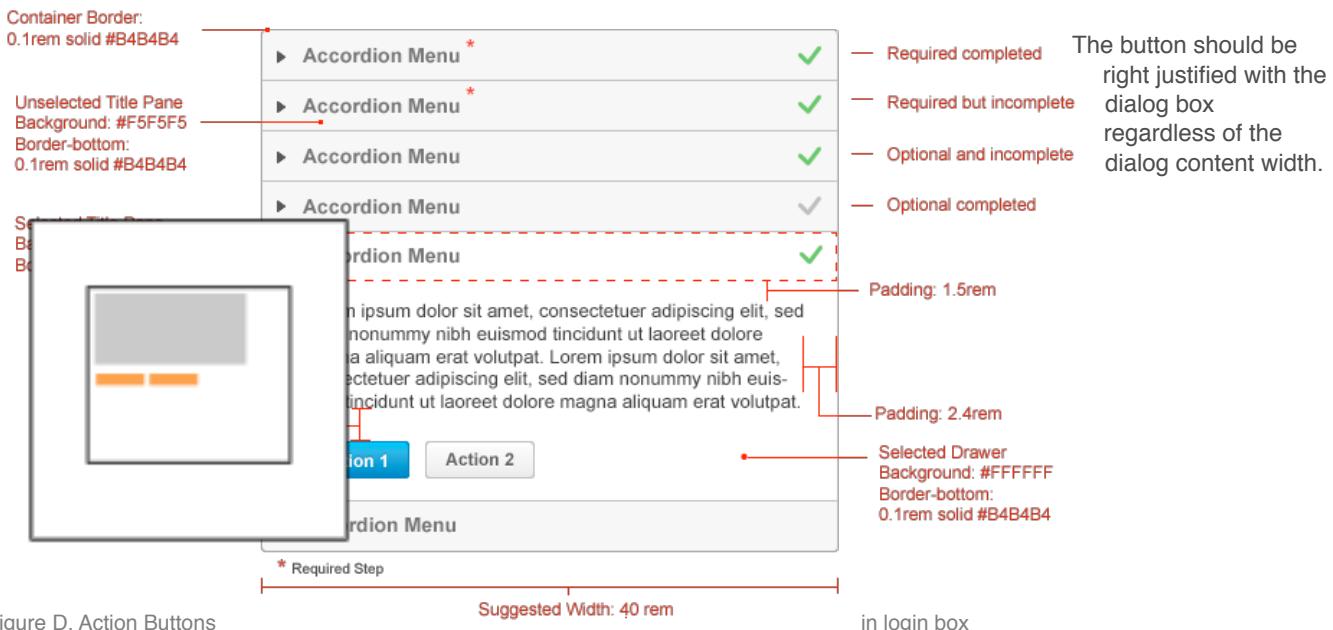


Figure D. Action Buttons

in login box

The button should be left justified with the form fields.



Figure E. Action Button in a form



Figure F. Action Button in a form



Figure G. Action Button in a form

The button should be right justified with the title pane regardless of the form field size.

Capitalization and Text Guidelines

Button text standards:

- Follow the text & data formatting standards
- A single word for button text is preferred
- Verbs are preferred for button labels
- The OK button label should all be uppercase, with no period.
- Except for the OK button, do not use all uppercase letters, unless the label is an acronym. Use a book title capitalization - first letter uppercase.
- Avoid use of acronyms or abbreviations unless you are certain that the application's target users are familiar with them.

Button Grouping and Ordering

If there are more than three buttons in an area, consider dividing them into smaller logical groupings. Examples of common button groups include:

- OK, Cancel
- Create, Edit, Delete
- Add, Edit, Remove
- Import, Export

Button Pairings

Dialog boxes and wizards can offer users a choice between two opposite actions, such as "Approve" and "Reject". The following button pairings specify consistent nomenclature for these situations. If one member of a pair does not apply to a screen, then it may be omitted or disabled. Common button pairings include:

- Add and Delete

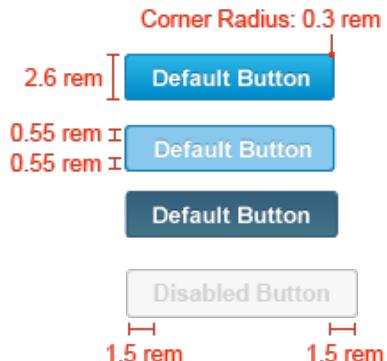
- Add and Edit
- Add and Remove (in dual column dialogs)
- Apply and Reset
- Apply and Cancel (in dialogs)
- Approve and Reject
- Back and Next (in wizards)
- Create and Delete
- Create and Edit
- Cut and Paste
- OK and Cancel
- Open and Close
- Start and Stop
- Submit and Cancel
- Up and Down (in scrolling lists)
- Yes and No

Keyboard and Accessibility

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology

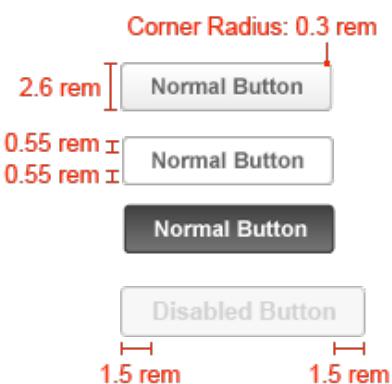
Visual Specifications

Default Button



Element	Font	Size	Style	Font Color	Text Shadow	Background Gradient	Border Gradient
Normal	Arial	1.3 rem	Bold	#FFFFFF	X offset: 0 Y offset: -.1 rem Blur: 0 Color: rgba(0,0,0,0.3)	From Top #27A8E0 to #0B71B9	Border: 1px; #0B71B9
Hover	Arial	1.3 rem	Bold	#FFFFFF	X offset: 0 Y offset: -.1 rem Blur: 0 Color: rgba(0,0,0,0.3)	#77BCE7 (bg color only)	Border: 1px; #0B71B9
Pressed	Arial	1.3 rem	Bold	#FFFFFF	X offset: 0 Y offset: -.1 rem Blur: 0 Color: rgba(0,0,0,0.3)	From Top #294C69 to #346275	Border: 1px; #294C69
Disabled	Arial	1.3 rem	Bold	#FFFFFF		#F5F5F5 (bg color only)	Border: 1px; #C8C8C8

Table 1. Font and Color Specifications for Default State Button



Normal Button

Element	Font	Size	Style	Font Color	Text Shadow	Background Gradient	Border Gradient
Normal	Arial	1.3 rem	Bold	#464646	X offset: 0 Y offset: .1 rem Blur: 0 Color: #FFFFFF	From Top #FFFFFF to #E6E6E6	Border: 1px; #B4B4B4
Hover	Arial	1.3 rem	Bold	#464646	X offset: 0 Y offset: .1 rem Blur: 0 Color: #FFFFFF	#FFFFFF (bg color only)	Border: 1px; #B4B4B4
Pressed	Arial	1.3 rem	Bold	#FFFFFF	X offset: 0 Y offset: -.1 rem Blur: 0 Color: rgba(0,0,0,0.3)	From Top #323232 to #646464	Border: 1px; #323232

Disabled Arial 1.3 rem Bold #B4B4B4 #F5F5F5 (bg color only) Border: 1px; #C8C8C8

Table 2. Font and Color Specifications for Normal State Button

Button States

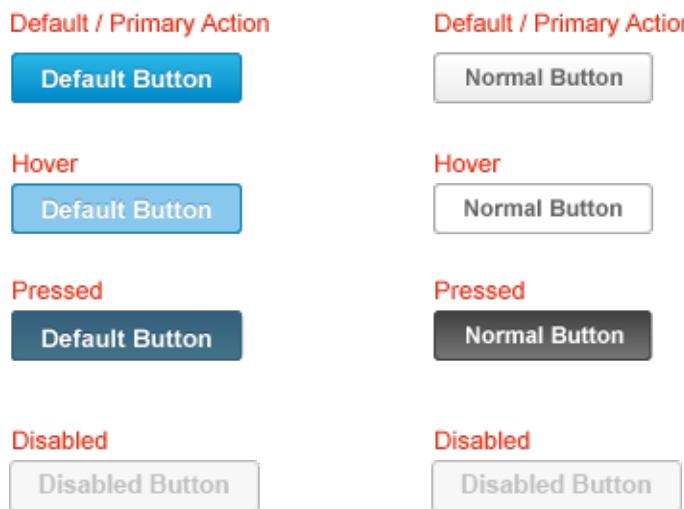


Figure 1. Button States

Button Sizes

For command buttons with text labels, the standard button height is 20 pixels.

Button width is variable, depending on the label width. For all widths leave at least 12 pixel margin between the button label and edge of the button.

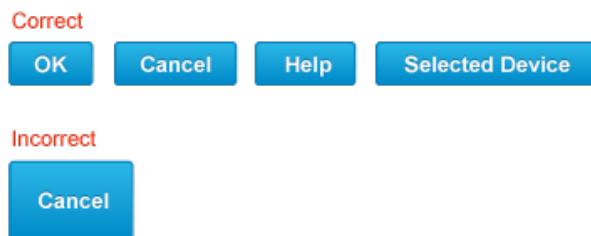


Figure 2. Button Sizing

Button Groups

If there are more than three buttons in an area, consider dividing them into smaller logical groupings. In Figure 3, Apply/Cancel are a pair, Clear is an auxiliary action and should be separated from the default button pair.

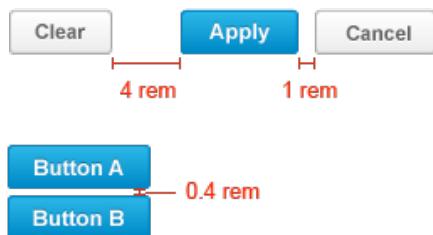


Figure 3. Button Grouping

Button Spacing

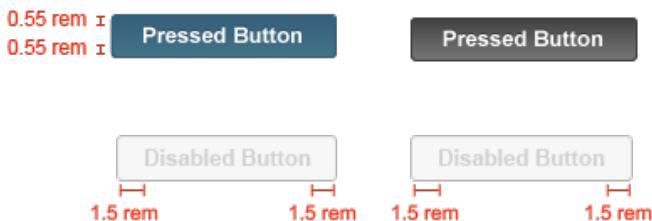


Figure 4. Proper Button Spacing



Figure 5. Button Margin Minimum

Normal Dropdown Menu Button

 I▼ / Operate / Device Work Center 

A

dropdown menu button is a regular labeled action/command button with an arrow icon on the far right indicating dropdown menu functionality. There are two types of dropdown menu buttons:

Added to Favorites

 I▼ / Operate / Device Work Center 

and the

H
1.2 rem

- Default action - clicking the button performs a default action. Clicking the dropdown arrow displays the dropdown menu. A divider is used to separate the button dropdown list arrow.

- No default action - clicking the button displays the dropdown menu from which the user can select the required action.

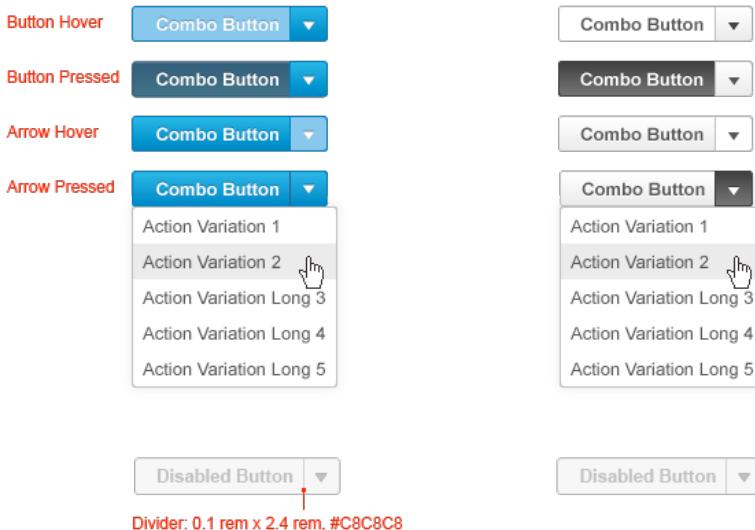


Figure 6. A Dropdown Menu Command Button

Normal Toggle Buttons

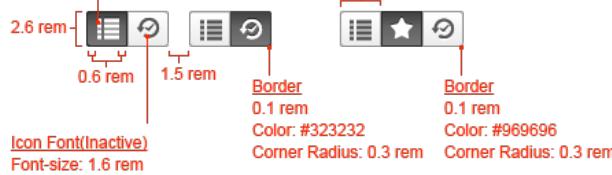


Large Toggle Buttons



Icon Font(Selected)

Font-size: 1.6 rem
Color: #FFFFFF
Drop Shadow: 0 -0.1rem #1E1E1E



Icon Font(Inactive)

Font-size: 1.6 rem
Color: #646464
Drop Shadow: 0 0.1rem #FFFFFF

Icon Font

Font-size: 2.4 rem
4.2 rem
3.6 rem
0.8 rem

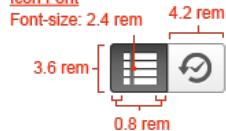


Figure 7. Toggle Buttons Specifications

Toggle States

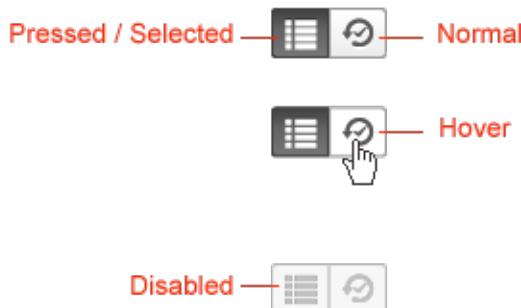


Figure 8. Toggle Buttons States

Element	Size	Font Color	Text Shadow	Background Gradient	Border Gradient
Normal	Normal: 1.6 rem Large: 2.4 rem	#464646	X offset: 0 Y offset: .1 rem Blur: 0 Color: #FFFFFF	From Top #FFFFFF to #E6E6E6	Border: 1px; #B4B4B4
Hover	Normal: 1.6 rem Large: 2.4 rem	#464646	X offset: 0 Y offset: .1 rem Blur: 0 Color: #FFFFFF	#FFFFFF	Border: 1px; #B4B4B4

Pressed / Selected	Normal: 1.6 rem Large: 2.4 rem	#464646	X offset: 0 Y offset: -0.1 rem Blur: 0 Color: rgba(0,0,0,0.3)	From Top: 0% #323232 to 100% #646464	Border: 1px; #323232
Disabled	Normal: 1.6 rem Large: 2.4 rem	#B4B4B4	#F5F5F5		Border: 1px; #C8C8C8

Table 3.Specifications for Toggle Button States

Interaction Behavior

Standard Action Button

- Users click a command button to initiate an immediate action.
- When there is a group of buttons, one button is usually defined as the default. The default button is differentiated by its bold font style and its action can be invoked either by clicking the button or by pressing the Enter key.
- Users can switch the focus from the default button to any other command button in the view by using the Tab or the left and right arrow keys

Action Button With Ellipsis

An ellipsis is used in a button label to indicate that a further user input is required to complete the action. In this case, clicking the button launches a dialog.

Action Buttons Requiring User Input

Some actions requires a confirmation or additional input from the user (e.g., typing a search criteria before clicking a 'Search' button). In this case, the change caused by clicking the button goes into effect once the user provides the necessary information.

Buttons for Property Settings

1 Aruba 105 Series

All Devices / ... / Device Type / Third Party Access Point

Command buttons that control property settings provide immediate feedback without any need for further user confirmation.

2 Aruba 105 Series

All Devices / ... / Device Type / Third Party Access Point

3 Aruba 105 Series

All Devices / West Coast / Los Angeles / Device Type / Third Party Access Point

Dropdown Menu Button

A dropdown menu button is a regular labeled action/command button with an arrow icon on the far right indicating dropdown menu functionality. There are two types of dropdown menu

buttons:

- Default action - clicking the button performs a default action. Clicking the dropdown arrow displays the dropdown menu. A divider is used to separate the button and the dropdown list arrow.
- No default action - clicking the button displays the dropdown menu from which the user can select the required action.
- Dropdown Menu Button Without a Default Action
 - On mouse over, the button menu acts as one unified component, hovering on any part of it will highlight the button.
 - Clicking either the label or the arrow will display the drop down menu.
 - When there is no default action, there is no divider line between the button label and the arrow

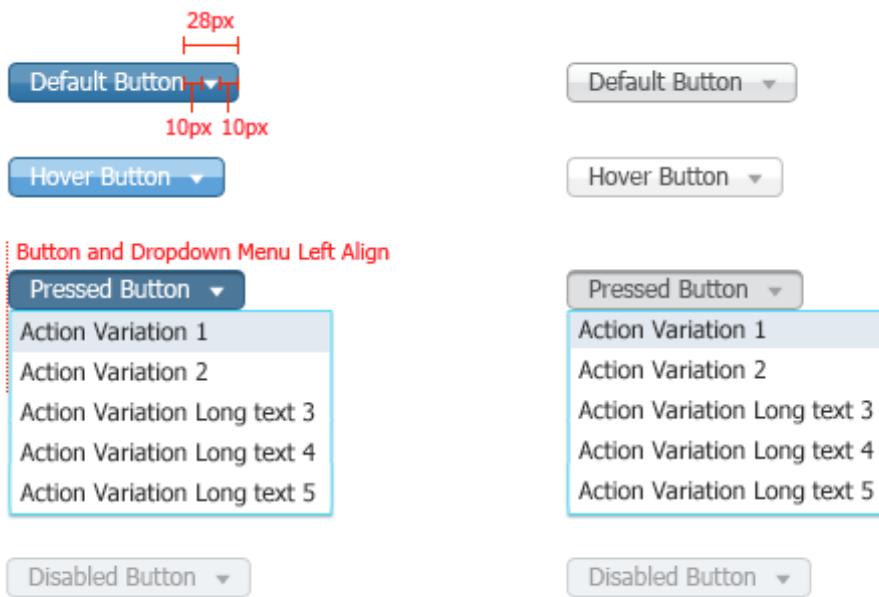


Figure 9. A Command Button with Button Menus (without default action)

Dropdown Menu Button With a Default Action

- On mouse over, the menu button acts as two joined components, hovering on any part of the button will highlight this part only.
- Clicking within the text label or icon label area triggers the default action.
- Clicking the down arrow element initiates the drop down menu elements.
- The default action is the first menu item listed in the drop down.

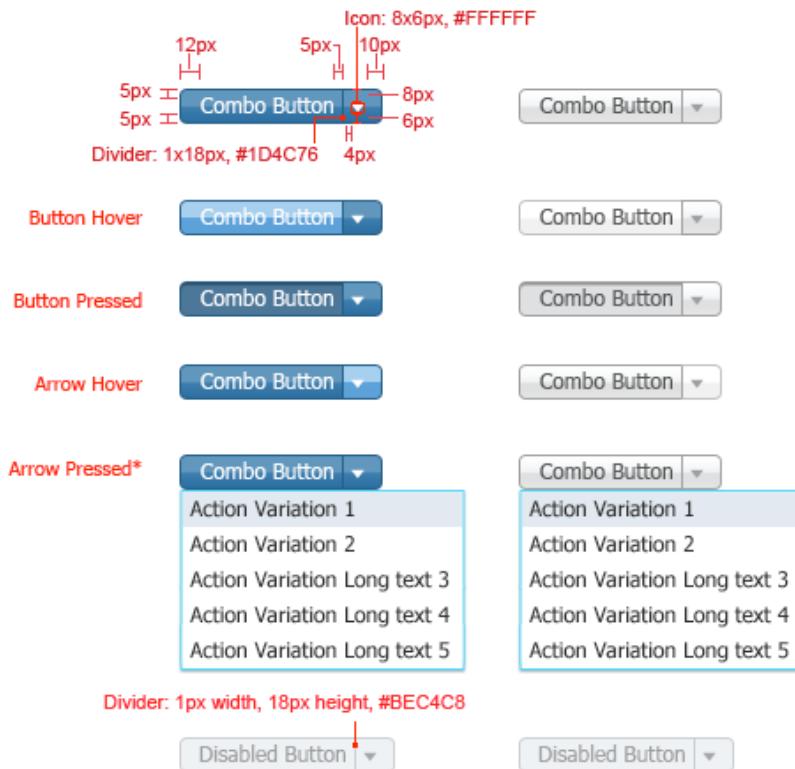


Figure 10. Command Button with Split Button Menu (with default action)

Toggle Buttons

Toggle Buttons force a user to choose one of multiple mutually exclusive views, states, or conditions. For instance, when viewing a chart, a user may toggle between graph and table views. Only one toggle button may be in the on-state at any given time.

Element	Font	Size	Style	Color	Behavior
Breadcrumb Label	Arial	1.2 rem	Normal	#464646	
Breadcrumb Link	Arial	1.2 rem	Normal	#464646	Underlined on hover
Breadcrumb Current Page	Arial	1.8 rem	Normal	#464646	No underline or hyperlink on hover.

Table 1. Specifications for Fonts and Colors

DESIGN LAUNCHPAD

Description

The Design Launchpad displays a row or matrix of large icons contained within a border that allows 1-click access to create new function or the most recently edited objects.

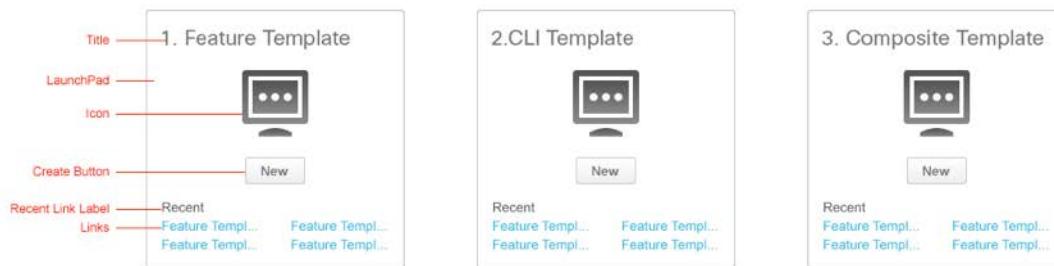


Figure A. Mockup of the Design LaunchPad.

Usage Guidelines

The Design Launchpad pattern is used as a summary page where there are multiple object editors categorized in single space such as "design" space. The design provides a simple visualization of editors and insight into the sequence or relationship of the objects in the space. For example the Lumos design "space" has a template, composite template, and workflow design editors [post .75]. Each builds on the other. The Design Launchpad displays the editors in orders from left to right in a organized, simple visualization with block component.

The launchpad displays when the user selects an entry in the MegaMenu item that is mapped to the Design Launchpad. The entire Design Launchpad displays a matrix of buttons on a page. Users can select the button elements as detailed below or navigate to the UI Shell header or MegaMenu to navigate away from the Design Launchpad.

Use this component

- When have a "space" or category defined for an application that has multiple objects to edit
- When have multiple editors that build on each other
- As an introductory space to launch new editors and edit existing objects

Do not use this component

- If there is not "category" or well defined relationship among the editors

- If there is only 1 editor for objects

For information on using the Design LaunchPad with Cisco Prime please check the following.

Keyboard and Accessibility

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

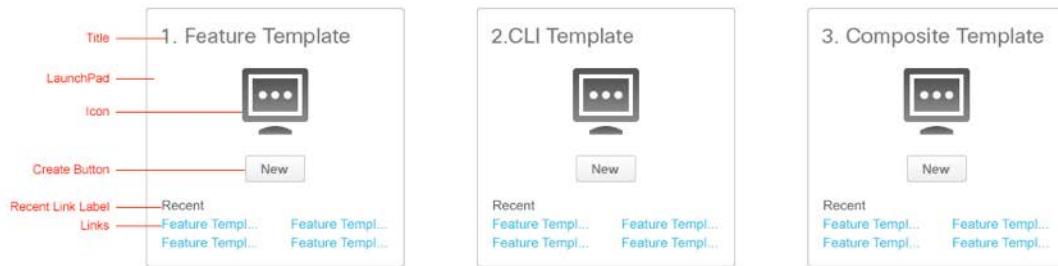


Figure 1. LaunchPad Element Specifications.

Font and Color Specification

Element	Font	Size	Style	Color	Decorative
Title	CiscoSans Thin, Arial	2 rem	Normal	#646464	
Recent Link Label	Arial	1.3 rem	Normal	#464646	
Text Link	Arial	1.3 rem	Normal	#28AAD7	
Text Link On Hover	Arial	1.3 rem	Normal	#28AAD7	Underline
Disabled Text	Arial	1.3 rem	Normal	#C8C8C8	

Table 1. Design LaunchPad Visual Specifications for Fonts and Colors.

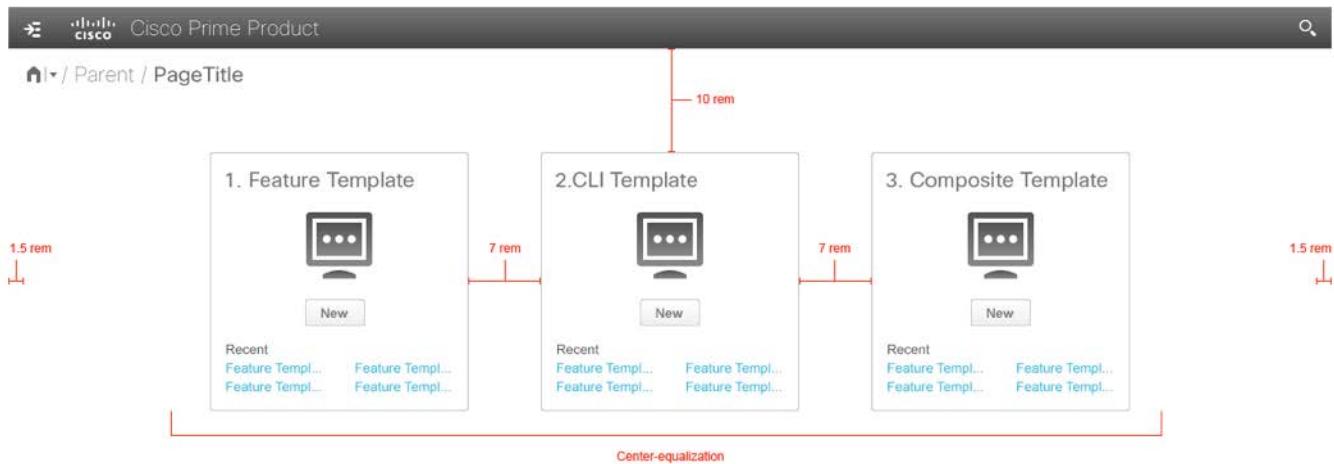


Figure 2. LaunchPad Visual Specifications.

LaunchPad Title Usage

The Design Launchpad has a static title that is left justified and displayed directly below the Lumos UI shell header. The title can accommodate up to 256 characters.

LaunchPad Editor Instructional Hint Usage

Above each object editor displays an icon with a title. The title should be text that summarizes the purpose for the object editor. The max displayed character length of the title is 28 characters. Up to 60 chars can be entered - chars beyond the 28 will display as an ellipses and the tooltip will display the entire 128 character length when hover over.

The icon displays to the left of the title as a "bullet" or a "sequence number". The bullet icon is used for editors that do not have a sequenced ordered relationship. If the editors build on each other then the sequenced icon should be used.

- Instructional text is mandatory.
- Instructional text has a fixed layout to accommodate up to two lines of text.
- Characters beyond the 28 will display as an ellipses and the tooltip will display the entire 128 character length when hover over.



Figure 3. Workbench Header.

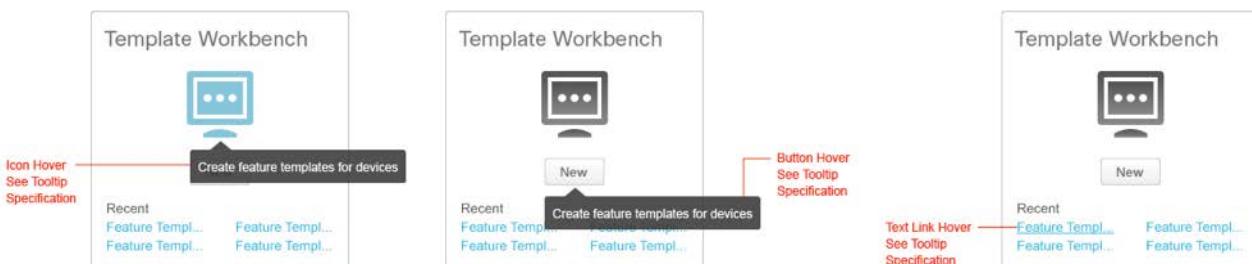


Figure 4. LaunchPad Hint Specifications.

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Disabled Color
LaunchPad Icon				6.4 rem	Top: #323232 Bottom: #646464	#74BAD1	#C8C8C8

Table 2. Icon Specifications

Interaction Behavior

LaunchPad Button Element

The launch pad has a large button that displays information about the editort and serves as a location from which to create a new object or edit an existing object that has been recently created. The new is selected with a single click on the "Create XXXX" label. Existing recently edited objects are selected by clicking on the name displayed under the "recent" label. This label displays the 2 to 4 most recently edited objects.

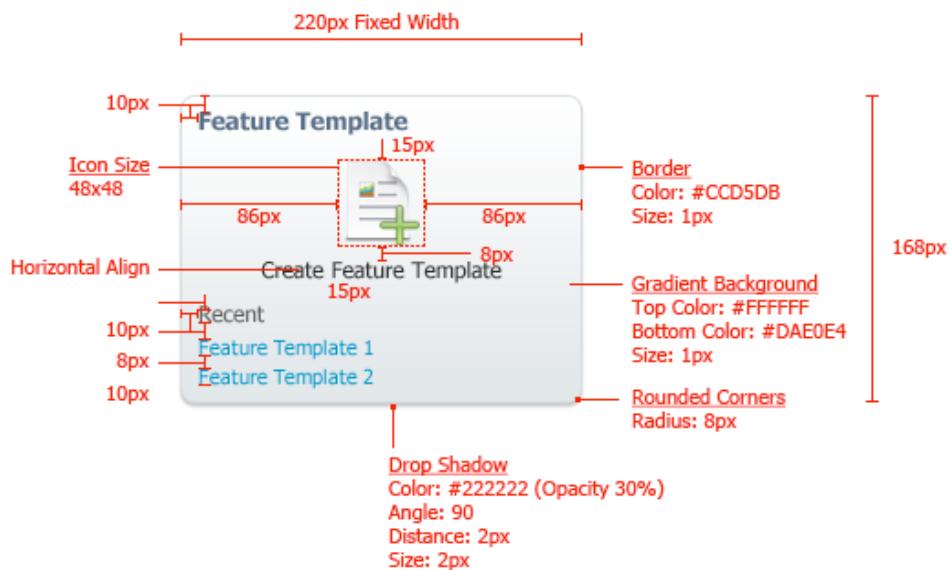


Figure 5. Design LaunchPad Button Specifications.

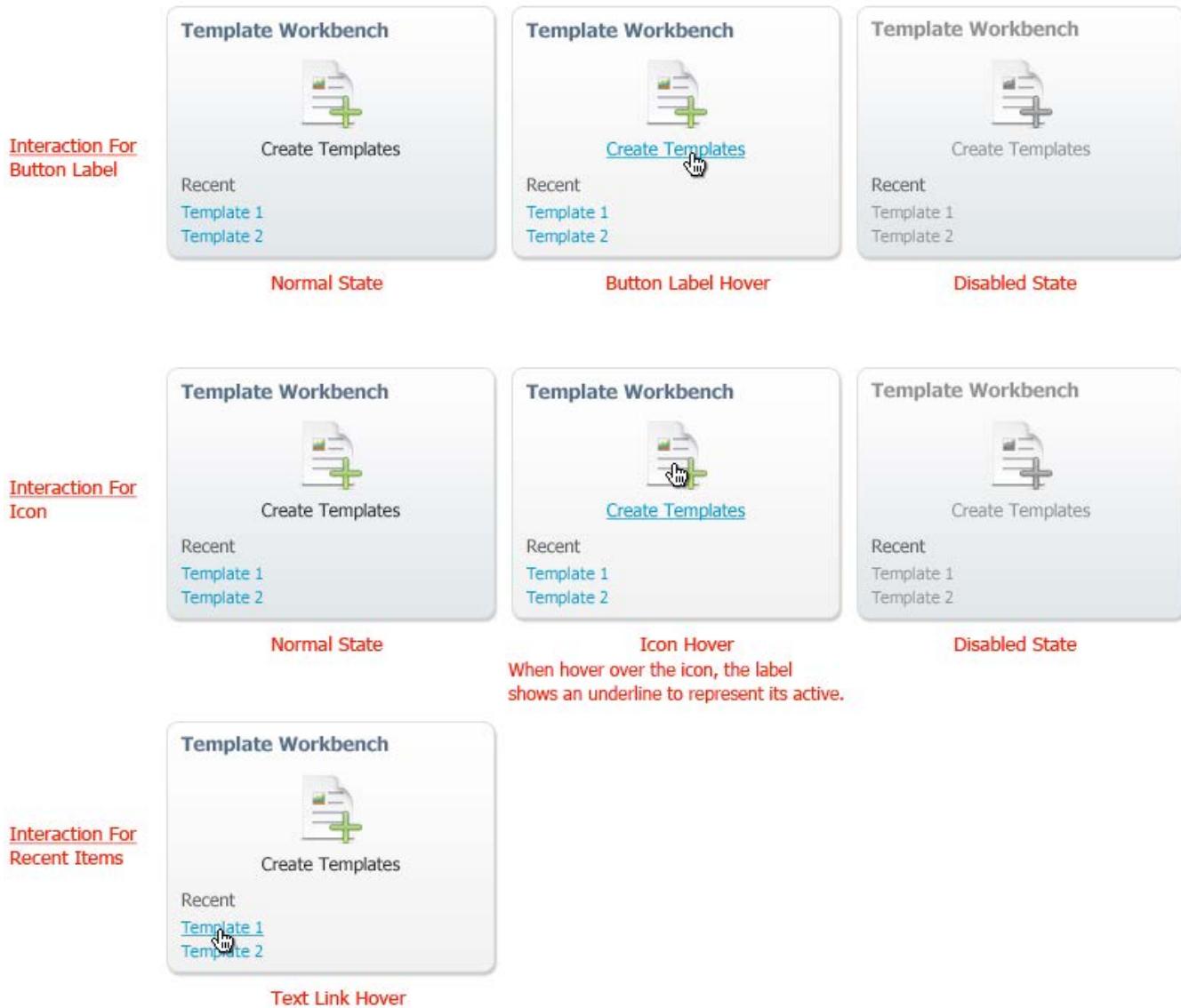


Figure 6. Design LaunchPad Interaction Behavior.



Figure 7. Design LaunchPad Interaction Visual Specification

CAROUSEL

Description



Figure A. Overview Illustration

If you want to draw the user's attention to specific content, especially content that updates periodically such as the latest news, or if you want to offer a highly graphical, compelling list of items in a space-efficient manner, you can use a Featured Content Display (also known as a Carousel).

Usage Guidelines

Featured Content Display is ideal for displaying several highly graphical blocks of information in an attractive, efficient manner. It allows the user to interact with an attractive UI, yet limits the immediate information load.

Keyboard and Accessibility

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Interaction Specifications

Elements

Featured Content Displays contain the following elements:

- **Content Blocks** - there can be one or more Content Blocks in view at a time
- **Left/Right Scroll Controls** - used to manually advance to the previous/next set of blocks
- **Location Indicator** - indicates the current location in the featured item list



Figure 3. Elements of a Featured Content Display

Content Blocks

The size of the content blocks is driven by a particular application's needs. The number of Content Blocks shown at a time will depend on the size of the blocks themselves and the amount of real estate available for the Featured Content Display. A good rule of thumb is between one and three items at a time. In general, you should avoid showing more than five items at a time because users start to have difficulties taking in the information and distinguishing differences between blocks.

The Content Block Title is a link. When the user clicks the title (link), they are taken to the featured content. If the content is a video, the video player loads and plays the video. If the content is a page or website, the browser opens that page or website.



Figure 4. Clicking the Content Block Title (Link) to Access the Content

Left/Right Scroll Controls

The Left/Right Scroll Controls are used to manually advance the display to the next set of content blocks. Clicking the right arrow advances the featured item list to the next set of blocks. Clicking the left arrow revert the featured item list to the previous set of blocks.

Both scroll controls are always visible, even when the user is at the beginning or end of the content list. This allows the user to cycle through the featured content list in a circular fashion. It is this circular/looping behavior that accounts for the nickname of this control (a Carousel).

Location Indicator

The Location Indicator is in the top-right corner of the display. It tells the user where they are within the featured item list. Each circle represents one set of content blocks. The user can advance through the featured content list by using the Left/Right Scroll Controls, or by clicking the circle that represents the desired set of content blocks.



Figure 5. Using Locating Indicator to Select a Set of Content Blocks

If there are three circles in the Location Indicator, that means there are three sets of content blocks. If each set of blocks contains three blocks, the total number of blocks will be either seven, eight, or nine blocks. (The first 2 sets of blocks x 3 blocks per set = 6 blocks, plus the last set of blocks, which could be 1, 2, or 3 blocks).

Eight content blocks presented three-at-a-time



Figure 6. First Set of Content Blocks (Eight Blocks, Viewed Three-at-a-Time)



Figure 7. Last Set of Content Blocks (Eight Blocks, Viewed Three-at-a-Time)

Five content blocks presented one-at-a-time

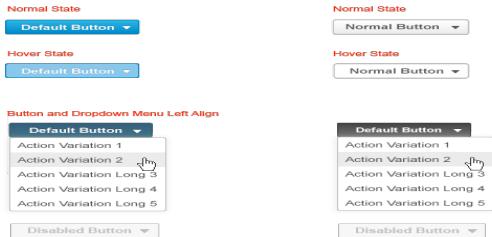


Figure 8. First Set of Content Blocks (Five Blocks, Viewed One-at-a-Time)



Figure 9. Last Set of Content Blocks (Five Blocks, Viewed One-at-a-Time)

Interaction Behaviors

Animation (required)

Transition Effect

The transition from one set of content block to another should be animated. The effect is called a "slide" and it should use **in** and **out** quartic easing.

Timing

Transition timing (the exit of one set of blocks the entry of another) ranges from 250ms to 2000ms. Once again, the actual parameter is highly dependent on the size of the display and the number of content blocks per set. For small displays with few blocks, the transition can be quite fast. For large displays with more content blocks, the transition will take longer.

Auto Advance (optional)

In some circumstances it is a good idea to allow the featured content display to auto-advance one set of blocks at a time, in regular intervals. The actual interval is dependent on the size of the display and the number of content blocks shown. It takes individual testing and massaging to arrive at an appropriate transition interval.

Placement

The Featured Content Display should be placed in the content area (or on a form in the content area). It should **not** be placed directly on the background wallpaper.

The background color that appears between the Content Blocks and the Left/Right Scroll Controls and the Location Indicator is the background color of the content area or form where it is placed. The Featured Content Display does not have its own background color.

Visual Specifications

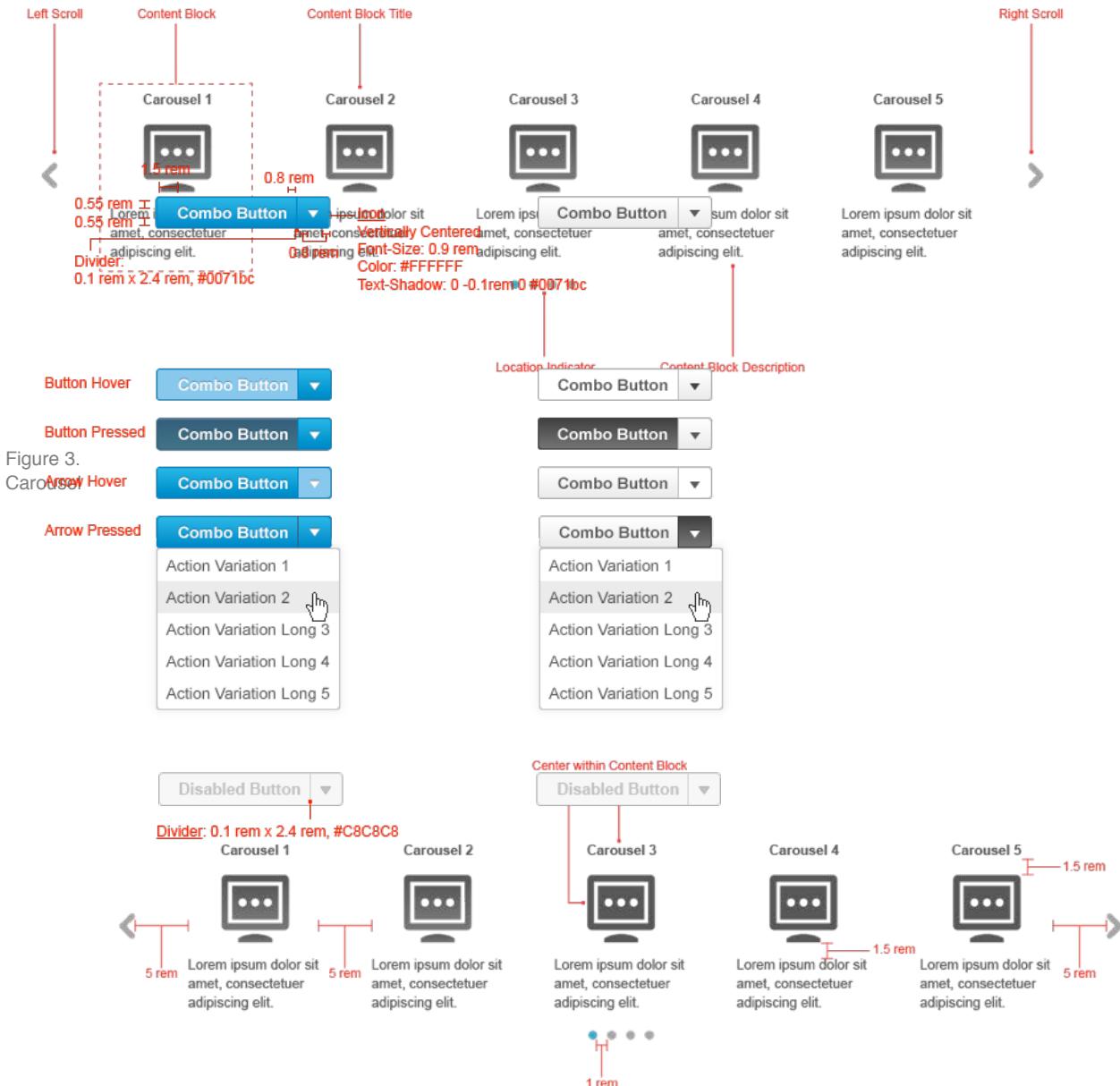
Featured Content Display (Carousel)



Figure 1. Specification for Featured Content Display (Carousel)



Figure 2. Specification for Content Block Description



Elements

Figure 4. Carousel Specifications

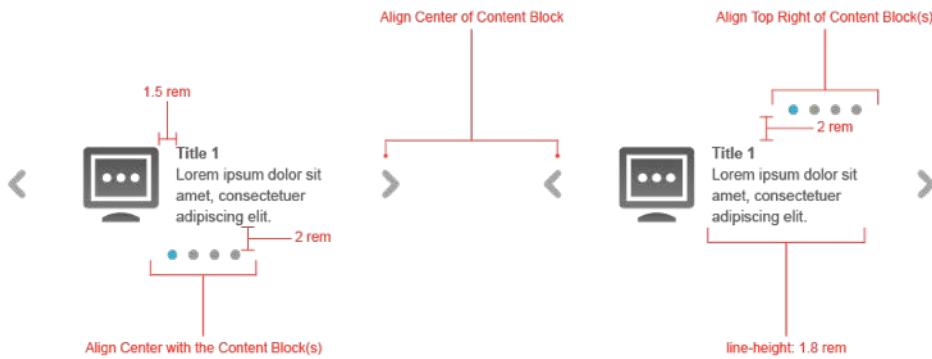


Figure 5. Location Indicator and Scroll Arrows Specifications

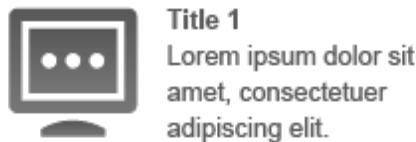


Figure 6. Example of Single Page Carousel (No Page Indicator and Scroll Icons)

Font and Color Specification

Element	Font Family	Size	Style	Color
Content Block Title - Normal	Arial	1.3 rem	Bold	#464646
Content Block Title - Link	Arial	1.3 rem	Bold	#28AAD7
Content Block Title - Hover	Arial	1.3 rem	Bold, Underline	#28AAD7
Content Block Description	Arial	1.3 rem	Normal	#464646

Table 1. Specifications for Fonts and Colors

CHARTS - BASIC

Visual Specifications

Layout Specifications

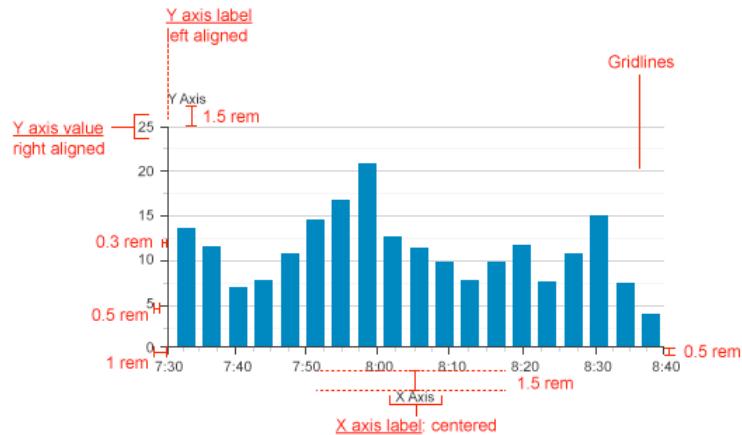


Figure 1. Specification for Chart Labels and Tick Marks

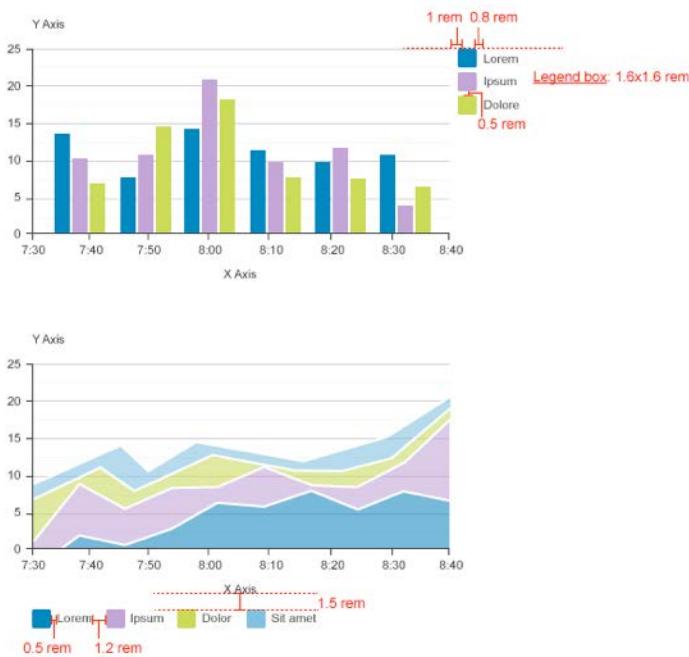


Figure 2. Specification for Chart Legends on the Right Bottom of the Chart

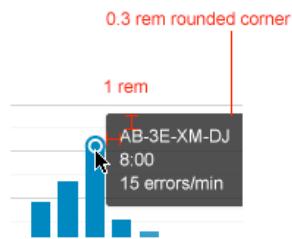


Figure 3. Specification for Chart Popup Datatips

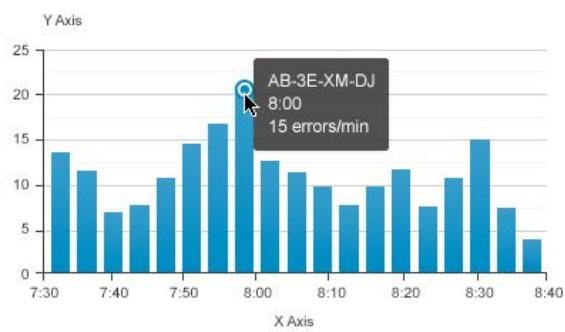


Figure 4. Hover on datapoint to display datatip

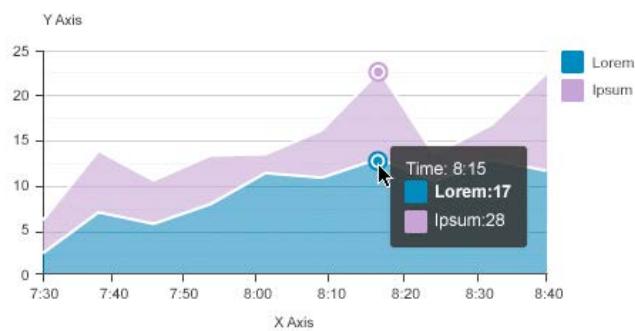


Figure 5. Hover on datapoint to display colored multi value data tip

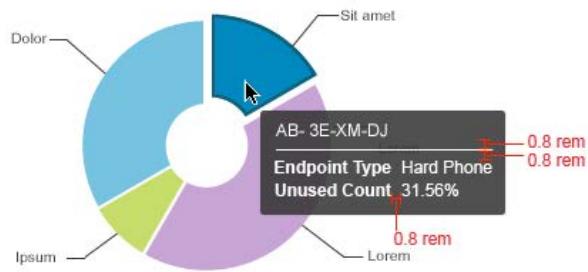


Figure 6. Hover on datapoint with 2 columns (label and value pair)

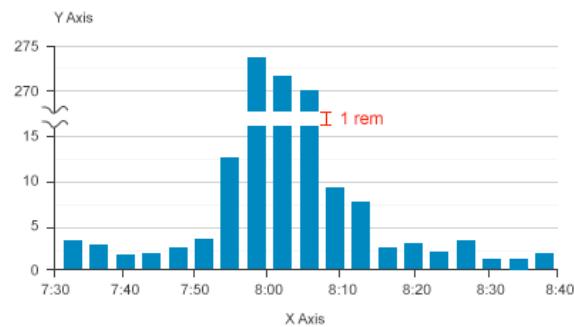


Figure 7. Specification for Bar Chart with Value Jump

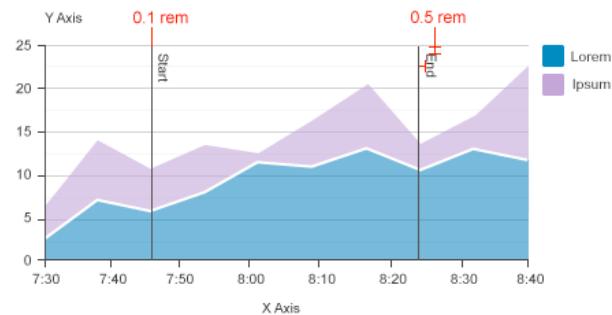


Figure 8. Specification for Threshold Lines

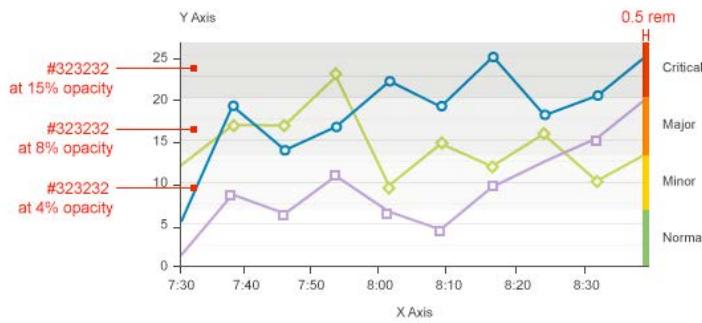


Figure 9. Specification for Threshold Lines and Regions shown together

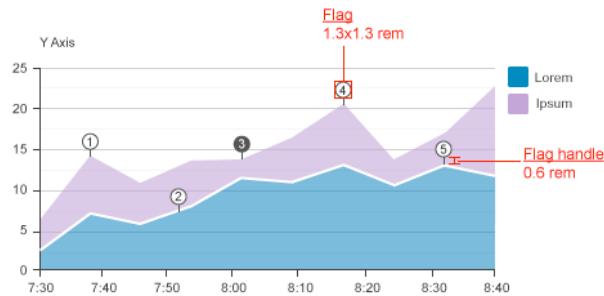


Figure 10. Specification for Chart Flags

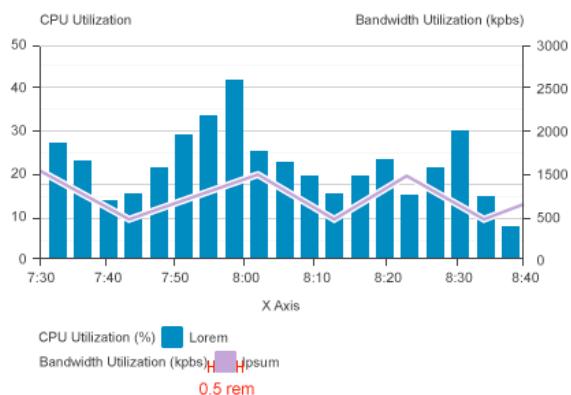


Figure 11. Bar/Line Combination Chart

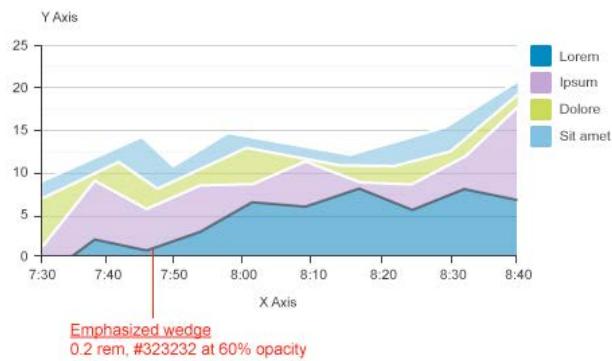


Figure 12. Specification for Emphasized Wedge

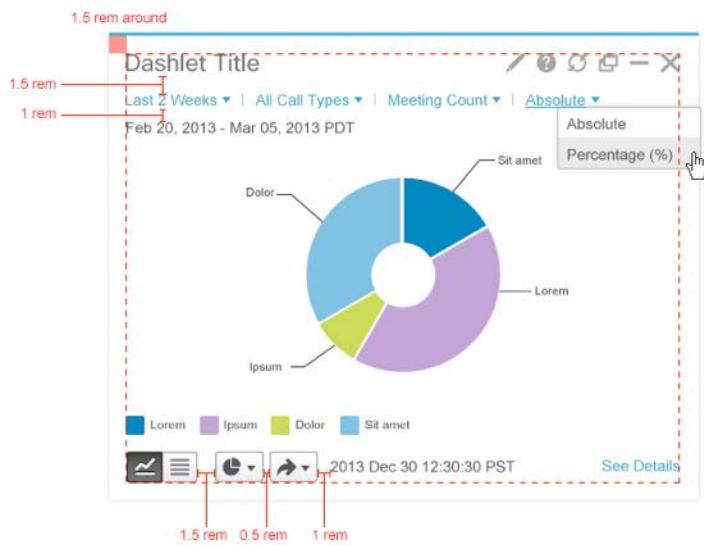


Figure 13. Specification for Dashlet Layout with User Option Controls



Figure 14. Specification for Dashlet Layout with User Option Drop Down Menu



Figure 15. Custom Date Filter Popover for Chart

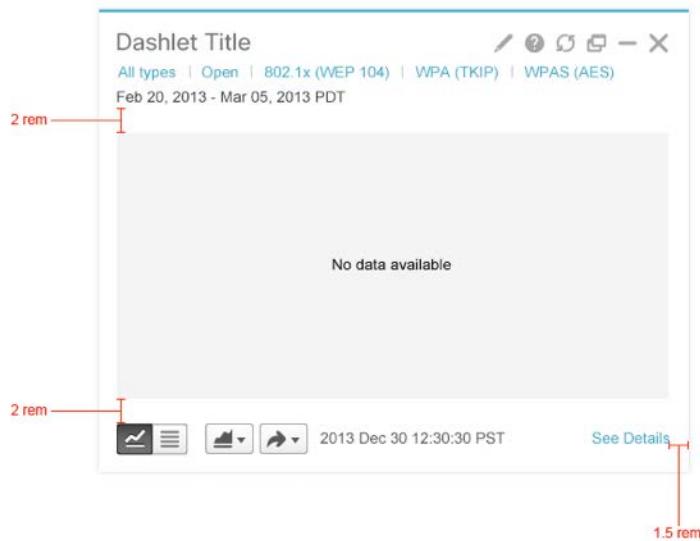


Figure 16. Specification for Chart with No Data

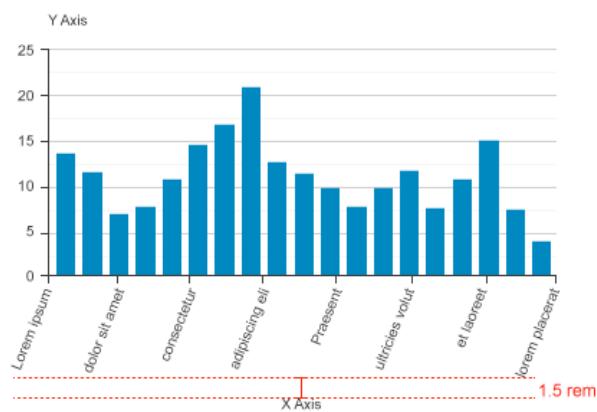


Figure 17. Specification for Long Axis Labels

Interaction Behavior

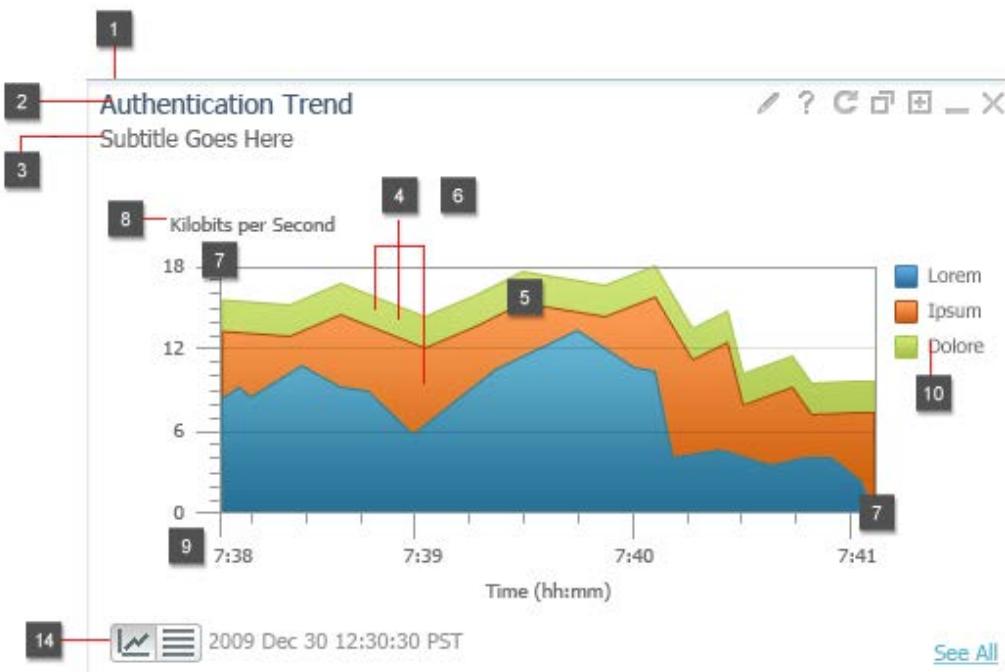


Figure 17. Basic Chart Elements

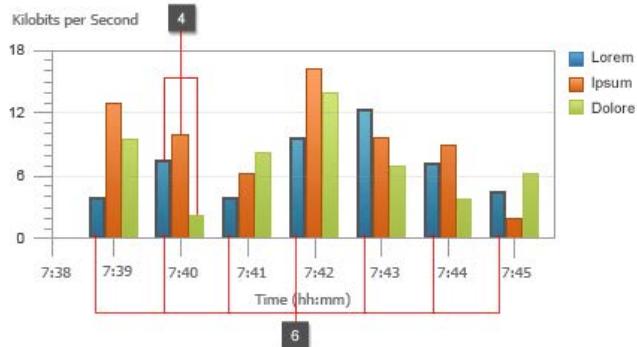


Figure 18.Data Markers and Data Series

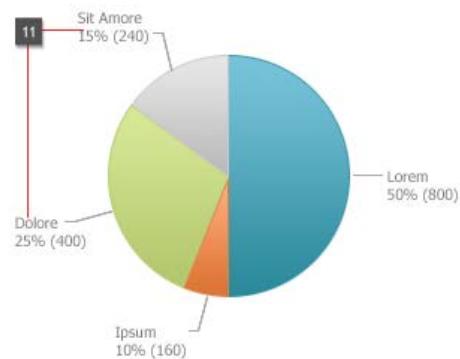


Figure 19.Data Label

Basic Chart Elements

Element

1. Container: the window or region that the chart is displayed in (the content area of the primary or secondary window).
2. Title: if the chart is the primary element in the container, the chart title is usually displayed in the container (e.g., in the heading of a content area or the title bar of a dialog). Otherwise, the chart title should be centered above the chart.
3. Subtitle (optional): should be displayed directly under the chart title.

4. Data Marker: bars, columns, lines, pie or doughnut slices, dots, and various other shapes in a chart that originates from the value in a single cell in the underlying table. Related data markers (usually of the same color) in a chart constitute a data series.
5. Data Point: In addition to being represented by data markers, Data Points can also be represented in the chart themselves as points within data markers to provide more precise content/info.
6. **Data Series:** Related data points that are plotted in a chart. Each data series in a chart has a unique color or pattern and is represented in the chart legend. You can plot one or more data series in a chart. Pie charts have only one data series.
7. X Axis & Y Axis: the X axis is the horizontal line. It is typically the object of measurement (the thing that is being measured). The Y axis is the vertical line. It typically provides the scale of measurement (a varying amount).
8. **Axis Labels:** text labels for the X and Y axes.
 - Y axis labels are in the normal horizontal orientation.
 - Avoid abbreviations. If abbreviations are necessary, use only standard abbreviations.
 - Axis labels may wrap, but only at word breaks.
 - Always provide units of measure in parentheses after the label.
 - Use book title capitalization for the axis labels themselves. Use lowercase for units of measure.
9. **Axis Tick Marks, Labels and Scales:** for charts displayed on a two-dimensional grid.
 - Tick marks are on the outside edge of the scale, they never interfere with chart data.
 - Use longer tick marks with labels for larger increments. Each scale should begin and end with larger, labeled tick marks.
 - Short unlabeled tick marks are used for smaller increments.
 - Short tick marks are evenly spaced on a linear scale, proportionally spaced on a logarithmic scale.
 - On scales with decimal numbers, use a leading zero before the decimal point (e.g., 0.1)
 - The final tick mark on the Y axis should indicate a measurement that is somewhat larger than the largest amount appearing in the data.
 - If the X axis will increase in length after the chart is displayed (e.g., a real-time monitoring chart), label all ticks, even those for which there is not yet data. If possible, avoid growing the Y axis.
10. **Legend:** the legend provides text labels explaining the meaning of each data series and its associated color, pattern or data point marker.
 - Display the legend to the right of or below the chart.
 - Legends do not need a title, but if one is included "Legend" is preferred to "Key".
 - It is best if the legend is always visible. If screen space is constrained and the meaning of the values will be clear to all users, it may be acceptable to display the legend in a tooltip.
11. **Data Labels:** text labels that identify the quantity being measured and the value for a particular data point. Data labels are displayed on the chart itself. No user interaction is necessary to reveal the information, but this adds complexity to the display. Data labels should only be used when space permits.

12 Overlays

There are three basic kinds of overlays that can be displayed in a chart. At least one type of overlay should always be provided for basic value information:

- **Datatips:** a form of tooltip that pops up when the user positions the mouse over the region corresponding to the data value. Datatips include basic value information and may also be provided for additional related information that will help the user understand the chart in more depth. Links can be included in datatips so the user can navigate to a related area or take action related to a data point.
-
- **Quickviews:** The quickview provides additional data about an object within the context screen, without requiring navigation to a new screen. Hovering over an object, or in some cases a hover hint, displays the quickview.
-
- **Pop-overs:** Generic, non-modal overlay panel that is tied to an object in the UI and that allows users to view detailed information or complete tasks (including forms) while remaining in-context. Clicking on an object or its hover hint displays the pop-over.

13 **Flags:** an optional annotation displayed directly on the chart.

14 Toggle Button: An optional control to allow the user to switch to a tabular view of the chart.

Legends

The legend provides text labels explaining the meaning of each data series and its associated color, pattern or data point marker. Legends should be succinct titles for a data series. One or two words should convey the meaning of the data series, ideally without wrapping to a second line.

Abbreviations should be avoided. If abbreviations are necessary, use standard abbreviations that users are likely to be familiar with.

Default Legend Placement

For most use cases, it is recommended to place the legend to the right of the chart. This can allow for as many series titles as necessary without adding to the total height of the chart. If there is a horizontal space constraint the legend can be placed below the chart.

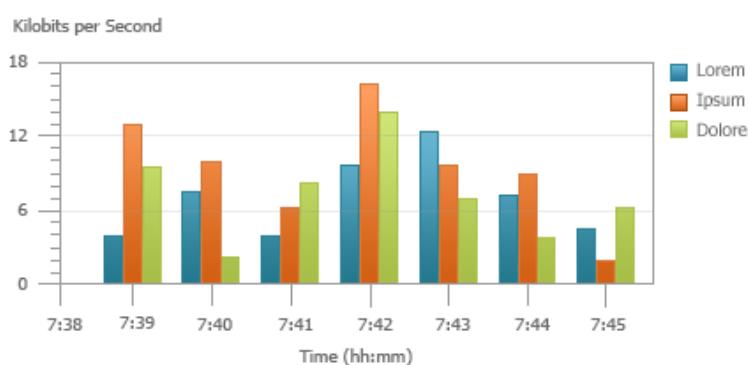


Figure 20. Legend to the Right of the Chart

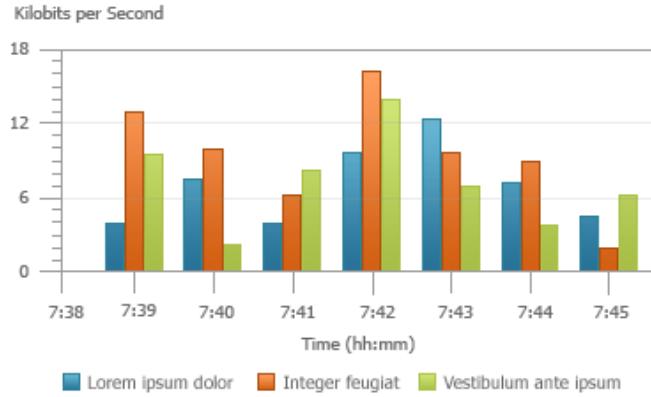


Figure 21. Legend Below the Chart

Long Legend Placement

In some cases the series labels need to be much longer. In the case of long series labels choose between placing the legend to the right or below the chart depending on the space constraints. In both cases the series labels should wrap. If the horizontal space is severely limited, opt for placing the legend below to avoid too much wrapping. See the implementation tab for specifics on spacing and alignment for wrapping labels.

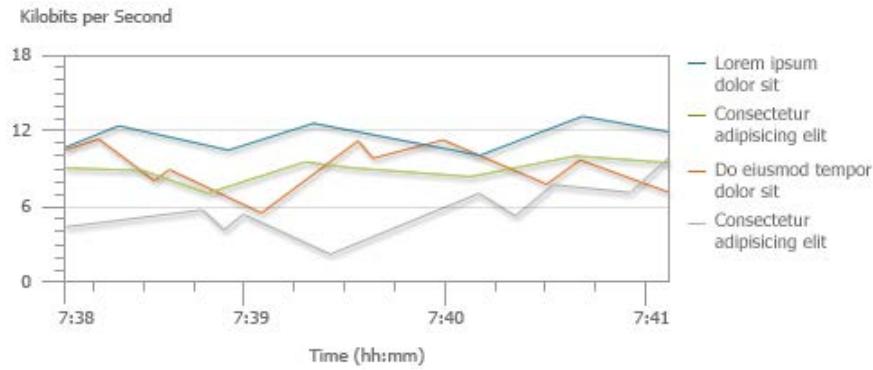


Figure 22. Legend with Long Labels Wrapping on the Right

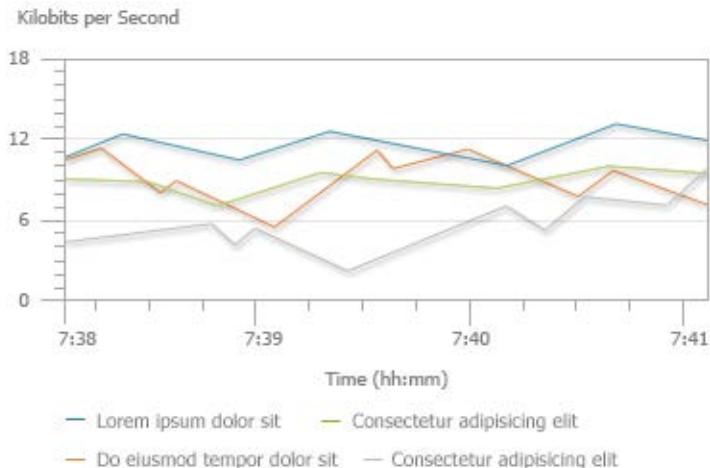


Figure 23. Legend with Long Labels Wrapping Below

Dual Y Axis Labels

It is possible to use two different Y axis scales within the same chart, as in the following example. In this case it is important that the axis label match the data series label, so that it is clear which data series corresponds with each axis label.

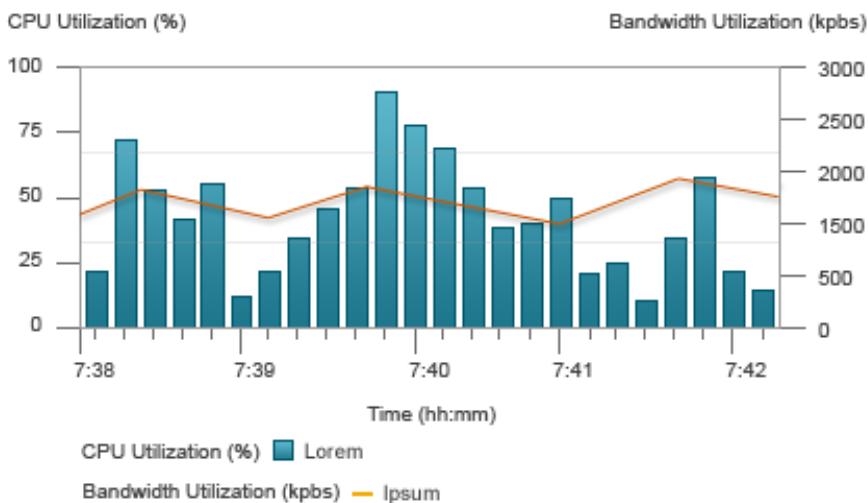


Figure 24. Dual Y Axis Labels

Axis Labels and Scales

Abbreviations in Axis Labels

Earlier it was stated that abbreviations should be avoided, and that if abbreviations are absolutely necessary, only standard abbreviations should be used.

An example of the kind of abbreviation that can frequently cause confusion are abbreviations for large quantities or sizes. For example, contrast the abbreviations used for data transfer versus those used for storage or memory capacity.

Data transfer values are abbreviated in base 10 units, like this:

- 1kb = 1,000 bits
- 1Mb = 1,000,000 bits
- 1Gb = 1,000,000,000 bits

Contrast this with abbreviations for data storage or memory capacity, whose units are an exponent of 2:

- 1B = 8 bits
- 1KB = 1,024 bytes
- 1MB = 1,048,576 bytes
- 1GB = 1,073,741,824 bytes
- 1TB = 1,099,511,627,776 bytes

Note the capitalization differences which are important for distinguishing data transfer abbreviations from data storage or memory abbreviations.

If you are using other types of values, standard metric abbreviations apply. Note that there are two possible abbreviations for 1,000,000,000, depending on the use case.

- 1k = 1,000
- 1M = 1,000,000
- 1B = 1,000,000,000 (number of items, as in "1B nodes")
- 1G = 1,000,000,000 (size, as in "1G tons")

Date/Time Axis Labeling and Tickmarks

Time-based charts provide a time selection mechanism that allows the user to easily filter a graph for the desired time period. In addition, we provide a custom date selector which allows the user to specify any time period.

The time selector can also be extended by the product team to include additional links which can drill-down, open a new browser window, pop-over or other interaction. Example: "View History" is a common link which opens a new browser window containing multiple charts showing historical data.

A datatip is available when hovering over data points on the time-based chart. The datatip displays the time in a long time format (month/day/year and hours/minutes/seconds) regardless of the X-Axis time format.

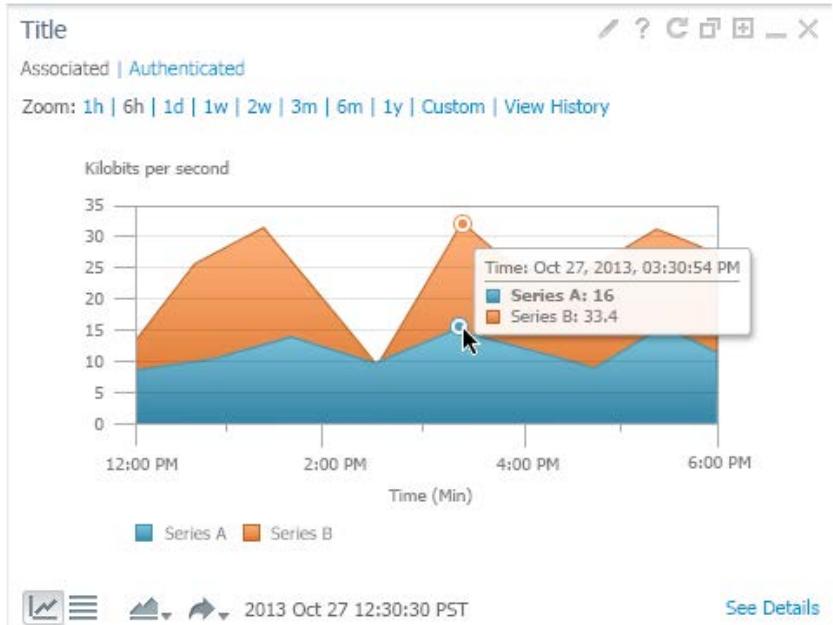


Figure 25. Time-based chart datatip

When two or more data series share the same timestamp, the datatip needs to display all data series for that time stamp.

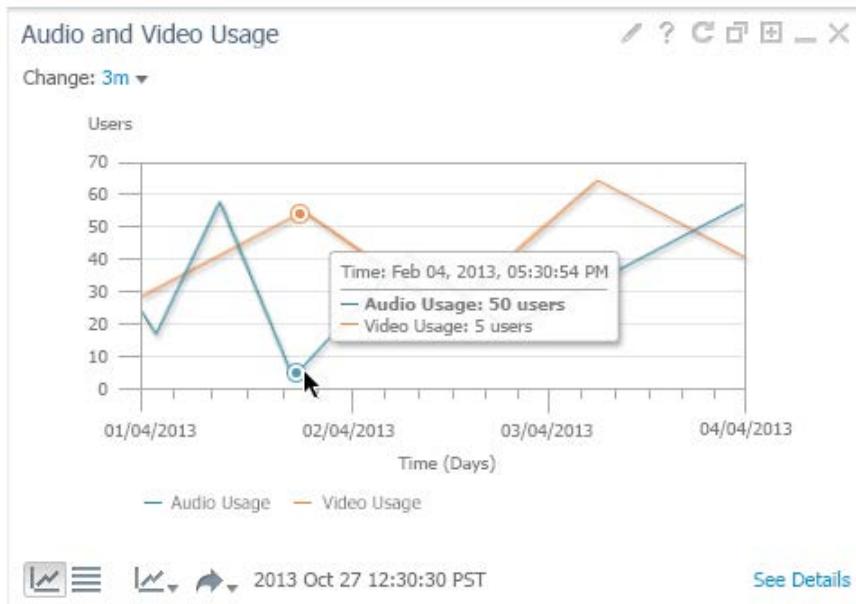


Figure 26. Time-based chart with shared timestamp and datatip

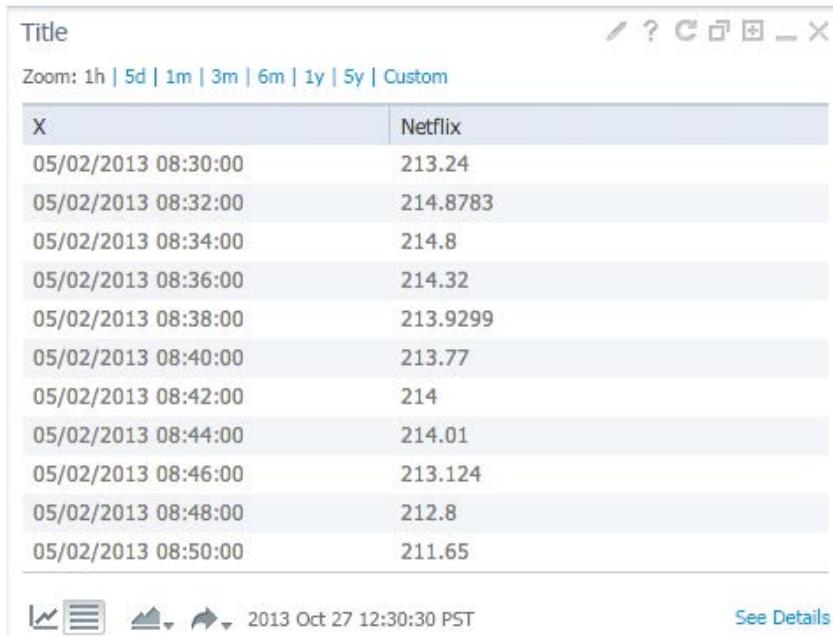


Figure 27. Time-based chart in tabular view

As in other charts, the user can switch to a tabular view which displays the data in a table. The time values used in the table will be long time format (month/day/year and hours/minutes/seconds) regardless of the X-Axis time format.

The x-axis time format adjusts based on the current period of time selected in the time selector. The axis labels listed in the table apply to compact-format charts, such as in a single-column dashlet. When charts are designed or expanded to take more room, additional labels and tick marks are added to maintain the same data density.

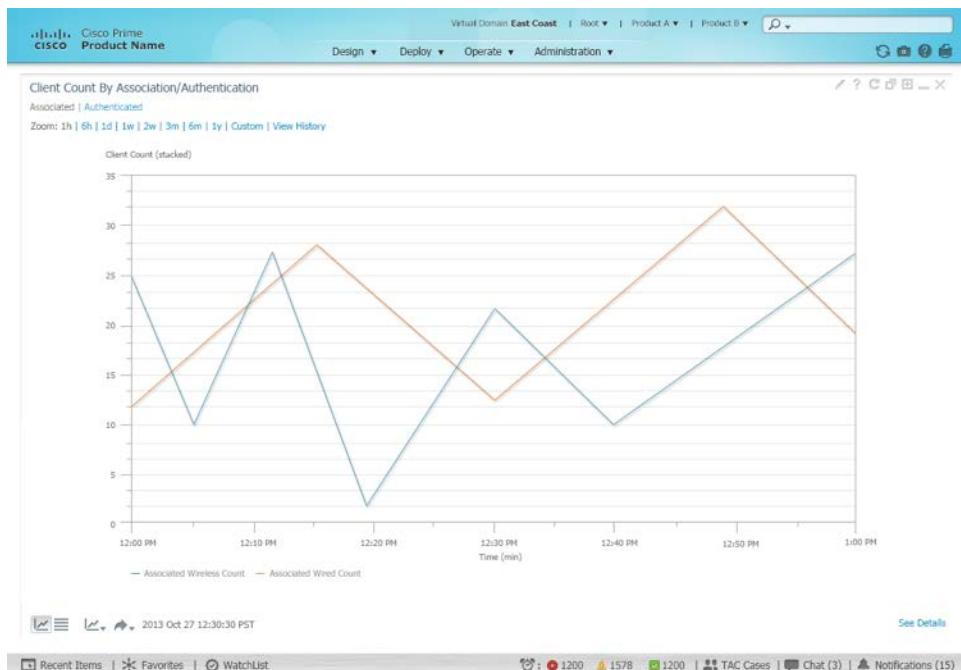


Figure 28. Time-based chart in a dashlet (expanded format)

Axis Label Wrapping and Linking

In some cases, it may be necessary to segment axis labels, such as the below example.

- Axis labels should only be wrapped on word breaks, not in the middle of a word.
- In this example, the labels are segmented so each link leads to a different destination (or overlay).

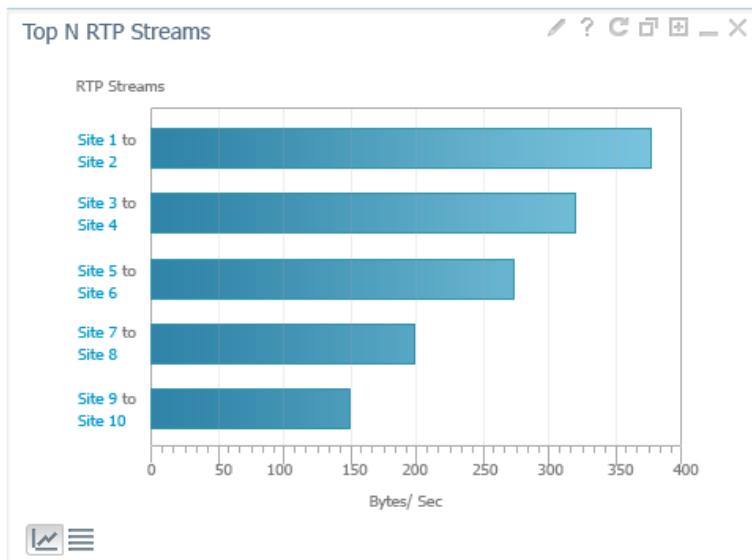


Figure 29. Wrapped and segmented axis tick-mark labels (Not Implemented in XMP 1.7.3)

Zero Axis Line

It is often desirable to illustrate data that reflects both in and out traffic, or opposite aspects of a measurement. In these cases, we can use an axis with a zero axis or line in the middle, either horizontally or vertically. If numeric, the axis labels on the top or right side of the zero line are positive, but the labels below or on the left do not always have to be negative.

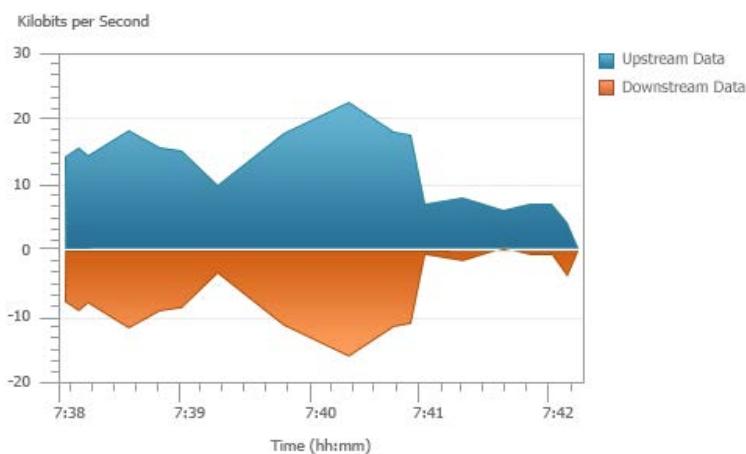


Figure 30. Reflecting Area Chart with in and out traffic; neither is represented as negative.

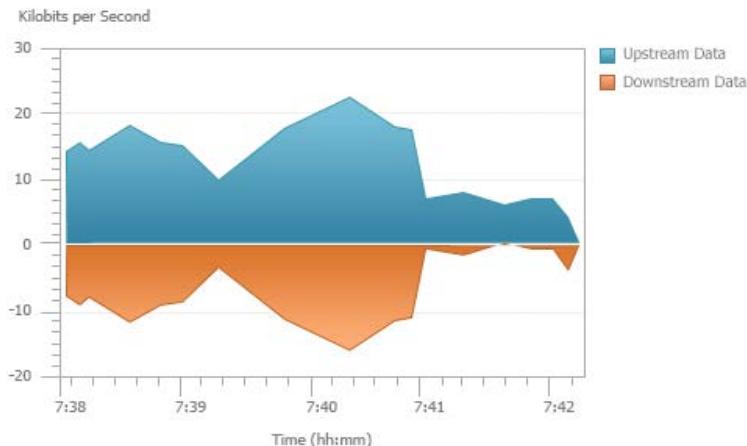


Figure 31. Reflecting Area Chart with in and out traffic; downstream is represented as negative.

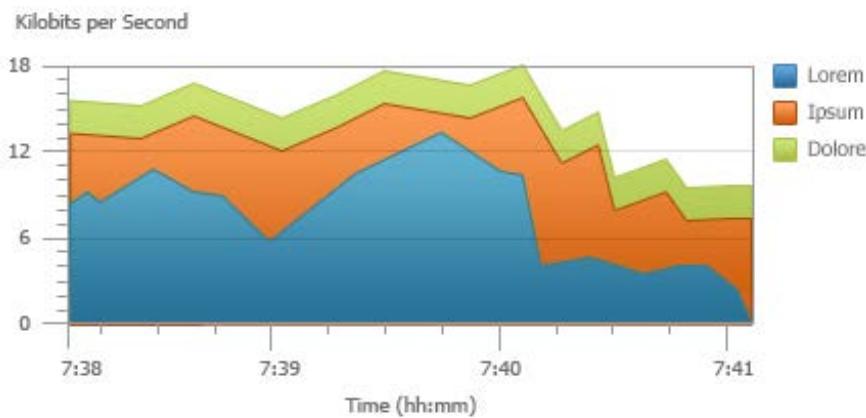


Figure 32. Time Axis With Uncrowded Labels

Data and Axis Scaling

When the data range of a chart is highly variable, the chart should automatically adjust to represent the available data appropriately.

In doing so:

- Axes should not switch to a fractional scale when whole units are required. (e.g. do not show fractions of a device)
- Scales (increments and units of measure) on each axes should be adjusted according to the available data.
- Axes tick mark and axis labels should automatically be relabeled according to the relevant scale.
- Font size should remain consistent (no change).
- Tick marks and grids should automatically be re-spaced to accommodate the available data.

- The width of bars should not expand to use available space, but should retain a width that falls within the pre-defined minimum/maximum range and use white space in-between.

The above interactions are relevant whether the user is manually zooming in on the data, or whether the data range changes based on data received from the system.

Manual Zoom Example

If the user zooms in, the chart updates to a more granular level with smaller increments.

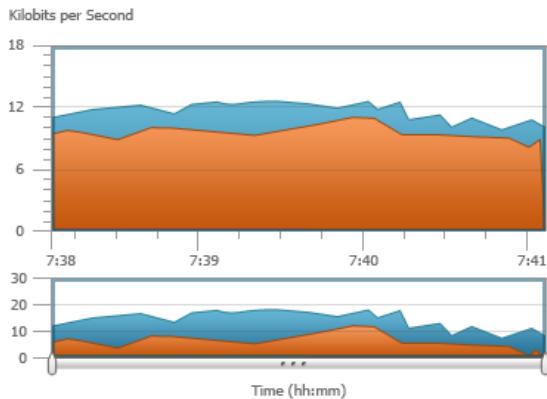


Figure 33. Bottom and top stacked chart and range-selectors initially show the same data range.

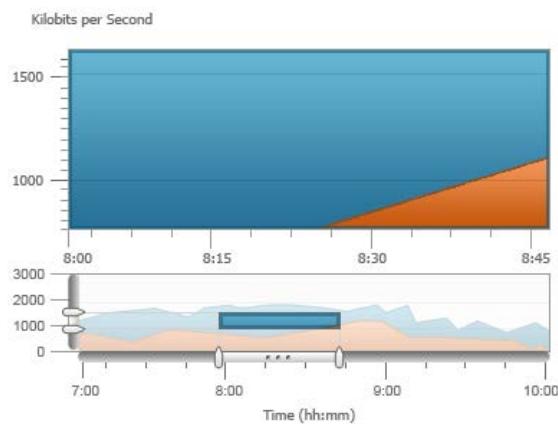


Figure 34. User has zoomed in using the range-selector, thereby expanding the scale to smaller increments

In some cases, just adjusting the increments is not enough, and actual relabeling is required.

Example: If a chart is normally measuring speed of network traffic in Mbps, but it has slowed down, it may be necessary to change the units of measure to Kbps.



Figure 35.The X axis labels are typically in mbps

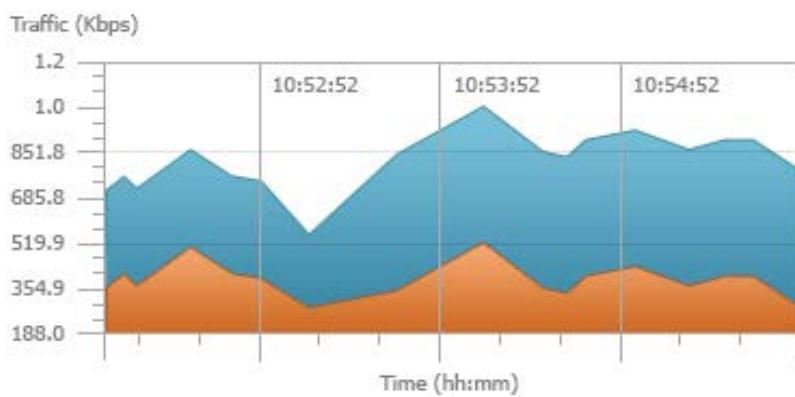
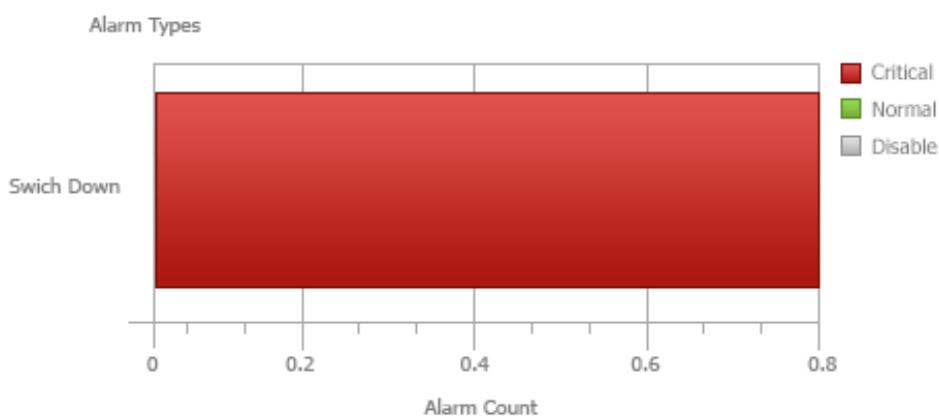


Figure 36. The labels automatically adjust to reflect kbps if needed.

There should be a default (but configurable) minimum allowable unit measure present for the final value of a scale, so that automatic adjustment does not create potentially distorted charts.



Value Set	Fill Color	Fill Pattern	Data Point Mark
11	 #8498b7	 #ffffff at 50%	 Filled Circle Line:#8498b7
12	 #40bdff	 # ffffff at 50%	 Split Vertical Square Line:#40bdff
13	 #bdc4d1	 #ffffff at 50%	 Filled Square Line:#bdc4d1
14	 #8c9ced	 #ffffff at 50%	 Filled Diamond Line:#8c9ced
15	 #a1d8c7	 #ffffff at 50%	 4 Squares Line:#a1d8c7
16	 #ea6c97	 #ffffff at 50%	 Filled Triangle Line:#ea6c97
17	 #898758	 #ffffff at 50%	 Dotted Square Line:#898758
18	 #f098b6	 #ffffff at 50%	 Filled 4 Point Star Line:#f098b6
19	 #4a6e7c	 #ffffff at 50%	 Dotted Diamond Line:#4a6e7c
20	 #b6b496	 #ffffff at 50%	 Split Horizontal Square Line:#b6b496

Table 3. Specifications Extended Color Palette

Figure 37 .Chart is set to fill available space and with a fractional scale for what should be whole units. (incorrect)

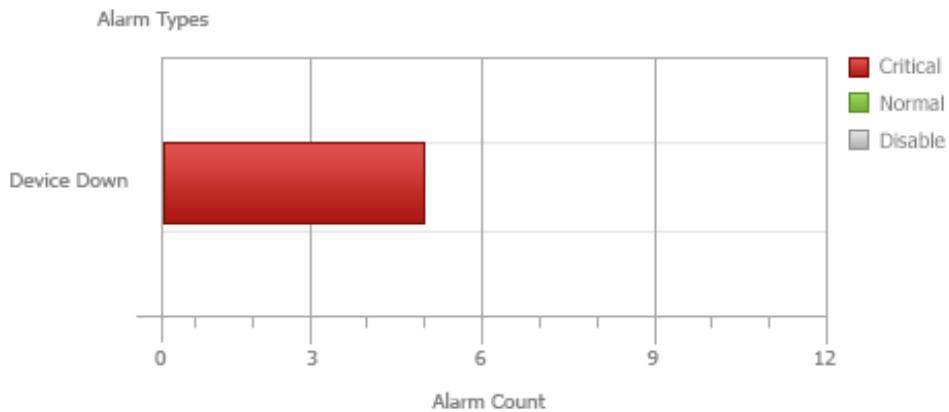


Figure 38. Chart is set to pre-defined minimum scale with non-fractional units. (correct)

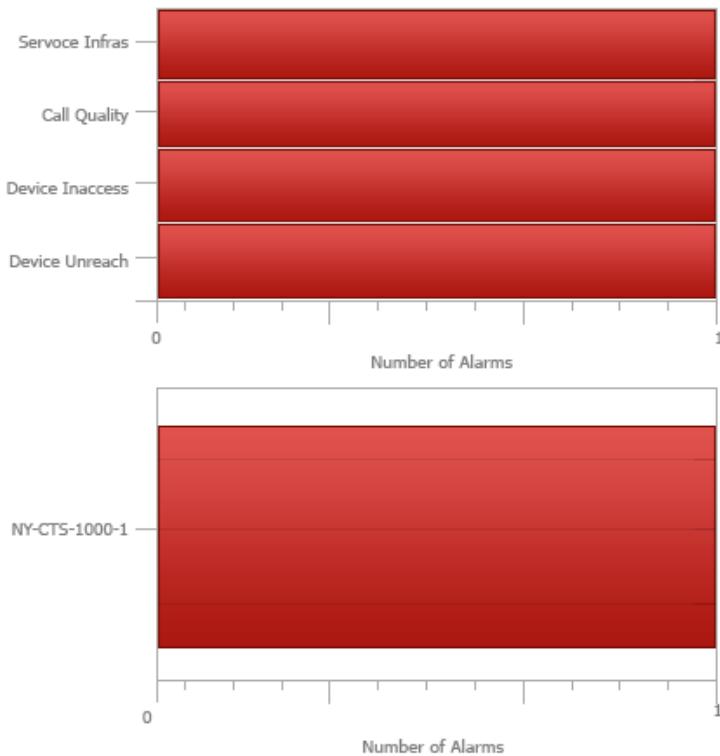


Figure 39. Y data marker height expands to fill available space (incorrect)

Value Set	Fill Color
11	Fill: #66e3b6
12	Fill: #91d8fd
13	Fill: #d7dce3
14	Fill: #bac4f1
15	Fill: #c8e8dd
16	Fill: #f7a6bf
17	Fill: #b8b79e
18	Fill: #fac1d2
19	Fill: #90a8b0
20	Fill: #d3d2c2

Table 7. Specifications Extended Color Palette

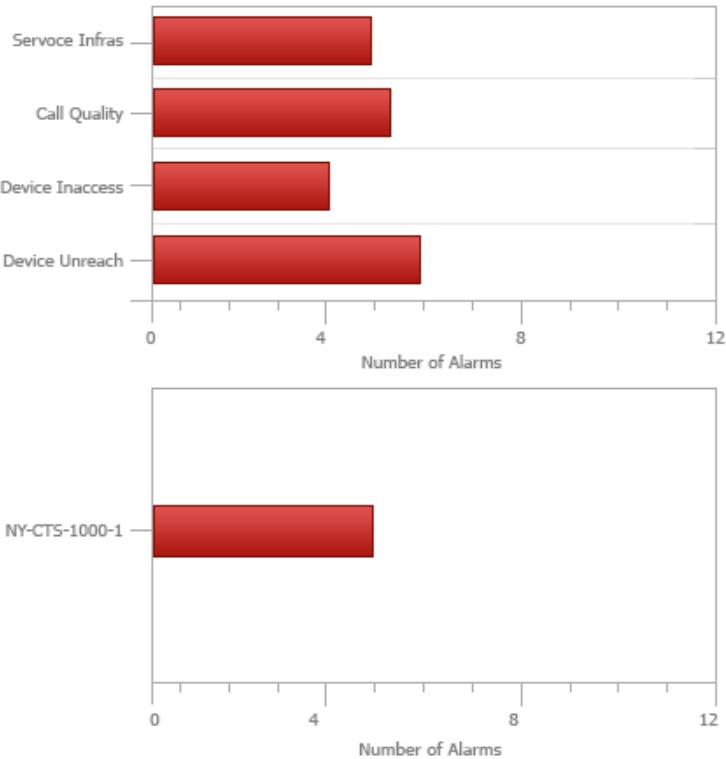


Figure 40. Y data marker height is set to a default minimum. (correct)

Multiple Labels for Single Axis

Sometimes it is desirable to show two different formats for the same value. For example, it might be useful to show both the percentage of a total along with an absolute value, as in Figure 19.

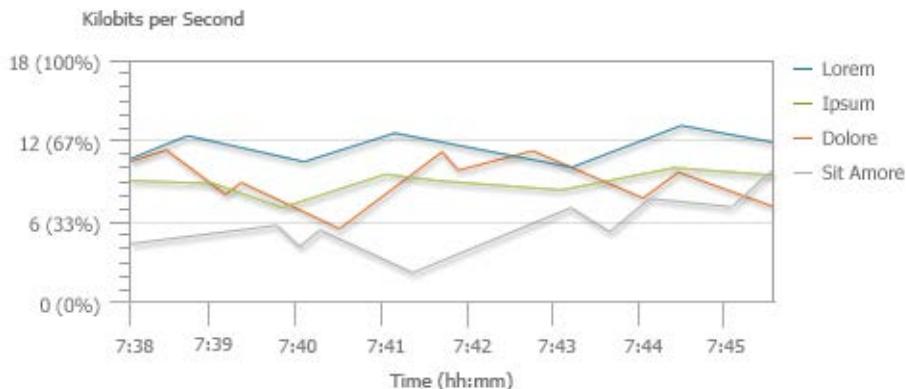


Figure 41. Multiple Labels for Single Axis

Exposing Additional Detail from Charts

Overlays

An application team can choose one of three kinds of overlays to display additional information in charts:

- Datatip (tooltip-size content, hover to invoke)
- Quickview (larger content, hover to invoke)
- Pop-over (larger content & interaction, click to invoke)

Drilling

As an alternate to overlays, application teams can instead choose to:

- display detailed information in the current or other detail panels in the same page
- change the display of the chart itself to focus on clicked information or marker.
- navigate to another page

Drill-down can be done in-place with the ability to return to viewing the chart, or the user can be navigated to another page in the system.

Interactive Labels

It is possible to interact with the following label types to display additional detail:

- display detailed information in the current or other detail panels in the same page
- change the display of the chart itself to focus on clicked information or marker.
- navigate to another page

The user can interact with chart labels in the following ways:

- click to display related information in a detail pane
- click to display a pop-over
- hover to display a quickview
- hover to display datatip or tooltip
- click to morph the chart
- click to navigate (only recommended as secondary action)

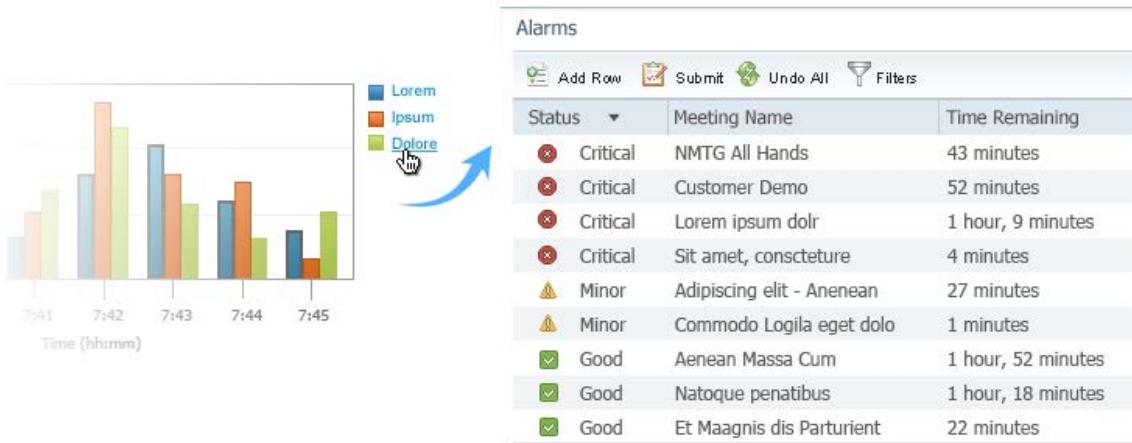


Figure 42. Click link to display related information in detail pane

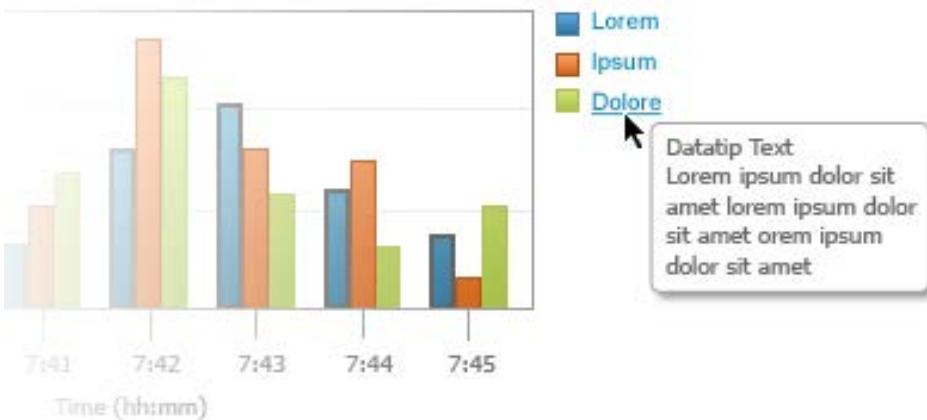


Figure 43. Hover on legend labels to display Datatip

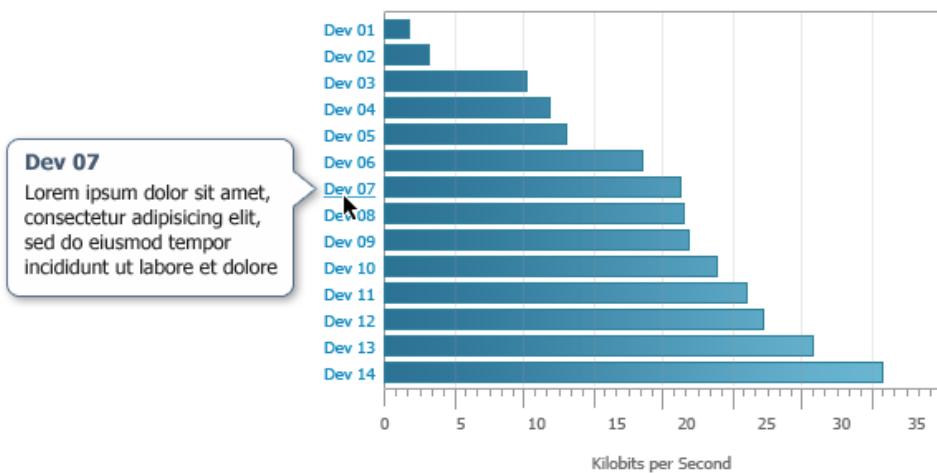


Figure 44. Hover on axis tick mark labels to display quickview

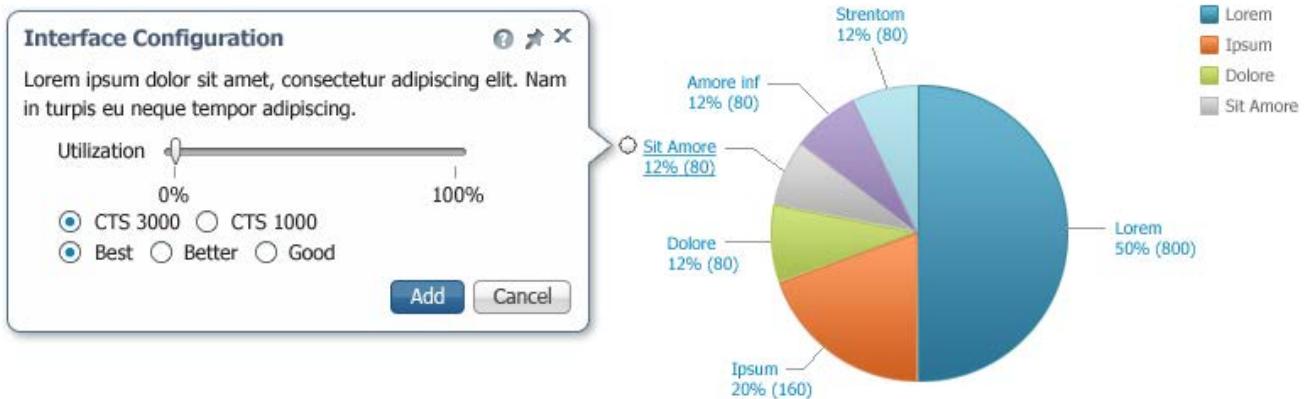


Figure 45. Hover on Data Labels to display hover hint, then click to display pop-over



Figure 46. Clicking on a filter link to change (morph) the chart

Interactive Objects

It is possible to interact with the following objects to display additional detail:

- Data markers
- Datapoints
- Grid lines

The user can interact with chart objects in the following ways:

- hover or click to display pop-ups
- click to morph chart
- hover or click to display detail pane
- click to navigate (only recommended as secondary action)

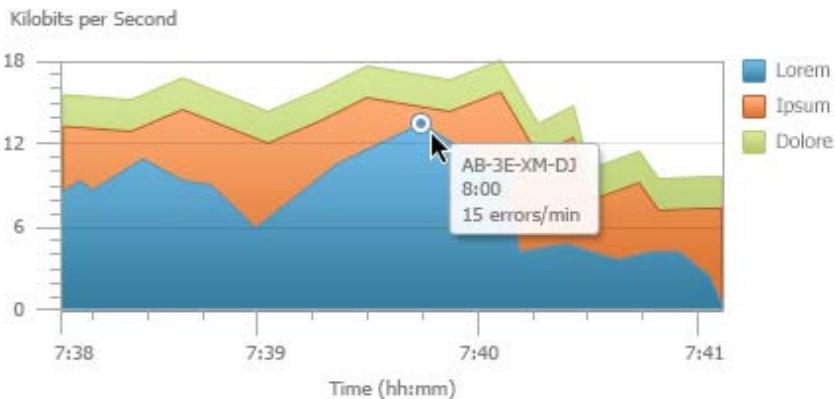


Figure 47. Hover on datapoint to display datatip

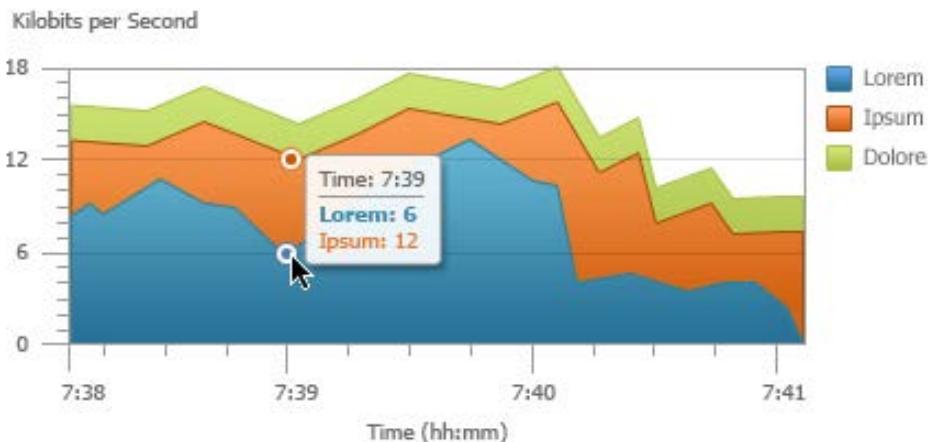


Figure 48. Hover on datapoint to display colored multi value data tip

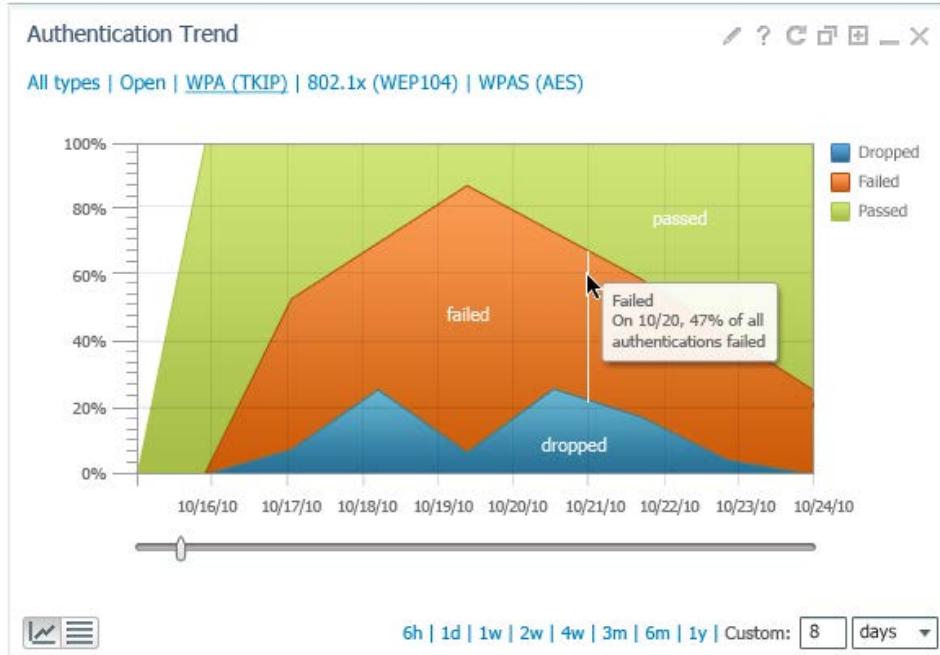


Figure 49. Hover on datapoint to display datatip

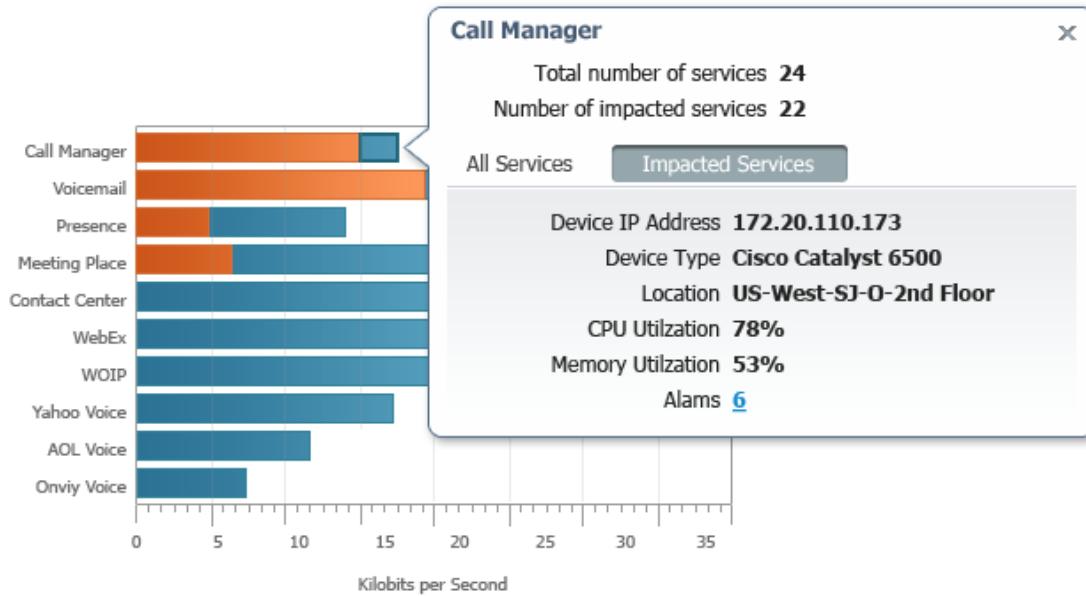


Figure 50. Click on data marker (outlined) to display pop-over

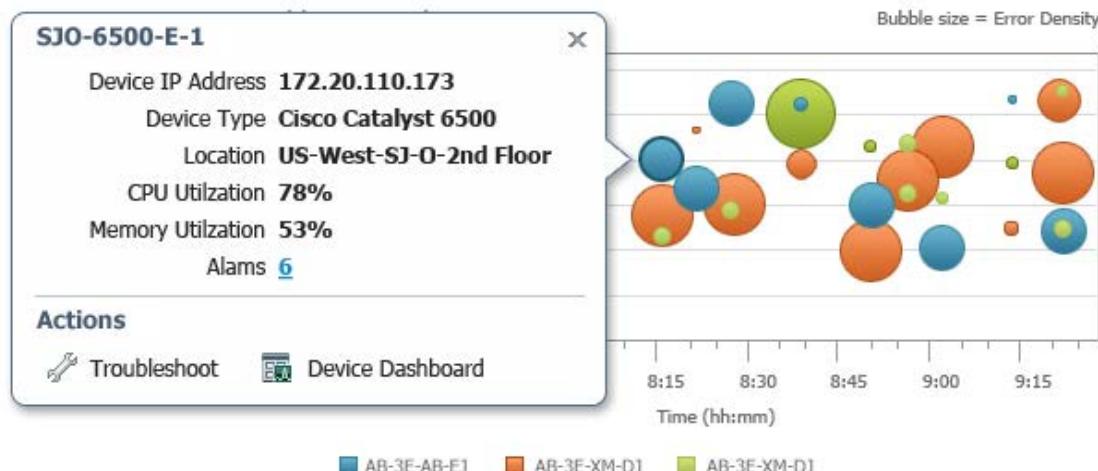


Figure 51. Hover on datapoint marker (emphasized) to display quickview

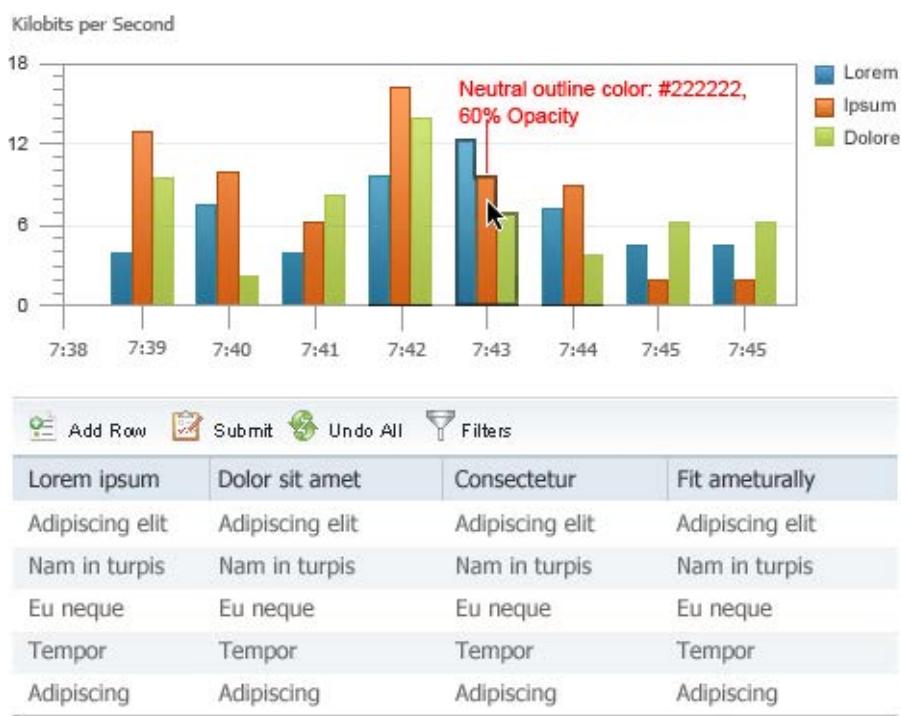
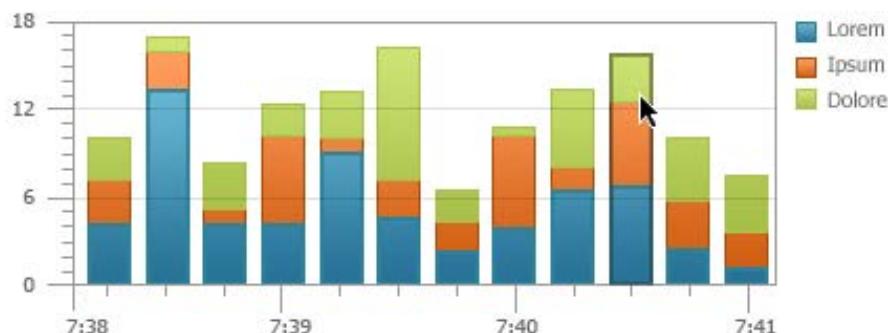


Figure 51. Click a set of data markers (outlined) to display related information in a detail pane

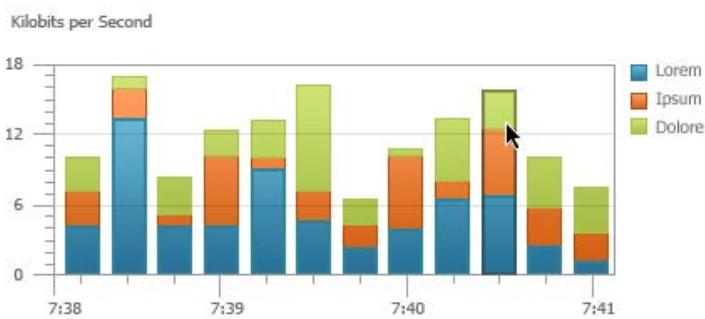
- If more than one color marker is outlined, then use a neutral outline color

Kilobits per Second



Add Row	Submit	Undo All	Filters
Lorem ipsum		Dolor sit amet	
Adipiscing elit		Adipiscing elit	
Nam in turpis		Nam in turpis	
Eu neque		Eu neque	
Tempor		Tempor	
Adipiscing		Adipiscing	

Figure 52.Click a set of data markers (outlined) to display related information in a detail pane



Add Row	Submit	Undo All	Filters
Lorem ipsum		Dolor sit amet	
Adipiscing elit		Adipiscing elit	
Nam in turpis		Nam in turpis	
Eu neque		Eu neque	
Tempor		Tempor	
Adipiscing		Adipiscing	

Figure 53.Click a set of data markers (outlined) to display related information in a detail pane

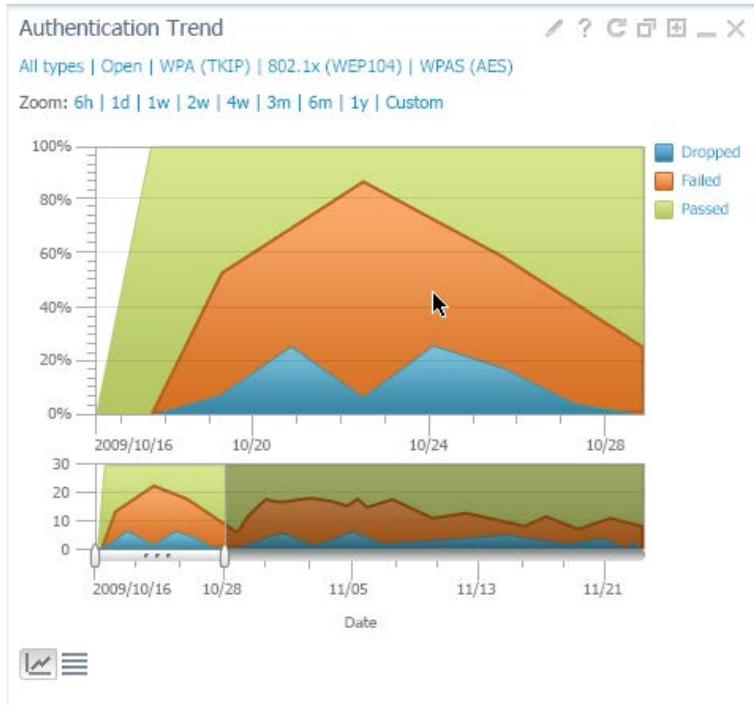


Figure 54.Click on a series to morph/isolate the series

Drilling Down on a Series (aka Isolate a Category)

The drill-down on a series can be animated to emphasize the change and make clear the difference between the consolidated view and the individual series. The act of filtering the data, drilling down on a category and paging between categories of data can animate or morph the data from one state to another. This helps the user recognize and compare the differences in state between data sets.

Subcharts

Figure 31 illustrates a subchart within the isolated series view, where the user can page through categories and review a sub-chart for each category that shows filter criteria data for the current category. The sub-chart can be collapsed to view the complete area as needed.

Flags

Another form of annotation is the flag. Flags differ from popup datatips in that they are always visible, and they are used to relate data points within the chart with rows in a table that provide further details.

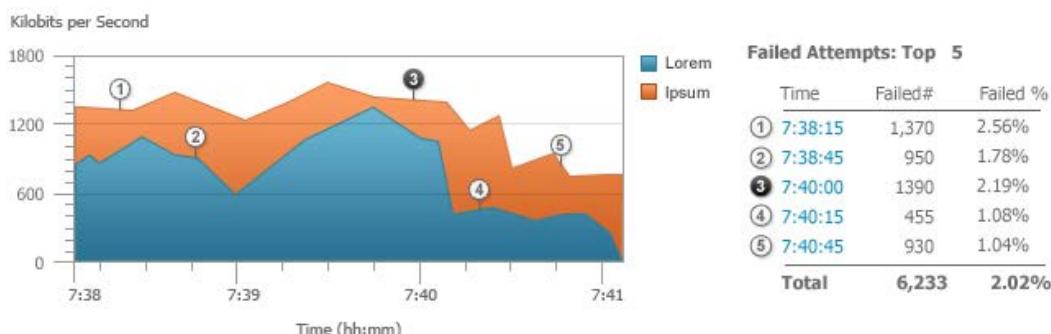


Figure 55. Area Chart with Flags

Double Y Axes

Double Y axes can be used to display both a value scale and a percentage scale on the same chart.

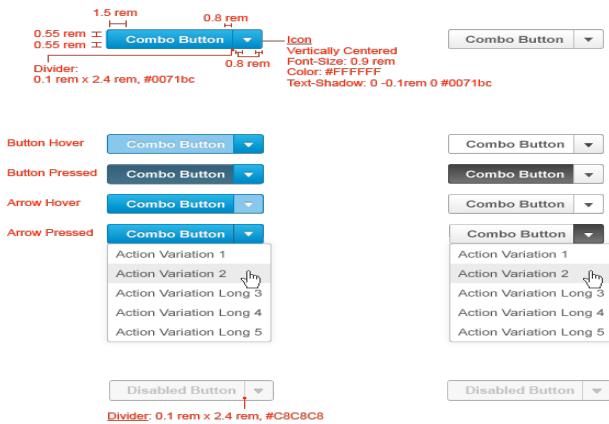


Figure 56. Bar/Line Combination Chart with Double Y Axes

Handling Large Data Variation in Charts

Charts are dynamically scaled so that the largest value fits within the available space. This works well when the values for each event are somewhat close together. However, if one or more values are outliers that are an order of magnitude or larger than the rest, this scaling of the value axis doesn't work as well visually. In this case, when the largest values fit within the chart, the smaller values may be very small and may hardly be visible at all. To address this you may use one of several methods.

Chart	Method			
	Jump Chart/Scale Break	Minimum Values	Range Selector	"Other" Category
Bar				
Stacked Bar				

Chart	Method			
	Jump Chart/Scale Break	Minimum Values	Range Selector	"Other" Category
Bubble				
Pie		(Only for "other" Category)		
Area				
Line				
Scatter				
Sparkline				

Table 5. Available/Recommended Methods for Managing Large Data Variation by Chart Type

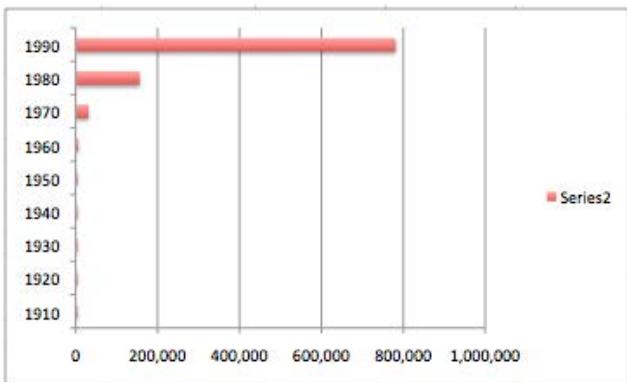
Don't Use When

- Do not use a jump chart if all the values fit in a single chart on a linear scale within the allotted space and all of the lowest values will always be at or above the minimum.
- Do not use an "other" category if all the values will be easily viewable/hover-able otherwise.

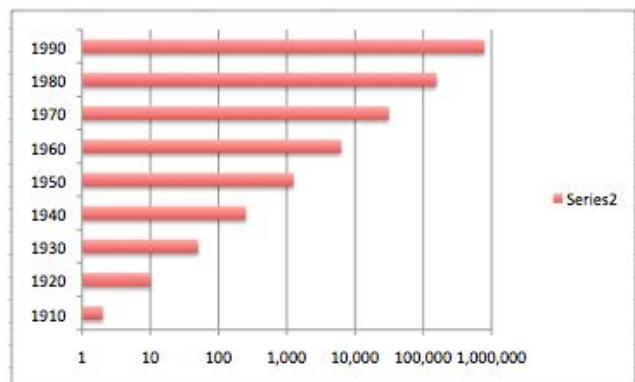
Additional Information about handling large data sets

Logarithmic Scales

A logarithmic scale differs from a standard scale in the following way: a standard scale displays units of measurement that are linear: 0, 1, 2, 3, etc. whereas a logarithmic scale displays units of measurement that are intervals of magnitude: 1, 10, 100, 1000, etc.



Data with large variations shown on a normal linear scale.



The same data charted using a logarithmic scale.

Figure 56-1. Showing the same data charted using a linear scale (left) and logarithmic scale (right)

A data series that covers a small range of values can successfully use a linear display. In contrast, a logarithmic scale is useful for data that covers a large range of values: the use of the logarithms of the values, rather than the actual values, reduces a wide range to a more manageable size and allows the user to view relationships that would otherwise be so spread out linearly that they are impossible to detect at a glance

Use a logarithmic scale to:

- expose outliers that skew a display toward large values
- illustrate rate of change

Logarithmic scaling applies only to some chart types. Linear chart types (employing X and Y axes) such as Bar and Line charts may use logarithmic scaling, but non-linear chart types such as Pie charts may not. (See table above)

Logarithmic scaling is best applied by the user when the data series displayed warrants an alternative view. Therefore use of an axis log scale is provided as a user-settable chart option (for relevant chart types). It should not be set as a default.

"Other" Category

In order to avoid several of too-small values, the app team may wish to group them together into an "other" category, which is clickable and the app team can display a quickview that expands the details on this group. "Other" categories can be implemented for any chart type.

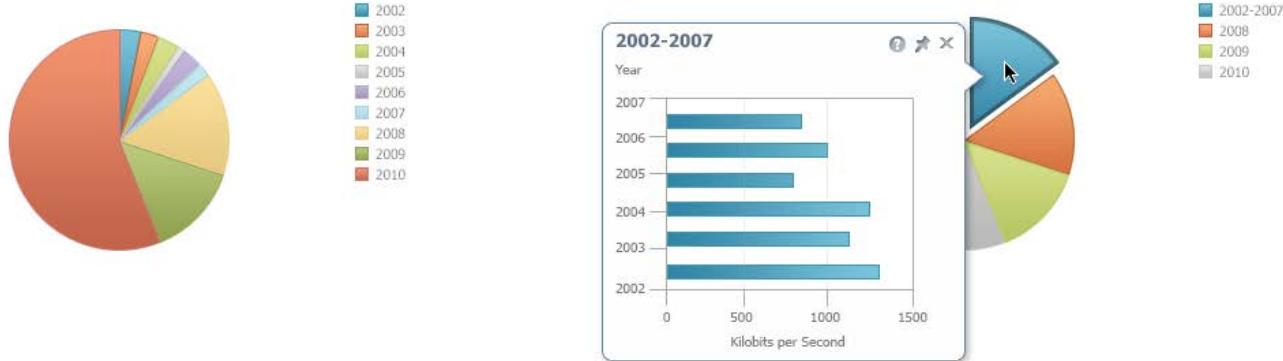


Figure 57. Pie chart without "Other" category, and pie chart with "Other" category

Note that the series in the overlay that is displayed to represent the breakdown for the "other" category must have the same interaction ability as clicking on any of the other series would.

The "Other" Category in a pie chart also uses a minimum value placeholder to ensure it is viewable, hover-able and clickable. Follow the standards for clicking or hovering to display information, per the http://xmp-dev-1/widgets/2.1/charts_basic.php#overlays Chart Basics Overlays section.

No Data Available

The default message when no data is present for a chart is "No data available". This is centered in the middle of a chart:

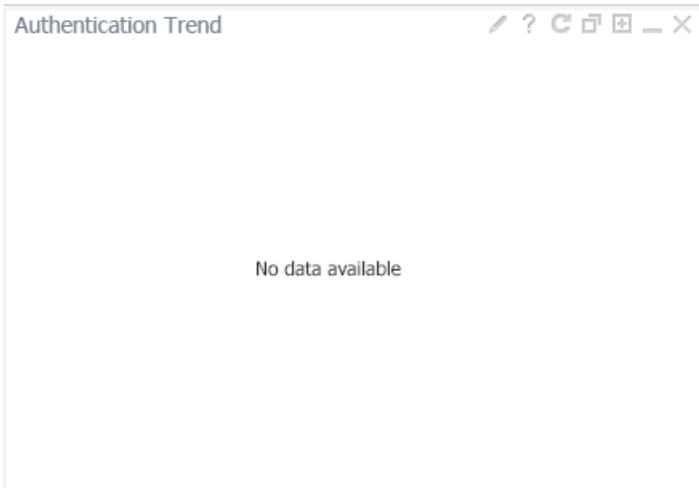


Figure 58. Chart with no data available

For the scenario where data is received, but all values are null, the message should be context-specific: product teams can change this on a case-by-case basis. For example, in the case where the dashlet is "Unreachable Devices", the message for all values are null could say: "All devices are reachable".

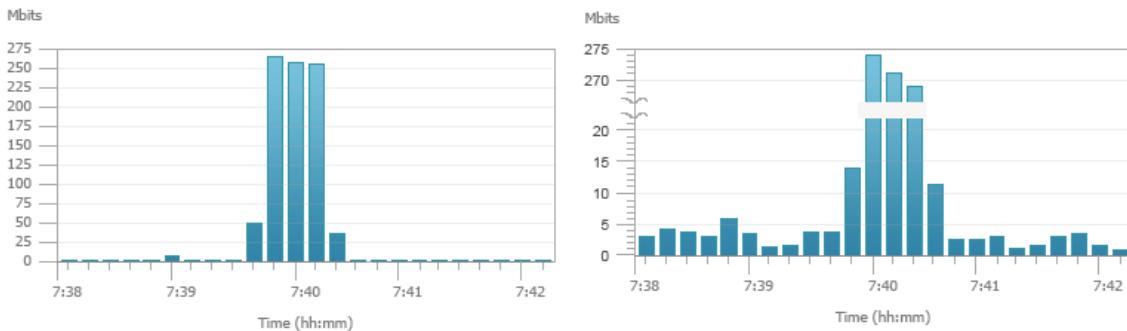


Figure 59. Comparison of Bar Chart with Outlying Values and a Bar Chart with Value Jump

Threshold Lines and Regions

Threshold Lines

Threshold lines can be added to specific points on the events axis to denote start and end times for a continuous event. Labels for the threshold lines should read "Start" and "End" and are parallel with the threshold line.

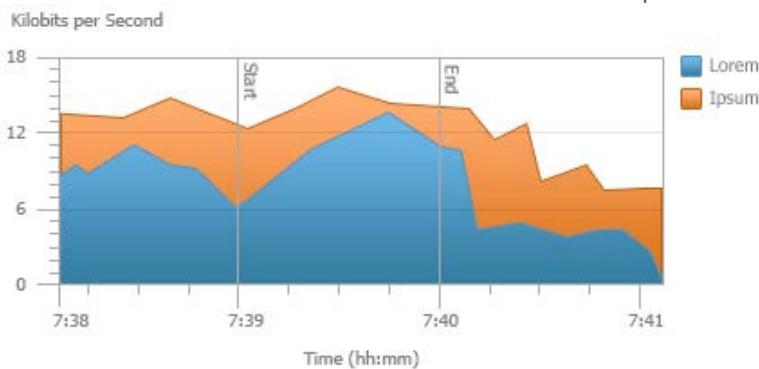


Figure 60. Threshold Lines

Threshold Regions

Threshold regions are shaded areas (gray scale values) whose boundaries correspond to points on the scale axis. They utilize a color bar on the right which corresponds with a shaded area and denotes the intensity of the scale value (e.g., green for "Normal", yellow for "Minor" and red for "Critical"). Labels for each threshold region should be vertically centered and right justified within each region. It is not recommended to use more than four regions in one chart. See State Palette for values of color bars.

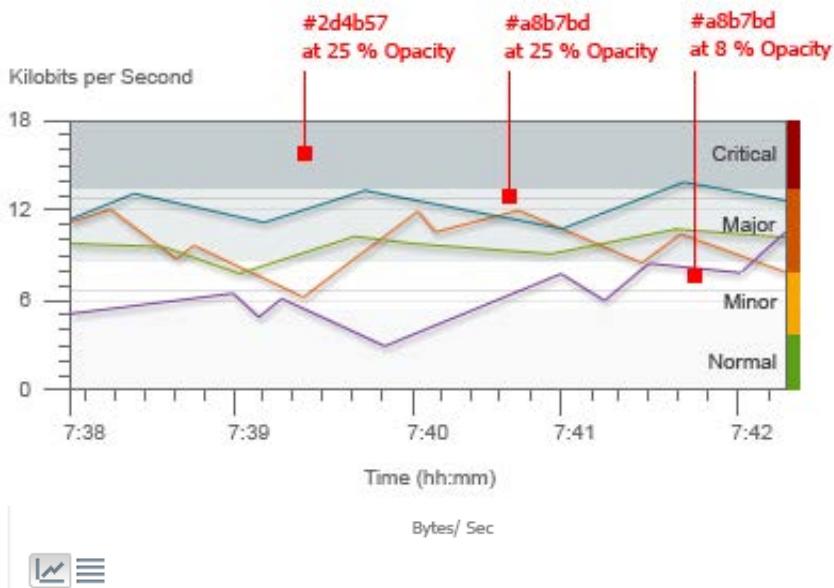


Figure 61. Threshold Regions



Value Based Colors

Single series bar or pie charts can use device state colors for each bar or wedge based on the value of the scale axis. Device state colors convey consistent meaning throughout Cisco applications. Value based colors should be used to convey device state and are not based on an arbitrary palette.

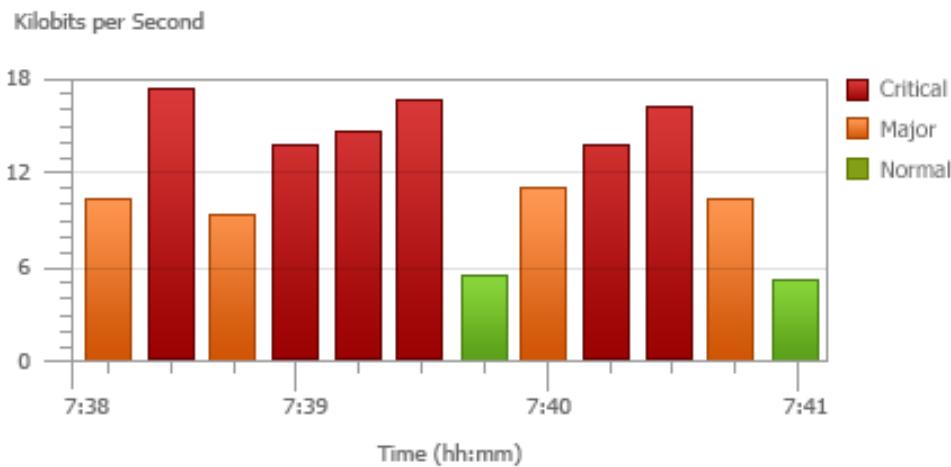


Figure 62. Value Based Colors

Auto Resizing of Charts

Charts are used frequently in dashboards but they may often be smaller than desired for examining the data in depth. For this reason, it is important to include the ability to launch any dashboard chart in its own pop-up window for larger viewing or provide support for resizing the dashlet itself.

When displayed in a larger window, the chart automatically expands to make use of the available space. Additional controls may be added as well, such as custom date range filters which may not fit in the dashlet view. If the expanded view window or dashlet is resizable, the chart should expand to make use of and contract to fit within the available space as the window or dashlet is resized.

Provide an expanded view or pop-up of a chart whenever it is displayed by default in a dashlet or another space-restricted view, unless the chart is very simple and can easily be viewed and understood in the restricted view.



Figure 63. Dashlet view of a chart

Controls for User Options

- In the interest of accessibility, these controls should always be included:
 - Provide a control that enables the user to toggle the display of data point marks in line charts, and fill patterns in other chart types. If appropriate (your application contains a large number of charts, for example) consider providing this as an application-wide preference.
 - Provide a control that enables the user to toggle between displaying the data as a chart or a table. In the table view, the user should be able to use the Tab key to move from cell to cell and hear each value using a screen reader.
- Additional optional controls:
 - A control that enables the user to switch between chart types.
 - A control that enables the user to toggle the display of data value labels.
 - A control that enables the user to emphasize a wedge of a pie chart.
 - A control that enables the user to specify the range of data displayed. (Also see [Chart - Stacked](#) specification Range Selector section)
 - A control that enables the user to select filter criteria for the displayed data

Placement of Controls for User Options

Controls for user options can be placed in the upper or lower right corner of the chart. Choose the placement that works best for your application, but use consistent placement throughout your application.

Alternatively, if your application contains a large number of charts, you might choose to provide these controls as application-wide settings (accessible in your application's preferences area).

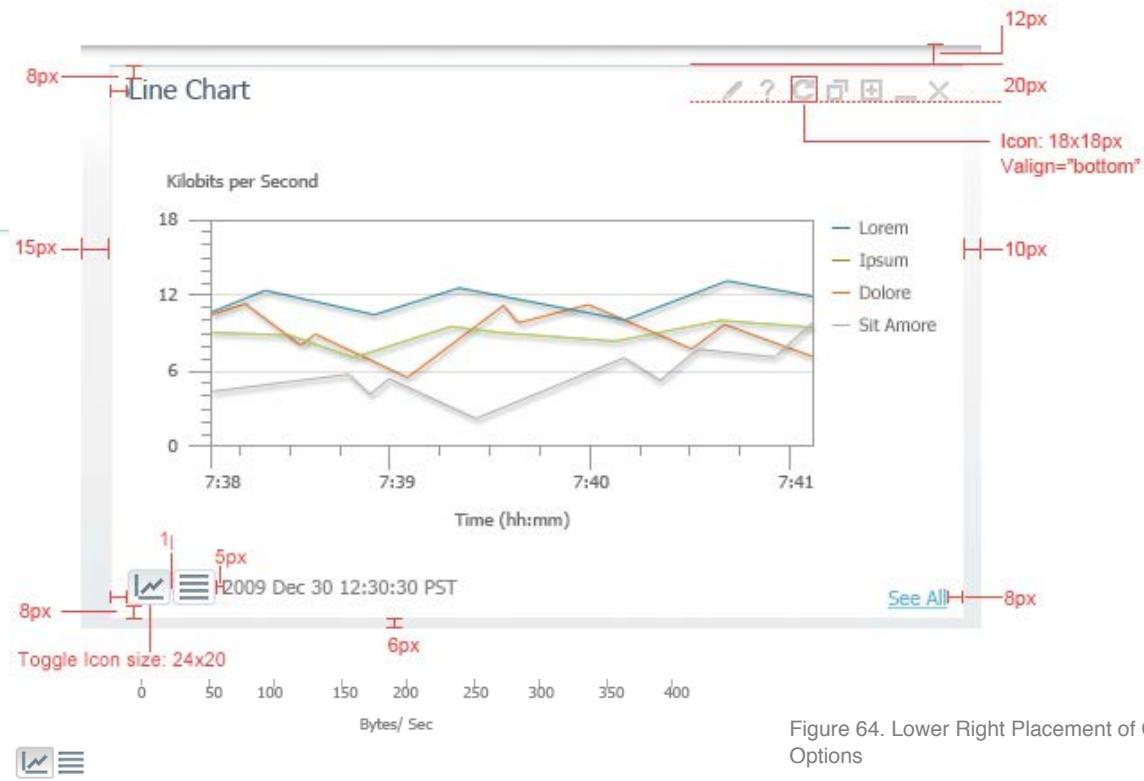


Figure 64. Lower Right Placement of Controls for User Options

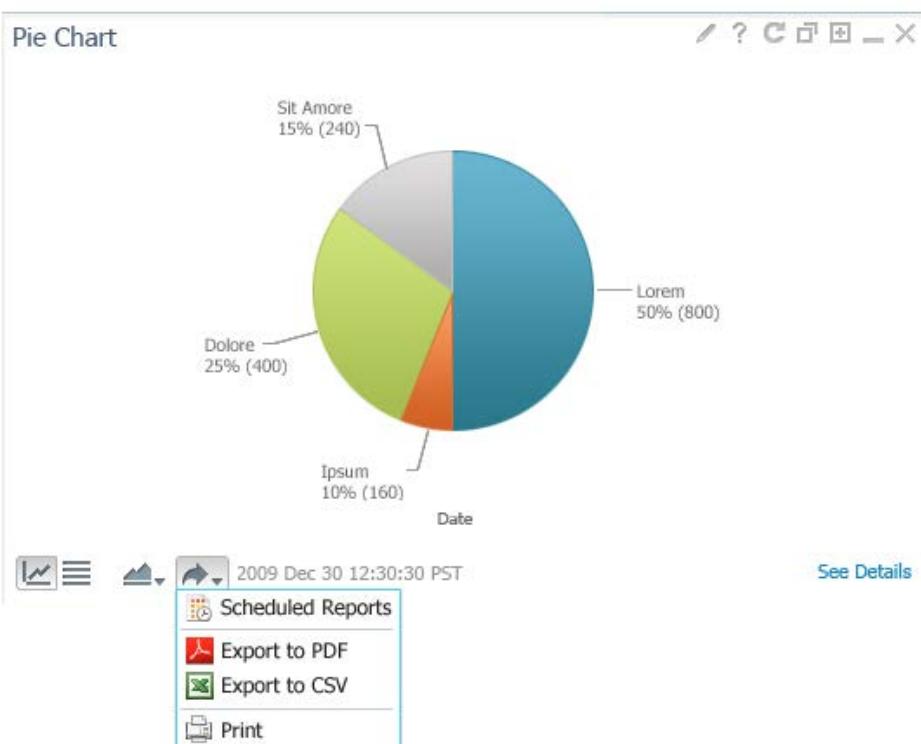


Figure 65. Drop Down Menu for More than 3 User Option Controls

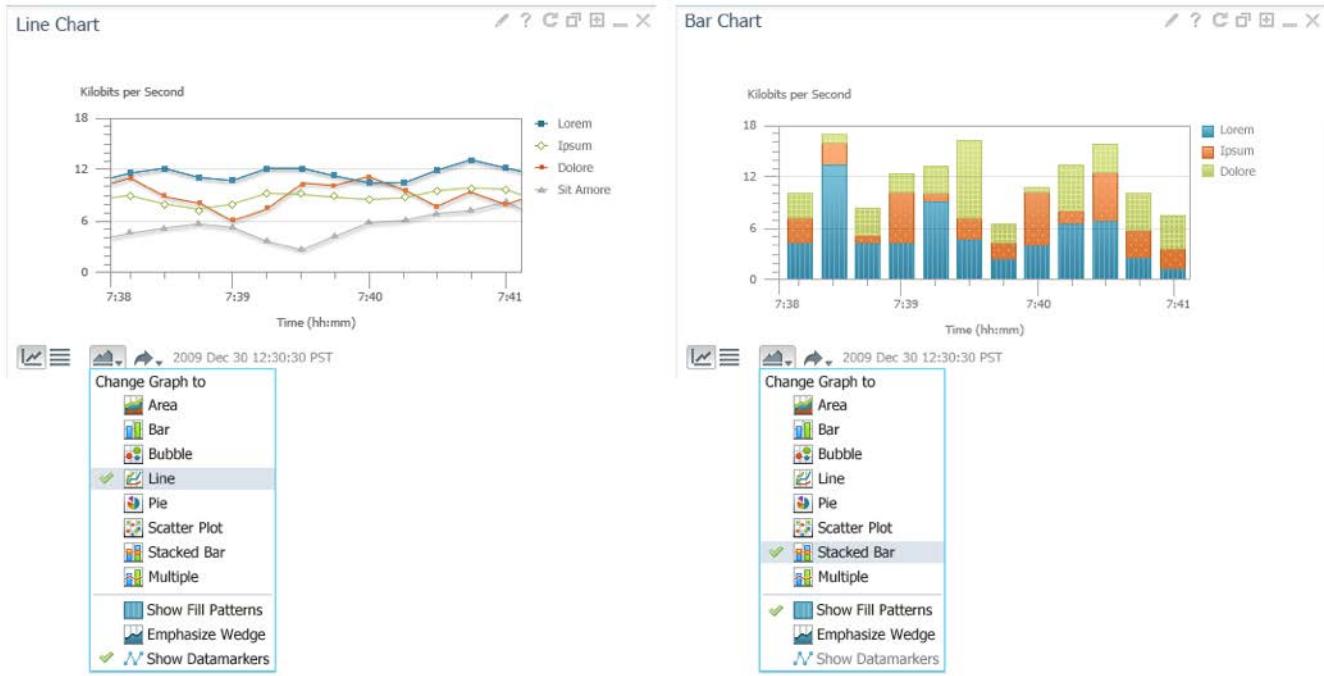


Figure 66. Toggle for Data Point Marks or Fill Patterns

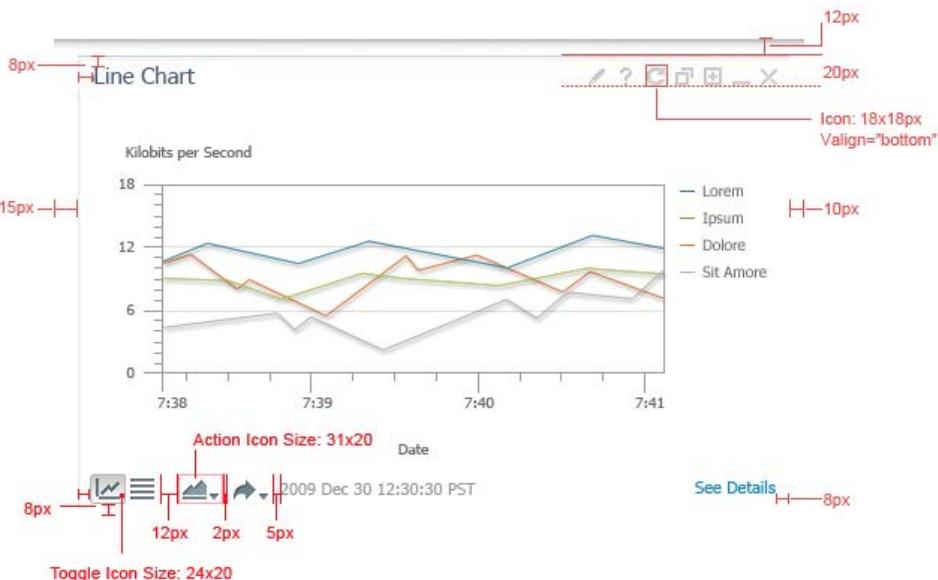


Figure 67. Toggle for Chart/Table Display

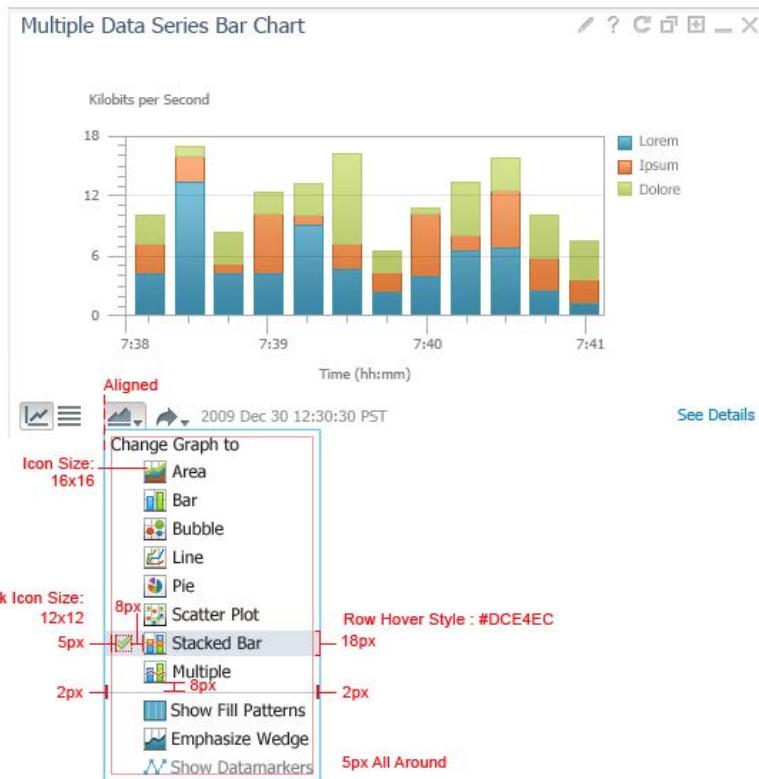


Figure 68. Drop-down for Chart types

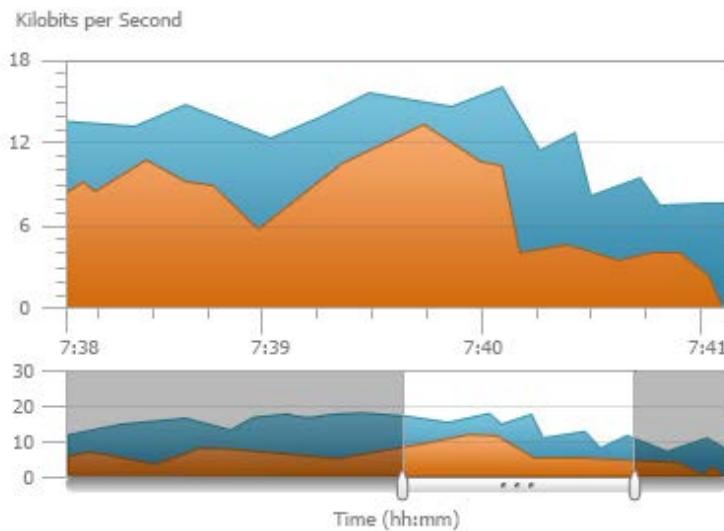


Figure 69. Controls for Data Value Range Selection

Application Error

Sometimes an application error will prevent the display of a chart. When this happens, the error should be displayed in the chart's display area. (Also see Notifications, Failure to Load Errors)

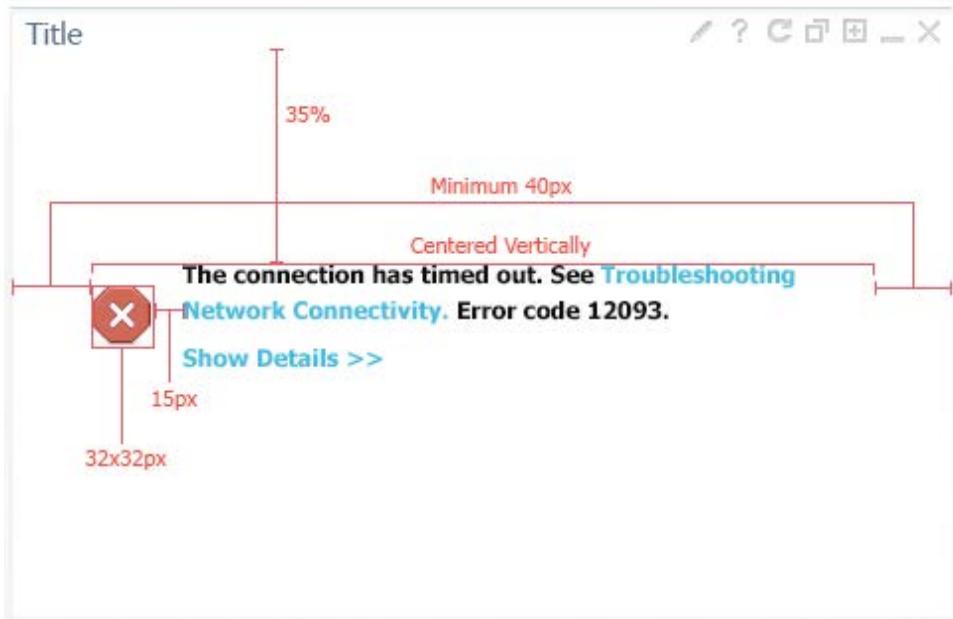


Figure 70. Application Error Preventing the Display of a Chart

Future or Rejected Ideas

Future: Selecting Log Scales from Chart Options

Since it often cannot be determined either at design-time or at run-time whether or not a chart will require log scale(s) to display large variation in data, this is also a user option that can be included at design time by the app team. The app team can include either X or Y axis log scale or both. Normally, only one or the other will be desirable. Neither are mandatory. The option will be available along with the other chart view options:

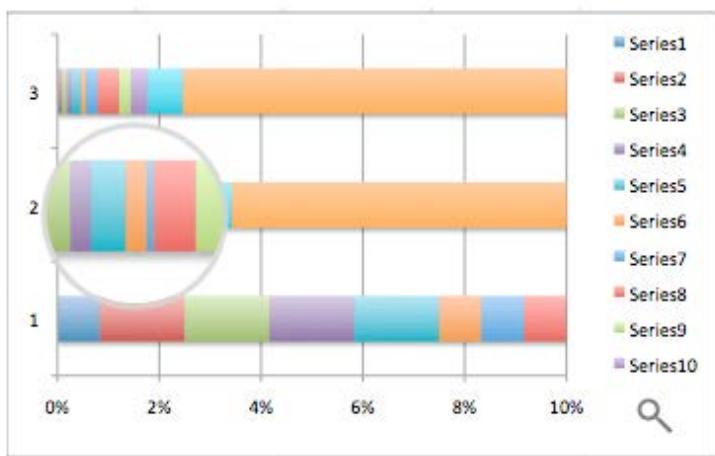
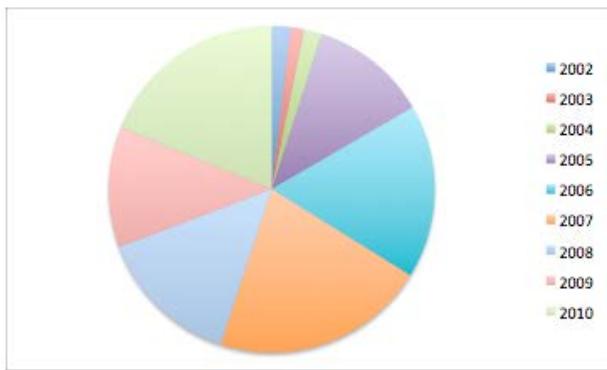


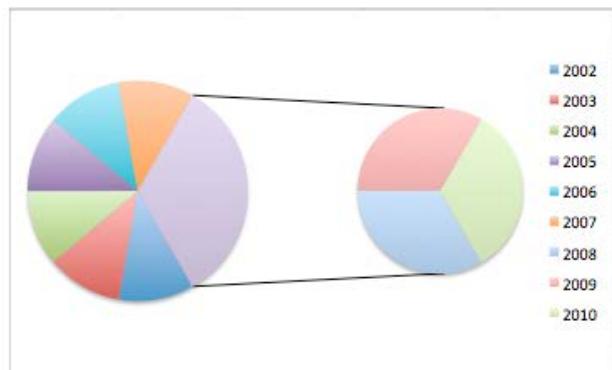
Figure 71. Fisheye Zoom.

Unnecessary: Fisheye Magnification

Fisheye magnification was seen as too complex for this timeframe, and possibly not as useful as the existing range selector-zoom. The idea was that instead of a range selector-type zoom, a magnifying glass zoom could be used:



Many small slices are hard to distinguish from each other.
(2002 - 2004)



Several smaller series have been grouped together (purple) and expanded out for easier viewing in the smaller pie (2002 - 2004)

Figure 73. A pie chart with several very small categories and (right) pie chart with smaller categories combined, showing the expanded version in-place.

Possible interaction behavior:

- click magnify icon to activate lens
- hover over desired part of graph to enlarge
- hover inside lens to focus on an enlarged series
- tooltip appears
- click to select a series
- overlay appears

Too Confusing: Pie on Pie Chart

We also determined that having a pie on pie chart as shown below is confusing, and even if we went with bar on pie (second example), it would be easiest just to show in an overlay and then we could reuse our limited color palette. If there is space, you can display the expanded view of the "other" category in-place, rather than via an overlay. If not enough space is available, an overlay can be used instead:

Possible Future: Bar on Pie Chart

Or a bar-on-pie chart could be used:

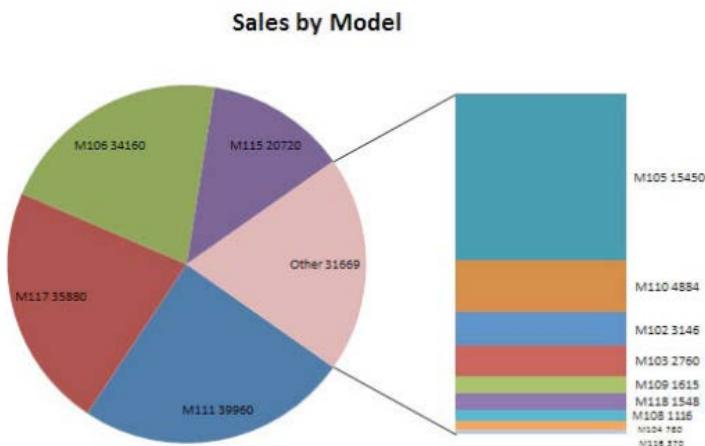


Figure 73. A bar-on-pie: The "other" category is expanded in-place a bar.

CHARTS - AREA

Description

An area chart is a variation of line charts in which the area under each line is colored in. Area charts should be used when there is little overlap between data series values.

Usage Guidelines

Keyboard and Accessibility

Fill Patterns

Fill patterns should be used when your users may have trouble distinguishing between colors (color blindness) or when charts may be printed in monochrome.

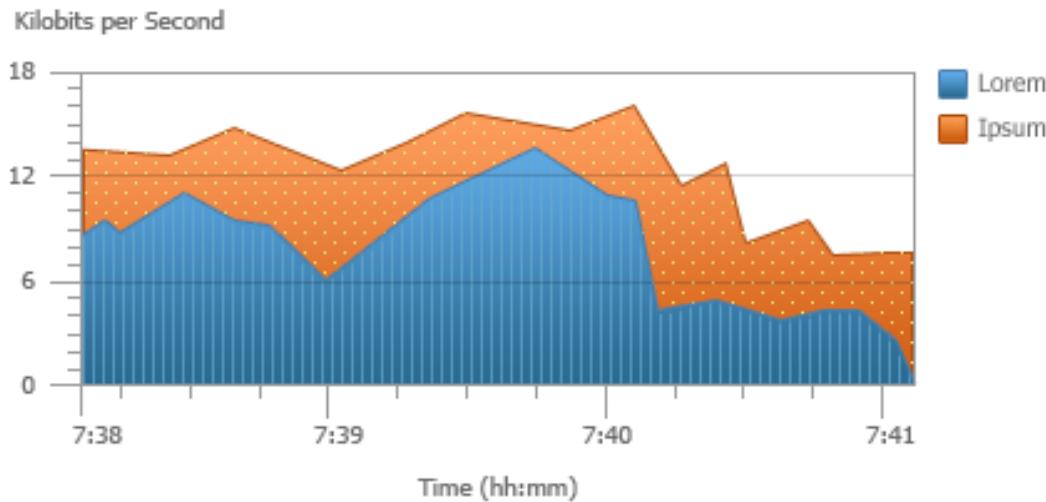


Figure 1. Fill Patterns.

Visual Specifications

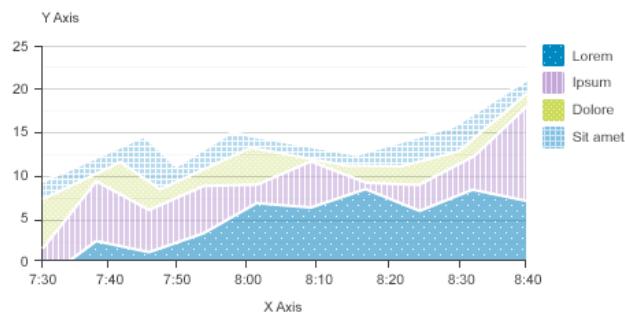
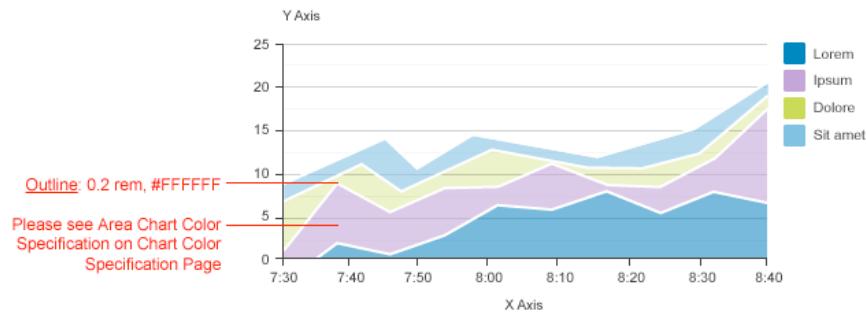


Figure 1. Specification for Area Chart

Value Set	Fill Color	Fill Pattern	Data Point Mark
11	#8498b7	#FFFFFF at 50%	Filled Circle Line:#8498b7
12	#40bdff	#FFFFFF at 50%	Split Vertical Square Line:#40bdff
13	#bdc4d1	#FFFFFF at 50%	Filled Square Line:#bdc4d1
14	#8c9ced	#FFFFFF at 50%	Filled Diamond Line:#8c9ced
15	#a1d8c7	#FFFFFF at 50%	4 Squares Line:#a1d8c7
16	#ea6c97	#FFFFFF at 50%	Filled Triangle Line:#ea6c97
17	#898758	#FFFFFF at 50%	Dotted Square Line:#898758
18	#f098b6	#FFFFFF at 50%	Filled 4 Point Star Line:#f098b6
19	#4a6e7c	#FFFFFF at 50%	Dotted Diamond Line:#4a6e7c
20	#b6b496	#FFFFFF at 50%	Split Horizontal Square Line:#b6b496

Table 3. Specifications Extended Color Palette

Figure 2. Area Chart with Emphasized Series

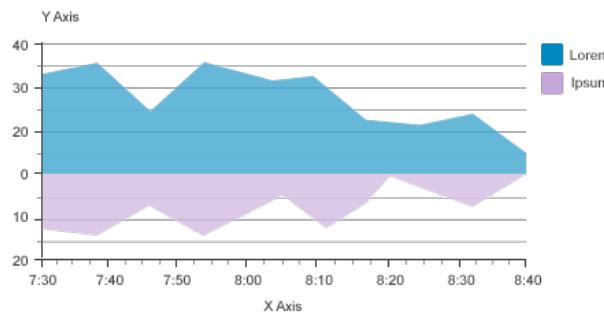


Figure 3. Reflecting Area Chart with in and out traffic

Above and Below Zero Axis

It is often desirable to illustrate data that reflects both in and out traffic, or opposite aspects of a measurement. In these cases, we can use an axis with a zero axis or line in the middle, either horizontally or vertically. If numeric, the axis labels on the top or right side of the zero line are positive, but the labels below or on the left do not always have to be negative.

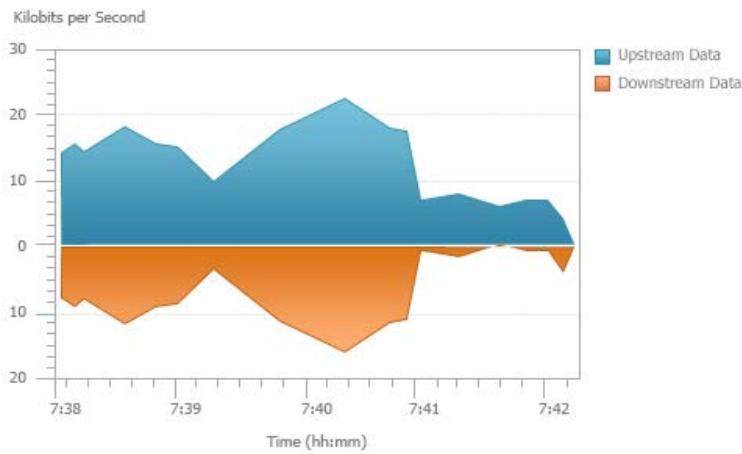


Figure 4. Reflecting Area Chart with in and out traffic; neither is represented as negative.

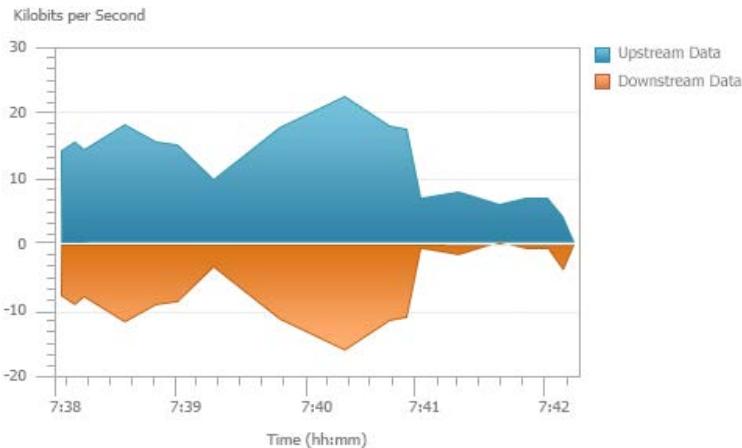


Figure 5. Reflecting Area Chart with in and out traffic; downstream is represented as negative.

Interaction Behavior

Logarithmic Scales

Logarithmic scales are the ideal way to display data with large range variations. Please see the Charts Basic specification under "Handling Large Data Variation in Charts" for more information about using this feature.

CHARTS - BAR

Description

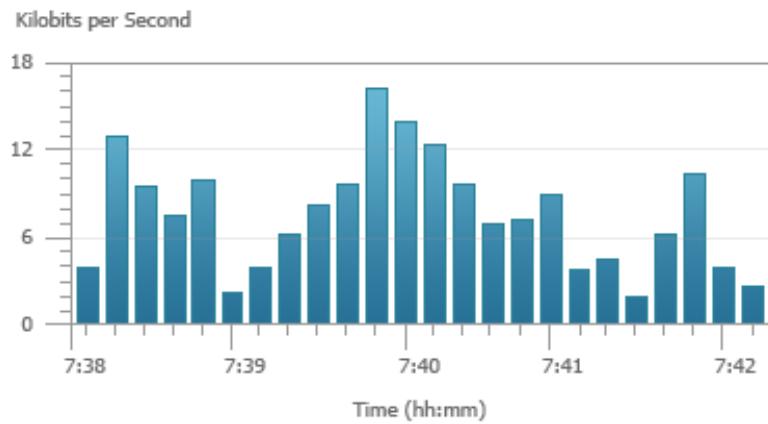


Figure 1. Overview Illustration

Bar charts display discontinuous events and show the differences between events rather than trends. Bar charts are typically oriented vertically with quantities on the Y axis, but they may also be oriented horizontally if a large number of labels are needed.

Usage Guidelines

Keyboard and Accessibility

Fill Patterns

Fill patterns should be used when your users may have trouble distinguishing between colors (color blindness) or when charts may be printed in monochrome.

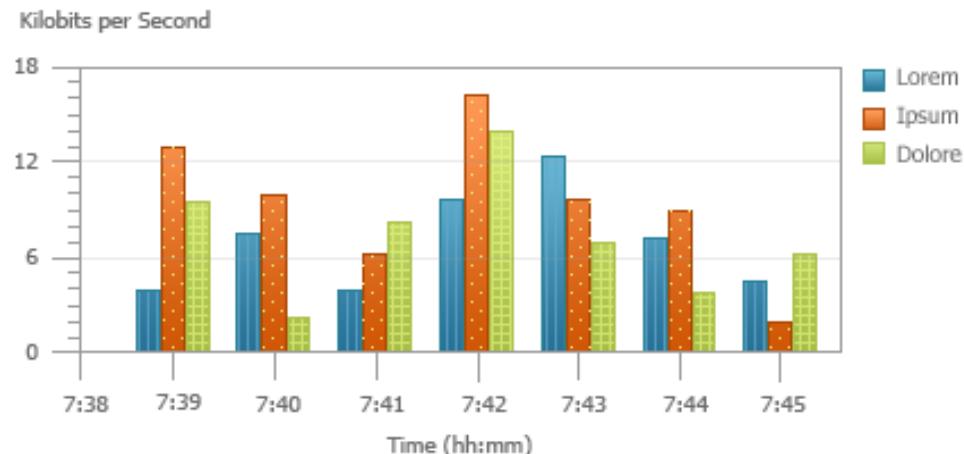


Figure 2. Fill Patterns

Visual Specifications

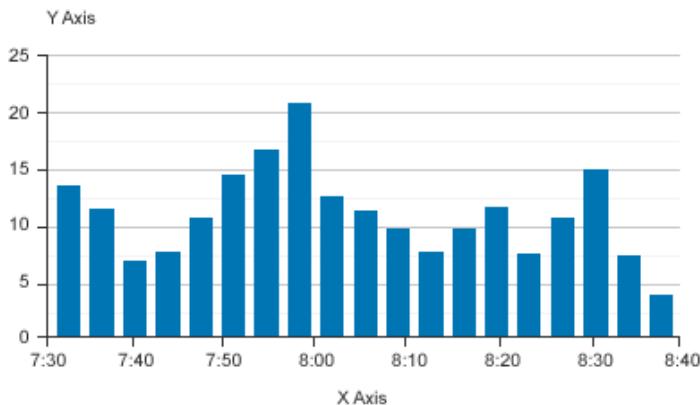


Figure 1. Bar Chart

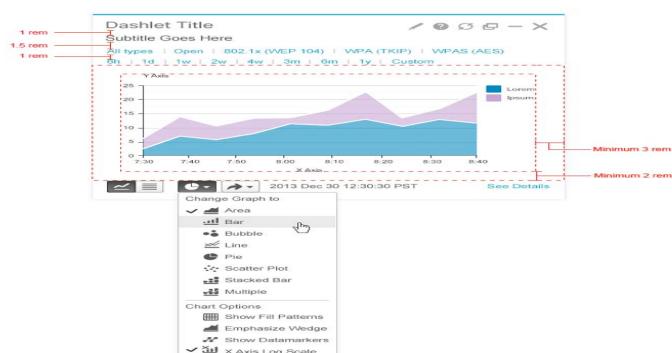


Figure 2. Dual Value Display in Vertical Bar Chart with Chart Border Margins Specification

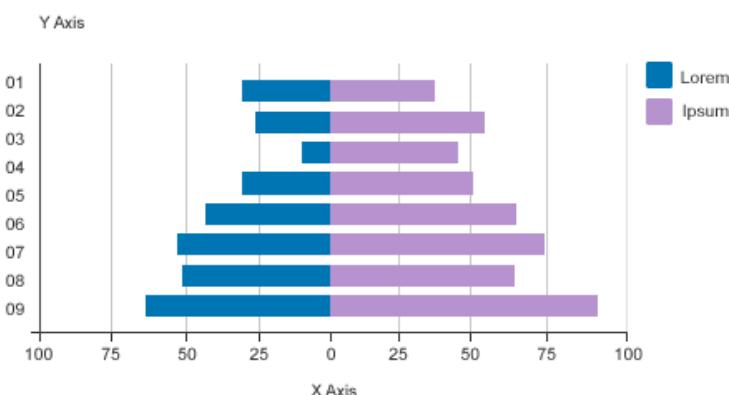


Figure 3. Dual Value Display in Horizontal Bar Chart

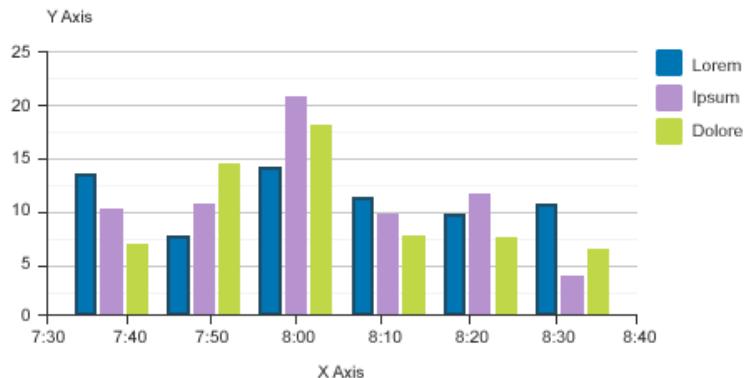


Figure 4. Bar Chart with Emphasized Series

Interaction Behavior

Vertical Bar Chart

Most bar charts should be oriented vertically, placing the scale on the Y axis and the events on the X axis.

Horizontal Bar Chart

The horizontal orientation allows more room to display the labels for each data set.

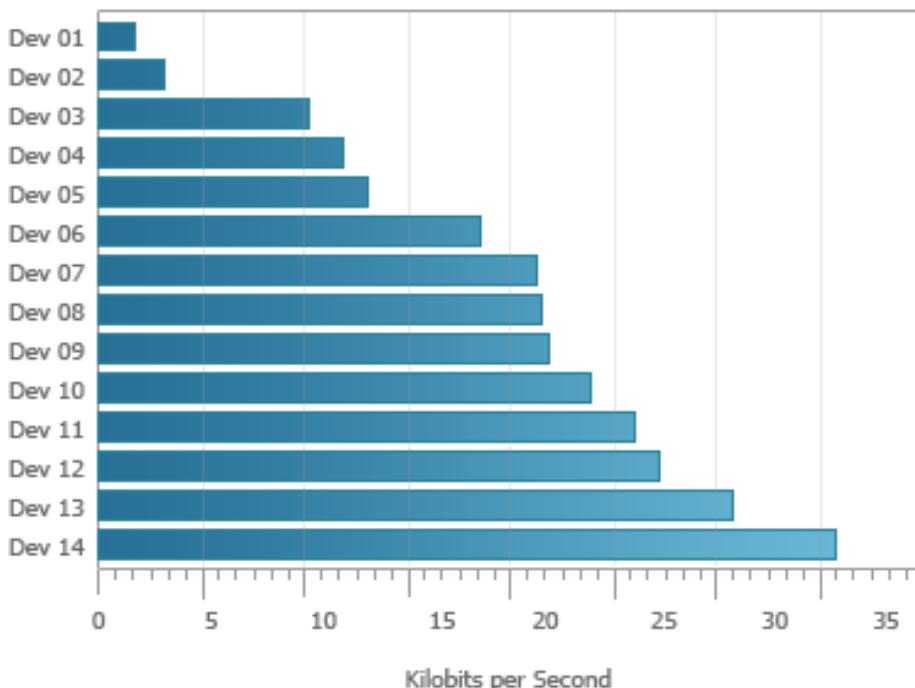


Figure 5. Horizontal Bar Chart

Multiple Data Series

When bar charts show multiple data series, the data series are distinguished by color.

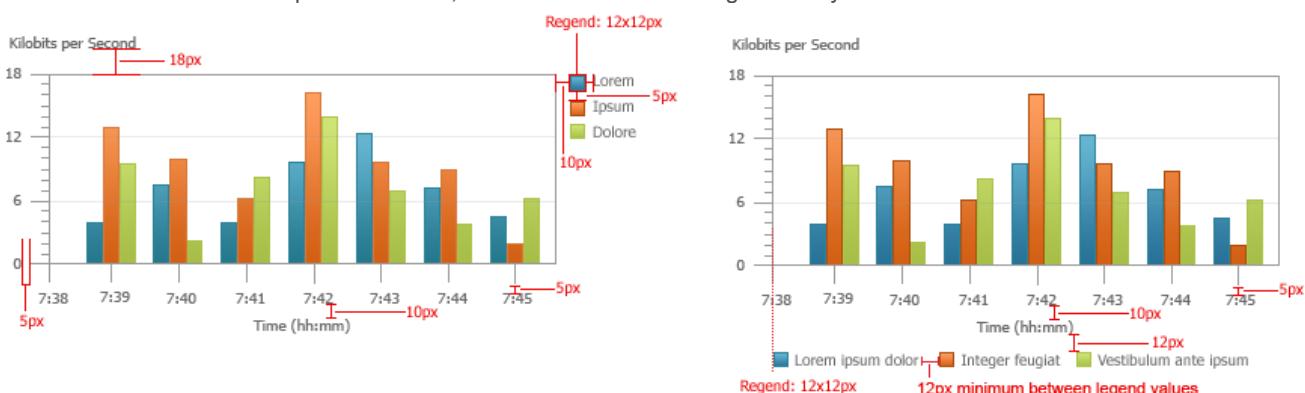


Figure 6. Bar Chart with Multiple Data Series

Datatip

When the user moves their mouse over a data point along the top edge of a bar, a datatip marker and datatip appear.

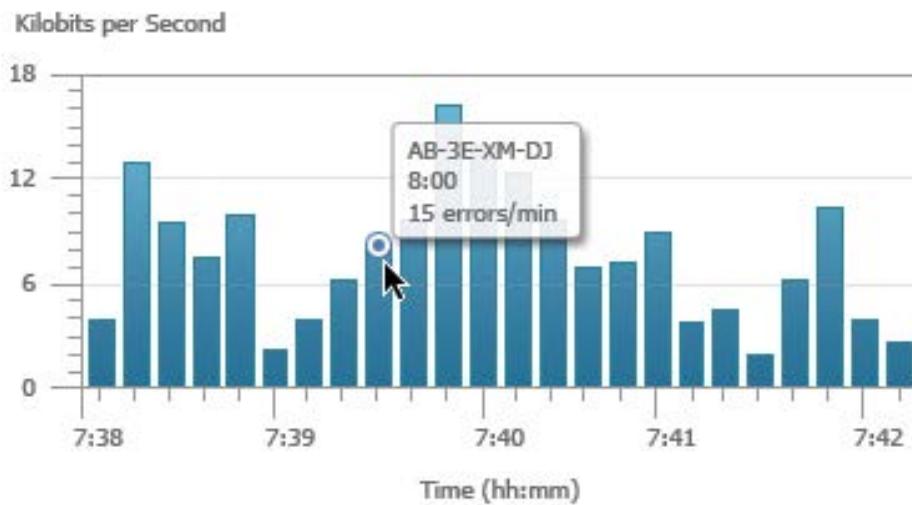


Figure 7. Bar Chart with Datatip

Emphasized Data Point

There may be use cases that require calling attention to specific data points. The marker that is used along with Datatips is re-used for this purpose. The emphasized point maintains the marker regardless of the user's mouse interaction. When the user moves their mouse over the marker the associated datatip is shown as usual.

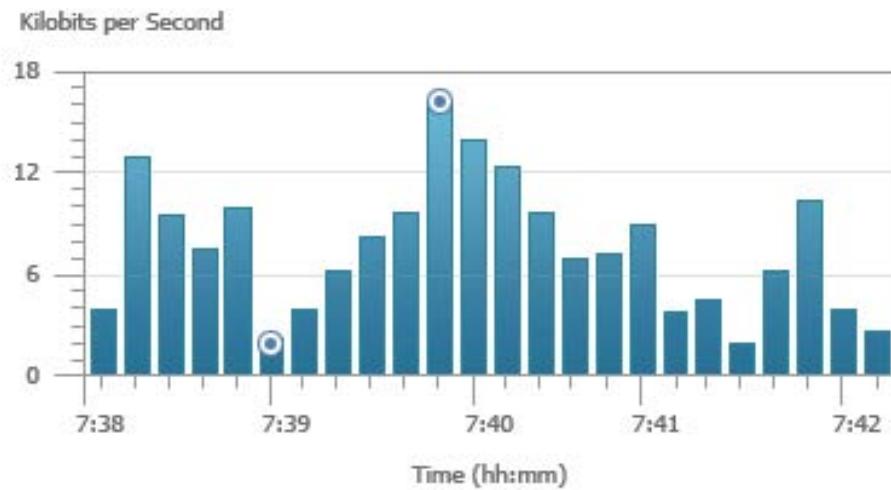


Figure 8. Bar Chart with Emphasized Data Points

Emphasized Data Series

A thicker outline can be used in order to emphasize the importance of a particular data series. Increase the default thickness by 1px.

Kilobits per Second

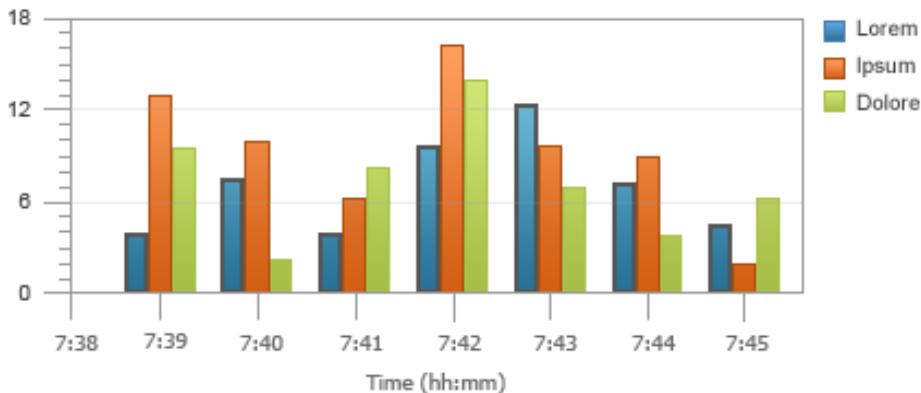


Figure 9. Bar Chart with Emphasized Series

Handling Large Data Variation in Charts

Charts are dynamically scaled so that the largest value fits within the available space. This works well when the values for each event are somewhat close together. However, if one or more values are outliers that are an order of magnitude or larger than the rest, this scaling of the value axis doesn't work as well visually. In this case, when the largest values fit within the chart, the smaller values may be very small and may hardly be visible at all. To address this you may use one of several methods.

One method we provide to support the user in viewing, hovering and clicking on series that would be too small otherwise is minimum value placeholders. In order to make the minimum values visible and interactable, it is not possible to make minimum values proportionate to the rest of a linear scale so they appear as placeholders that can be hovered and clicked on to reveal their correct values.

Minimum Height / Length & Diameter Placeholders

We use minimum value placeholders for bar and bubble charts in order to make them large enough to click or hover on, while ensuring that the tooltips remain accurate. The scale already determines the maximum size dynamically and already varies from chart to chart, dependent on whether there are larger or smaller values.

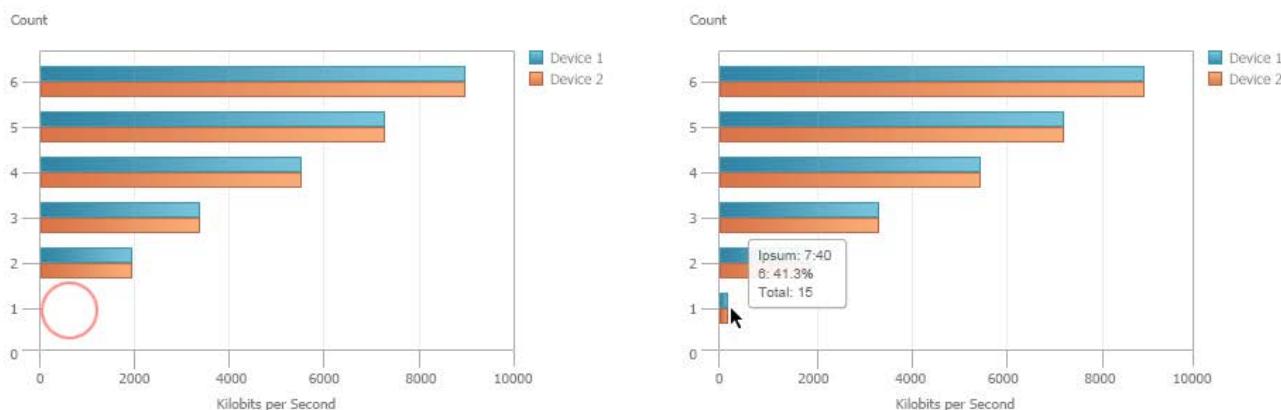


Figure 10. Horizontal bar chart without and with minimum length

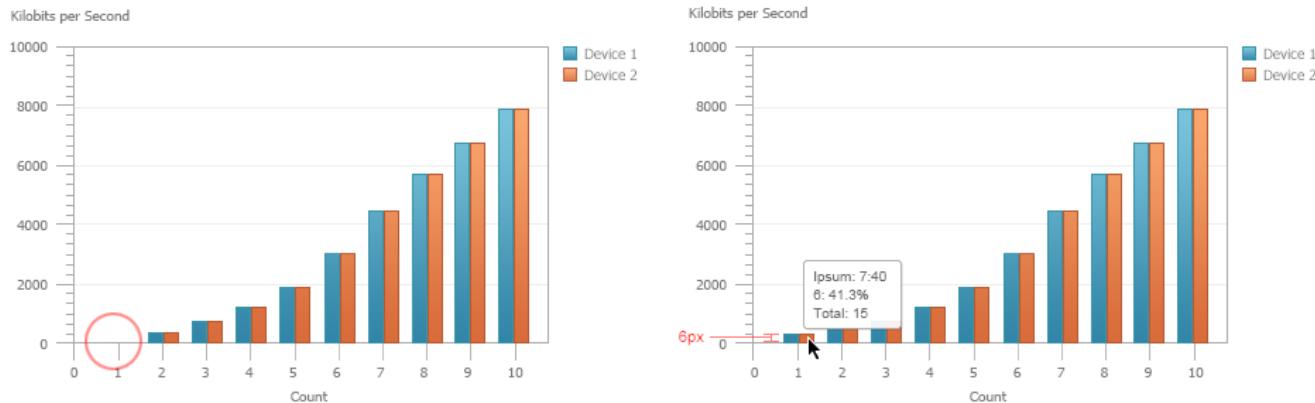


Figure 11. Vertical bar chart without and with minimum height placeholders

Scale Breaks (Jump Charts) are similar to a visual ellipsis in which a break is inserted into the axis. The minimum value placeholders will also be in effect (except for stacked bar charts), so regardless whether you use jump charts or not, the users will still be able to view and interact with the lowest values, but they can be more proportional and visually accurate if you implement jump charts as well.

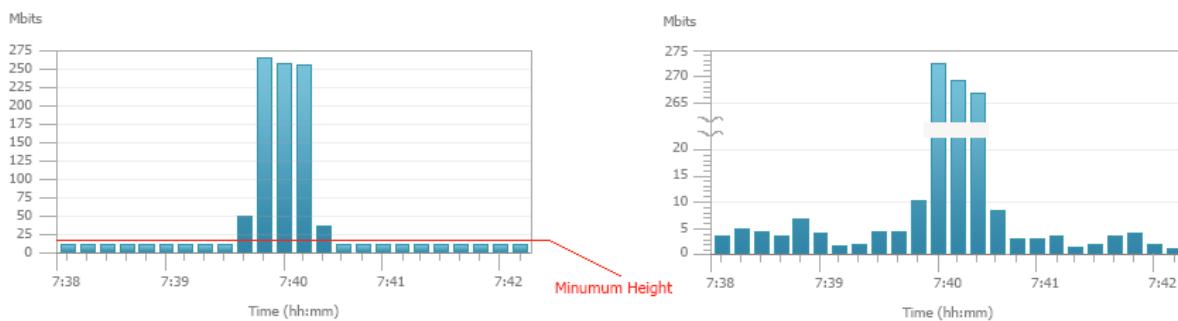


Figure 12. Comparison of Bar Chart with Outlying Values and a Bar Chart with Value Jump

Multiple Scale Breaks

You can also set the chart to perform multiple automatic scale breaks based on thresholds you determine. (see technical documentation for more details). The chart control then optimizes the visual difference between the chart values. In the above example, you may want to include several scale breaks in order to prevent the largest outliers from making it hard to compare the information in the lower value series:

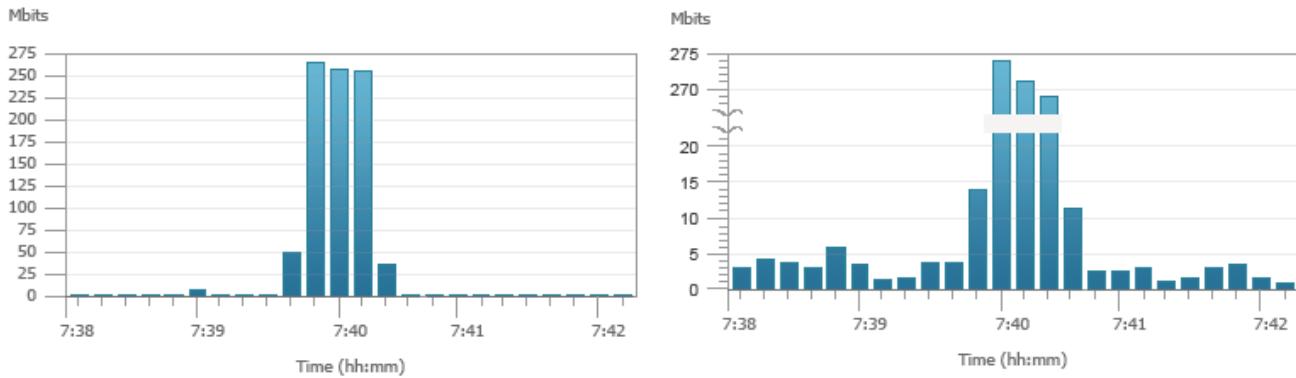


Figure 13. Single scale breaks vs multiple scale breaks

Dual Value Display

Most commonly these types of charts are used when the data series include both positive and negative values. Sometimes they can also show positive values on both sides to represent two data sets at certain point e.g. upstream or downstream values in a network bandwidth chart, male-female age comparison. (See images below)

The origin point of graph (X=0,Y=0) is shifted towards the positive-Y or positive-X axis so that the negative or alternate values can also be displayed in the same graph quadrant.

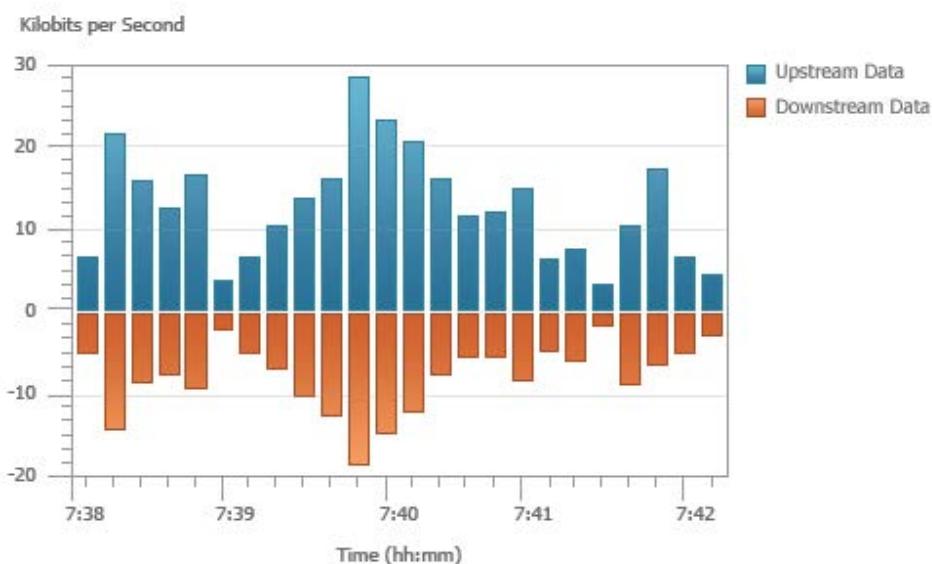


Figure 14. Dual Value Display in Vertical Bar Chart

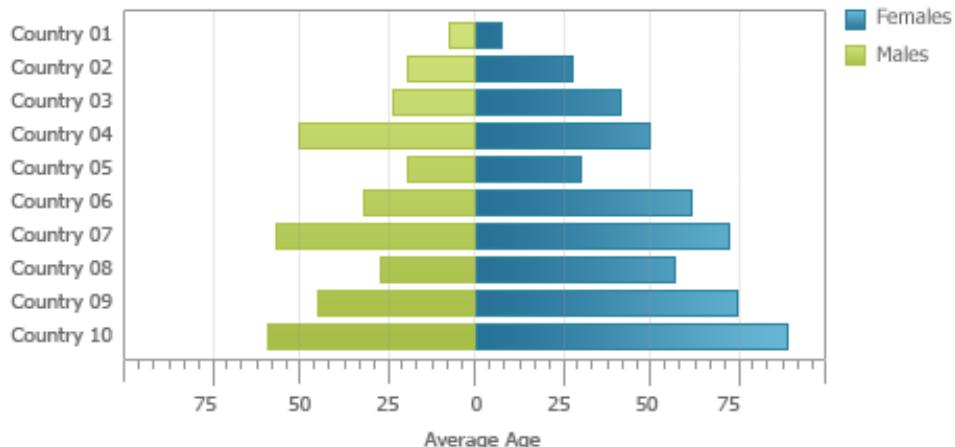


Figure 15. Dual Value Display in Horizontal Bar Chart

Negative Value Display

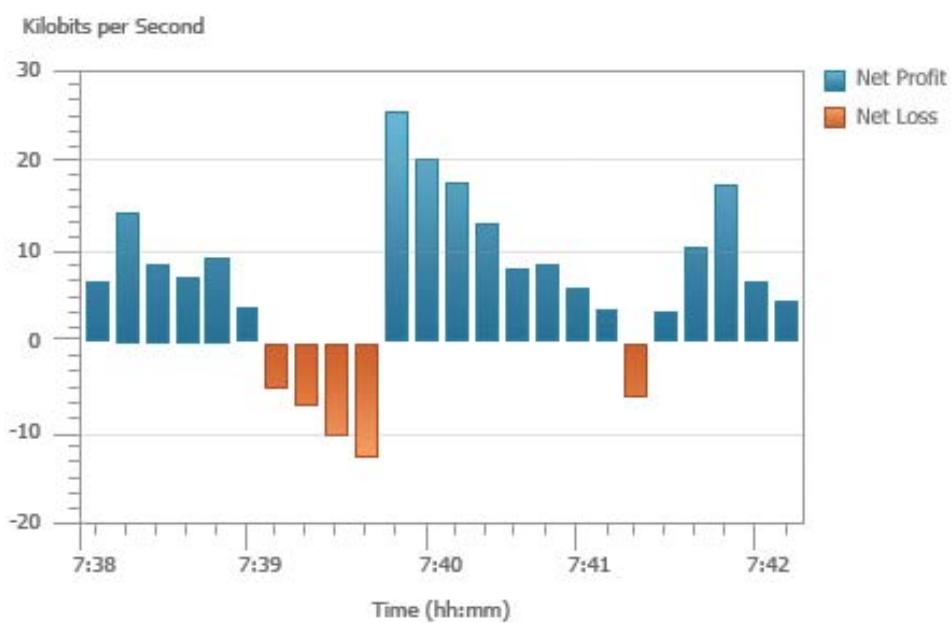


Figure 16. Negative Value Display in Vertical Bar Chart

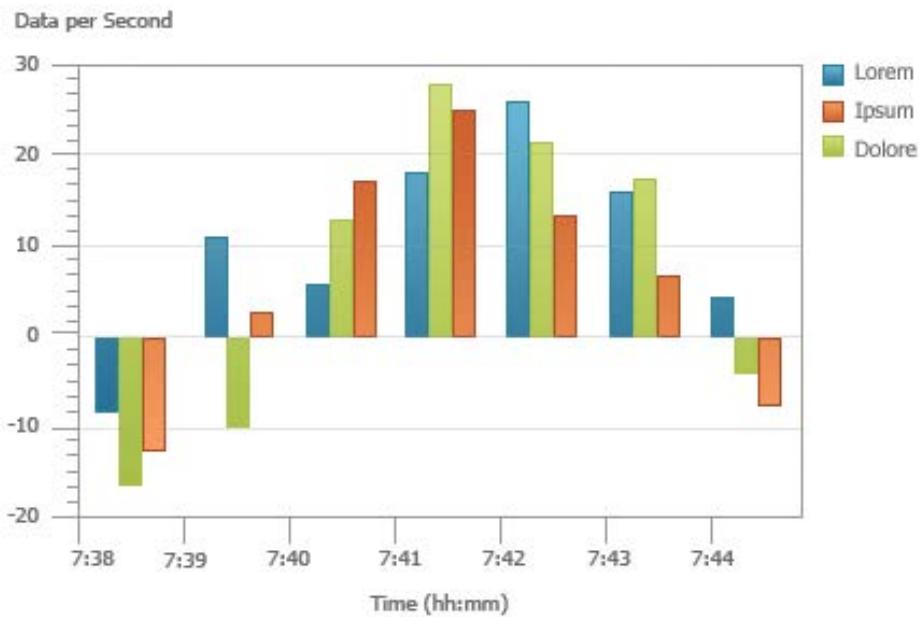


Figure 17. Negative Value Display in Multiple Data Series Bar Chart

Value Based Colors

Single series bar or pie charts can use different colors for each bar or wedge based on the value of the scale axis. The difference in color must be proportional to the difference in value. It would distort the meaning of the chart if large color differences were used with small value differences.

If the values are very similar then the color change will not be very visible and will not increase the readability of the chart. In such a case, do not use value based colors.

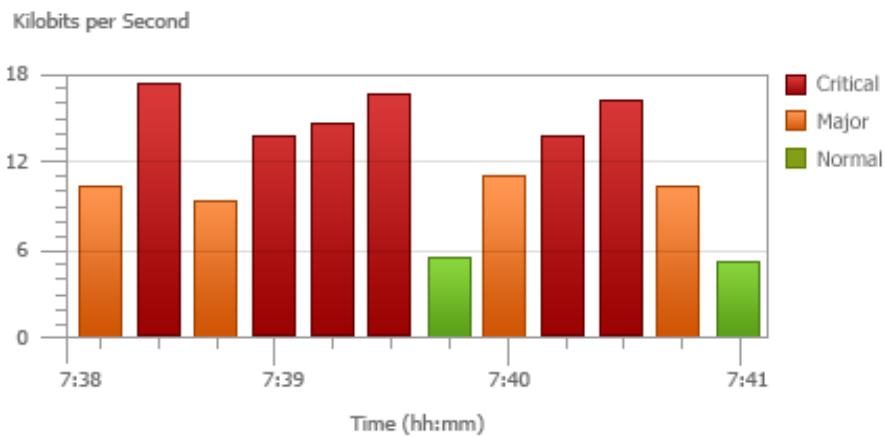


Figure 18. Value Based Colors

Invalid Data

When one or more data points cannot be represented on the chart due to invalid data (possibly due to data corruption or a data entry error) the "invalid data" indicator and its associated tooltip will be rendered in its place. The "Invalid Data" text should appear in the legend when the associated indicator is present.

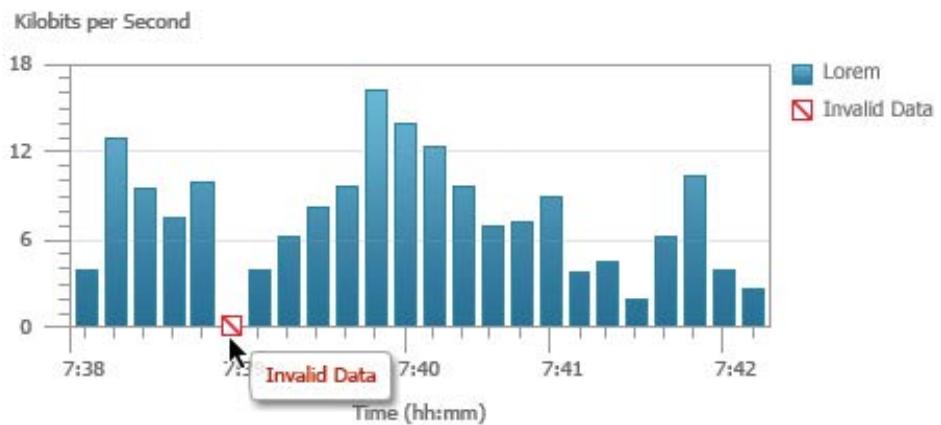


Figure 19. Bar Chart with Invalid Data

CHARTS - BUBBLES

Description

A bubble chart is similar to a scatter plot. Individual data points are positioned according to their values on two quantitative scales. This is a good way of demonstrating the correlation between values on the horizontal scale with values on the vertical scale. Bubble charts differ from scatter plots in that they also show a third quantitative scale represented by the size of the bubble used to represent a single data point. Bubble charts can also use color to show an additional non-quantitative data dimension.

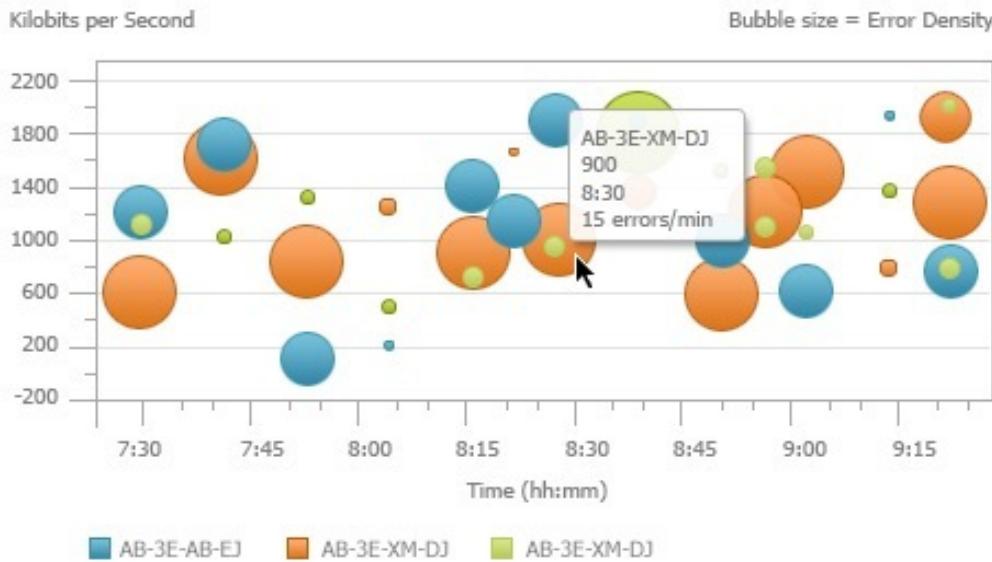


Figure 1. Example of a Bubble Chart

Avoiding Data Distortion in Bubble Charts

If the diameter of a bubble were set to be proportional to the value for the third dimension of the data point it represents, a bubble that doubles in diameter appears to be four times as big in terms of area. For this reason it is important to draw the bubble so that its area (not its diameter) is in proportion to the value of the third dimension for the data point.

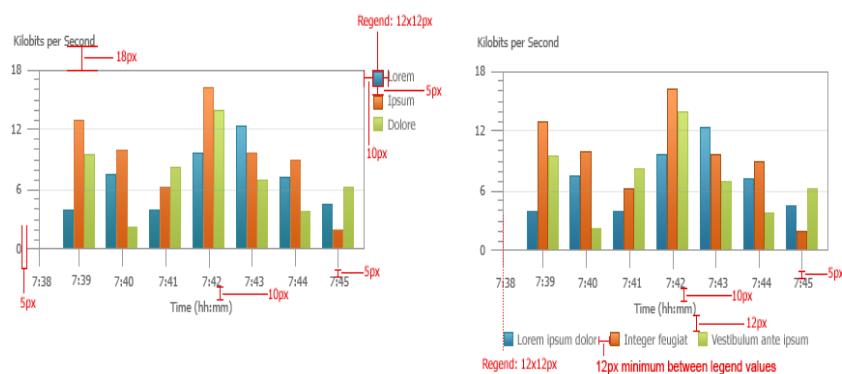


Figure 2. Avoiding Data Distortion in Bubble Charts

Time Series Bubble Chart

A time series bubble chart can be used to compare two dimensions of quantitative data for multiple data series as they vary in time.

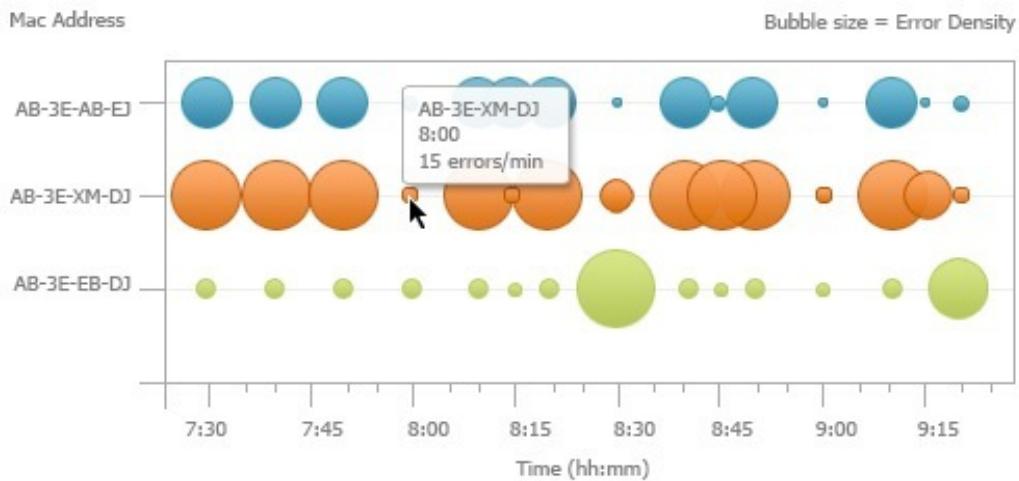


Figure 3. Time Series Bubble Chart

It is possible to compare a large number of data series using a time series bubble chart

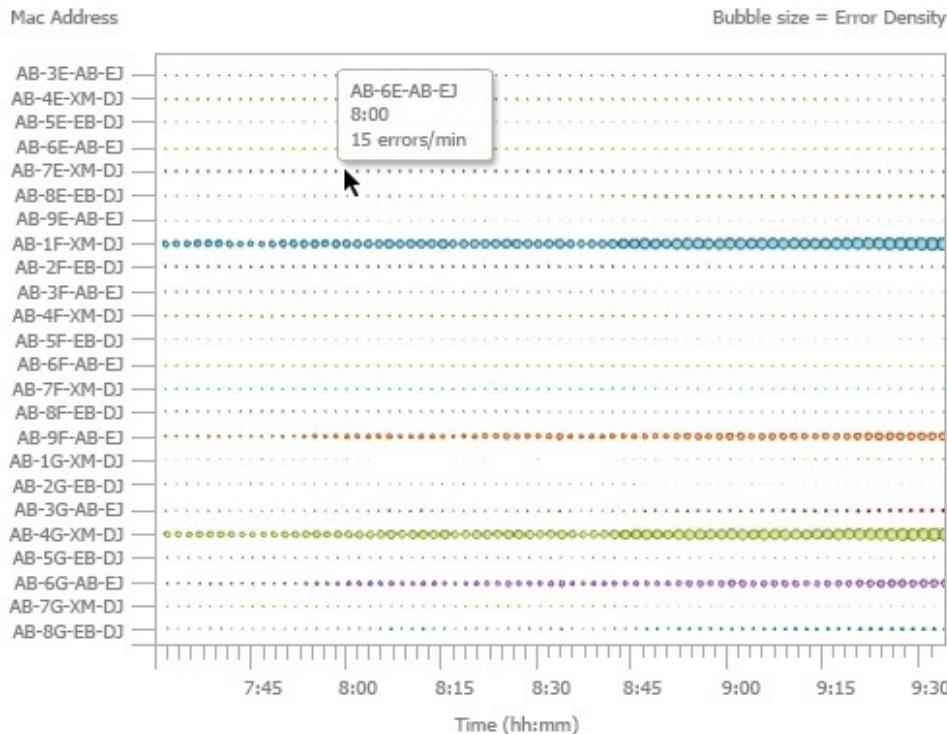


Figure 4. Many Data Series in a Time Series Bubble Chart

Usage Guidelines

Is This Component Right For The Job?

Bubble charts are a great way to show data with three or more dimensions using a two dimensional medium such as a computer screen. All three dimensions of the data are visible at all times with no further user interaction required in order to reveal hidden data.

Visual Specifications

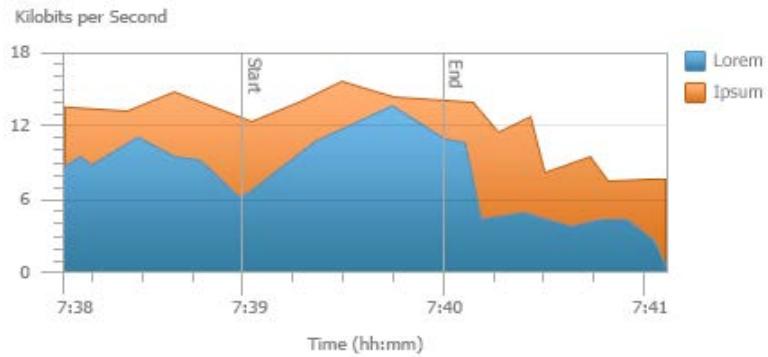


Figure 1. Visual Specification for Scattered Bubble Chart

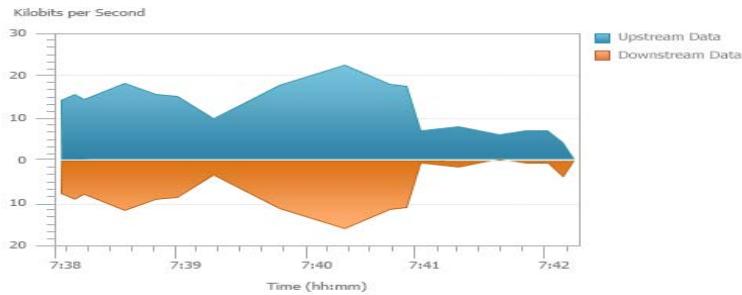
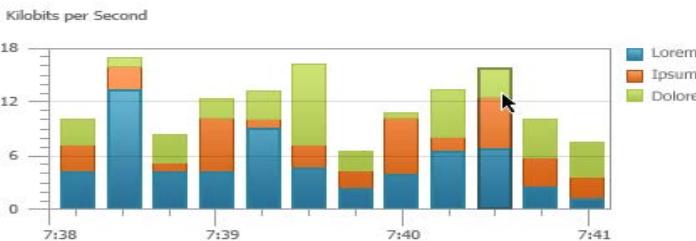


Figure 2. Visual Specification for Scattered Bubble Chart

Interaction Behavior

Handling Large Data Variation in Charts



Actions		
Add Row	Submit	Undo All
Lorem ipsum	Dolor sit amet	Consectetur
Adipiscing elit	Adipiscing elit	Adipiscing elit
Nam in turpis	Nam in turpis	Nam in turpis
Eu neque	Eu neque	Eu neque
Tempor	Tempor	Tempor
Adipiscing	Adipiscing	Adipiscing

Charts are dynamically scaled so that the largest value fits within the available space. This works well when the values for each event are somewhat close together. However, if one or more values are outliers that are an order of magnitude or larger than the rest, this scaling of the value axis doesn't work as well visually. In this case, when the largest values fit within the chart, the smaller values may be very small and may hardly be visible at all. To address this you may use one of several methods.

One method we provide to support the user in viewing, hovering and clicking on series that would be too small otherwise is minimum value placeholders. In order to make the minimum values visible and interactive, it is not possible to make minimum values proportionate to the rest of a linear scale so they appear as placeholders that can be hovered and clicked on to reveal their correct values.

Minimum Height / Length & Diameter Placeholders

We use minimum value placeholders for bar and bubble charts. The scale determines the maximum size dynamically and varies from chart to chart, dependent on whether there are larger or smaller values. The maximum bubble size is set to default to 20% of the smallest chart dimension.

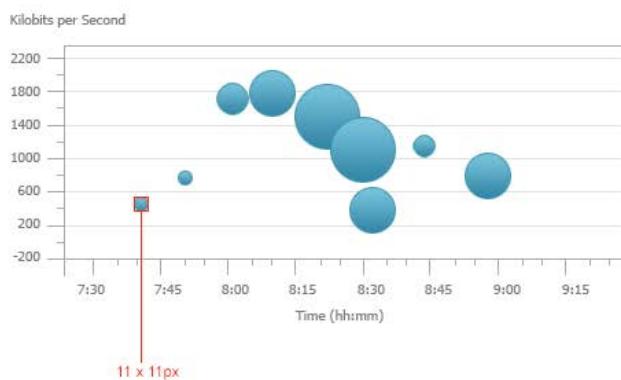
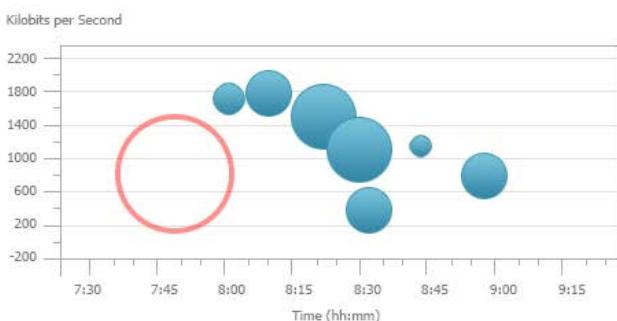


Figure 3. Bubble chart without and with minimum diameter placeholders

CHARTS - LINE

Description

Displays continuous quantities over time against a common scale. Good for showing trends.

Usage Guidelines

Data Point Marks

For line charts, each data point mark has a different shape. Make sure there is enough space between the data point marks on each line for the marks to be legible. This may imply displaying data point marks on the points marked with major tick marks on the X axis.

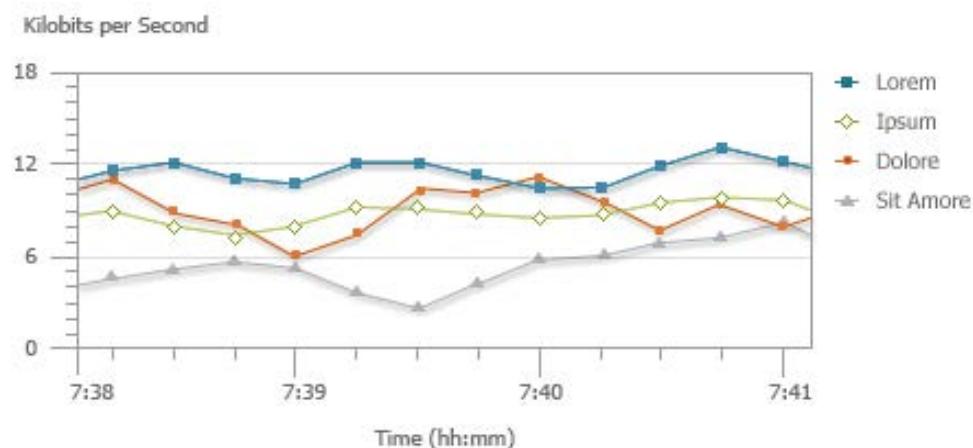


Figure 1. Line Chart with Data Point Marks

Visual Specifications

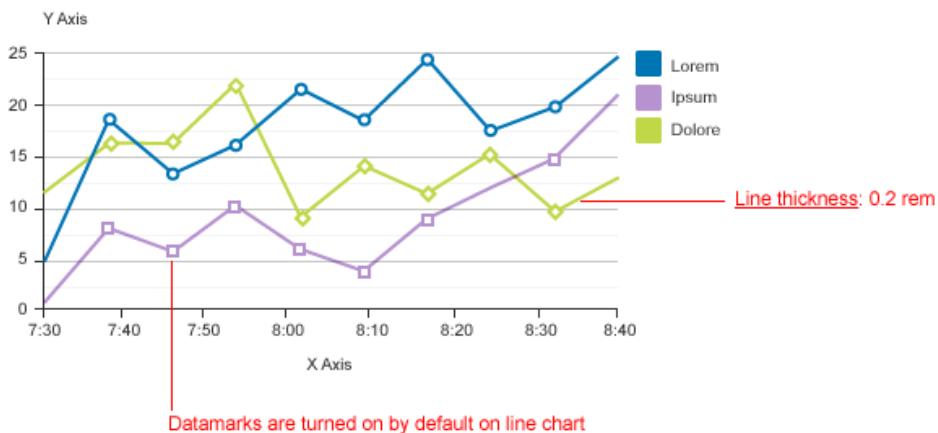


Figure 1. Specification for Line Chart

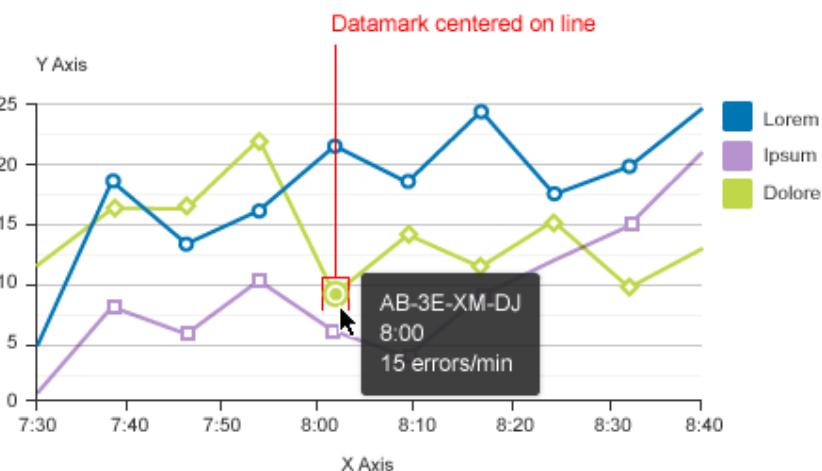


Figure 2. Specification for Line Chart with Datamark

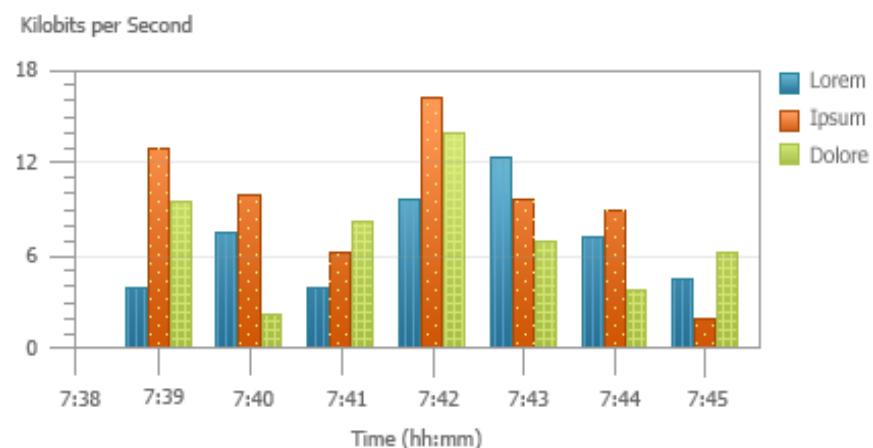


Figure 3. Specification for Emphasized Line

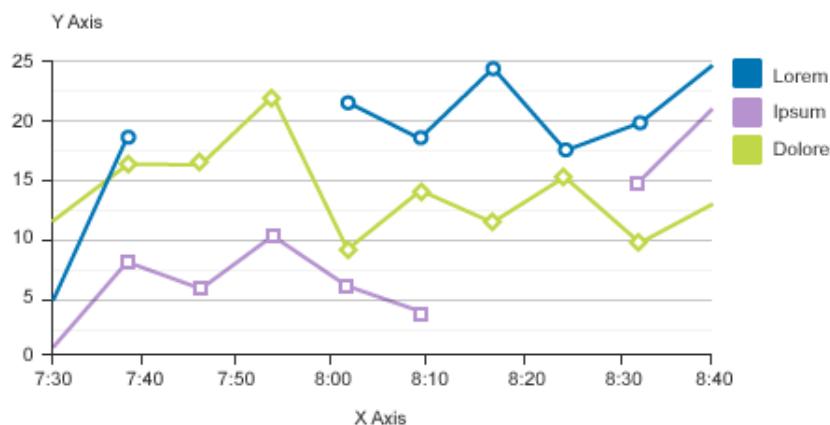


Figure 4. Specification for Missing Data Points

Interaction Behavior

Missing Data Points

Any missing data points should be indicated by gaps in the lines.

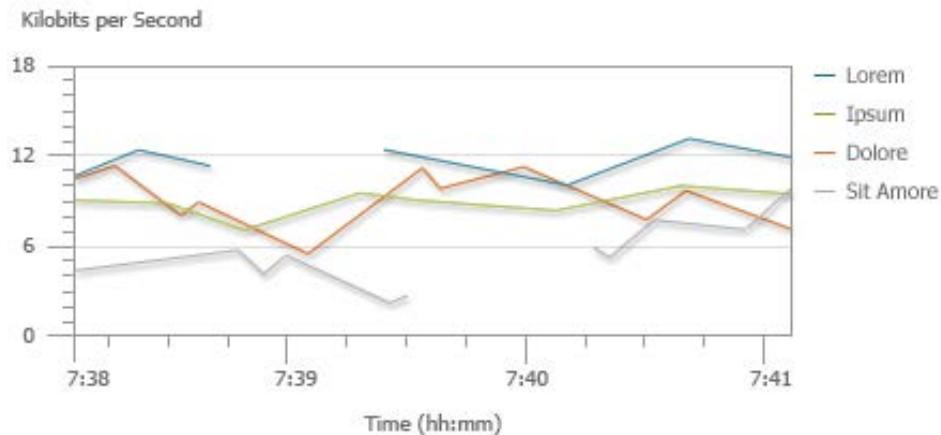


Figure 5. Line Chart with Missing Data Points

Emphasized Series

A thicker line can be used in order to emphasize the importance of a particular data series. Increase the default thickness by 2px.

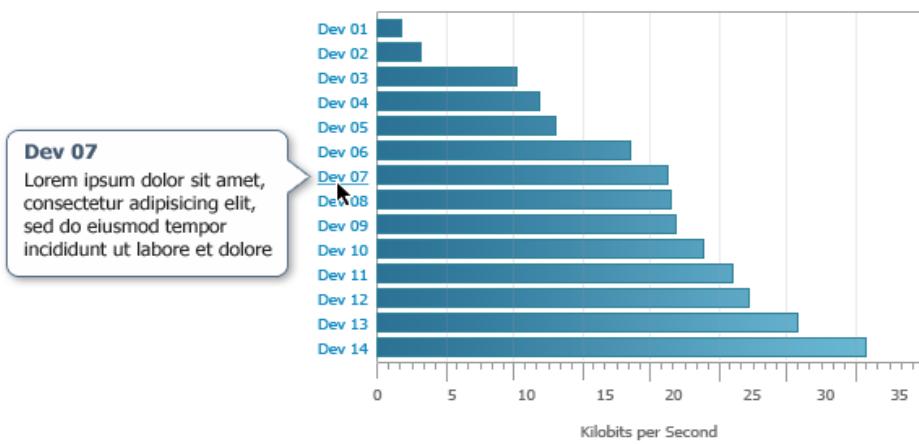


Figure 6. Line Chart with Emphasized Series

Popup Datatips

Line charts can be provided with popup datatips to display information that will give the user deeper understanding of the details of the data at a specific point on the chart.

Single Value in Datatip

With line charts, the recommendation is to show only a single value on the datatip when there is enough space between the different values for each point.

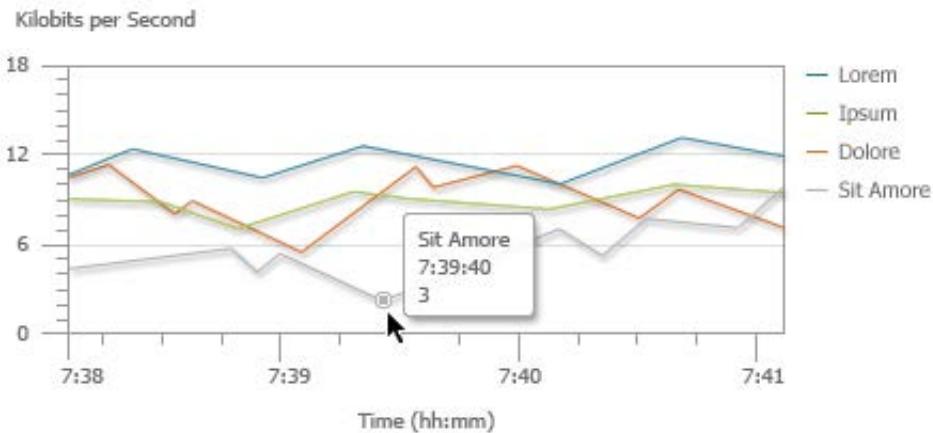


Figure 7. Line Chart with Single Value in Datatip.

Multiple Values in Datatip

If the points for the different series are close together, it may be appropriate to show all the values for each series in a single datatip. The values should be shown in the same order as they appear in the legend, and the value nearest to the mouse pointer should appear in bold.

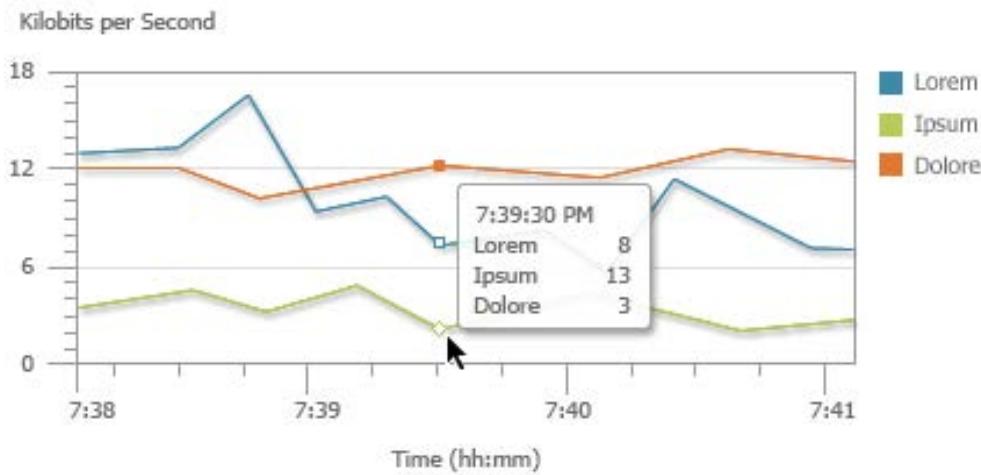


Figure 85. Line Chart with Multiple Values in Datatip

CHARTS - PIE

Description

Presents quantities as proportions of a whole. The circle represents 100% of the data, with each quantity represented as a wedge of the appropriate size.

Usage Guidelines

Usage of Pie Charts

Pie charts work best with small numbers of series according to data visualization experts. Too many pie segments make reading the relative relationships very difficult. Therefore, our recommendation is to use Pie Charts for only 5-6 slices, maximum up to 10 slices. Beyond 10 slices, there will be difficulty in end users gaining any real understanding on what the pie chart is trying to represent. Furthermore, it will run into accessibility issues as there are only 10 pattern fills defined for the current charting specification. Patterns are critical for color-blind users in being able to understand charts. Having repeating patterns (or colors), makes it very difficult to interpret the data.

If you need more than 6 slices, we recommend you look at other chart types for better representation of the data. For example, a bar chart can provide the same level of detail with greater clarity than a Pie chart.

Keyboard and Accessibility

Fill Patterns

Fill patterns should be used when your users may have trouble distinguishing between colors (color blindness) or when charts may be printed in monochrome.

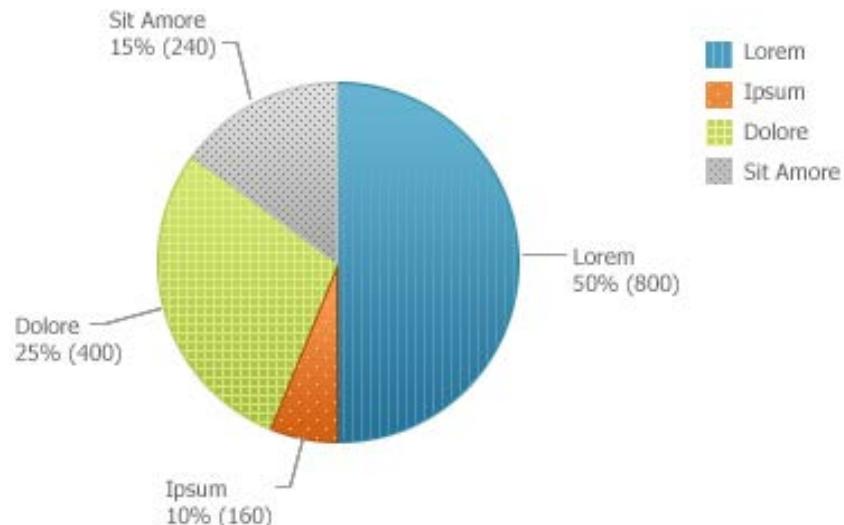


Figure 1. Specification for Pie Chart

Visual Specifications

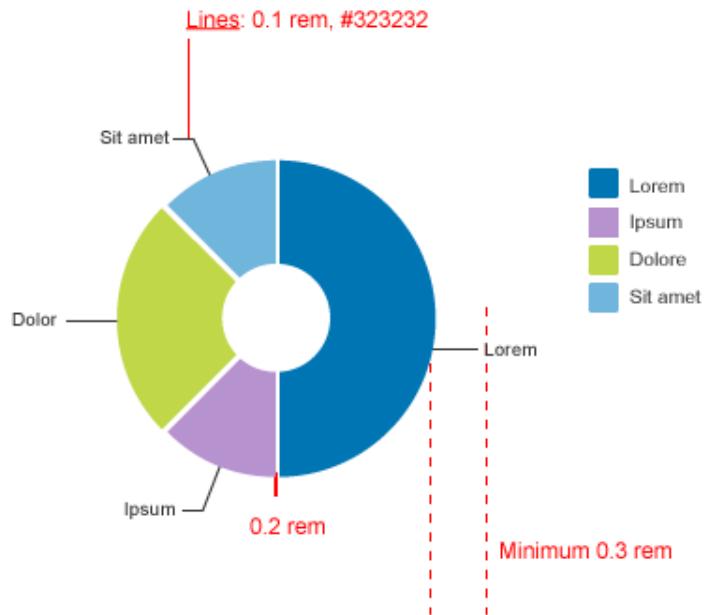


Figure 1. Specification for Pie Chart

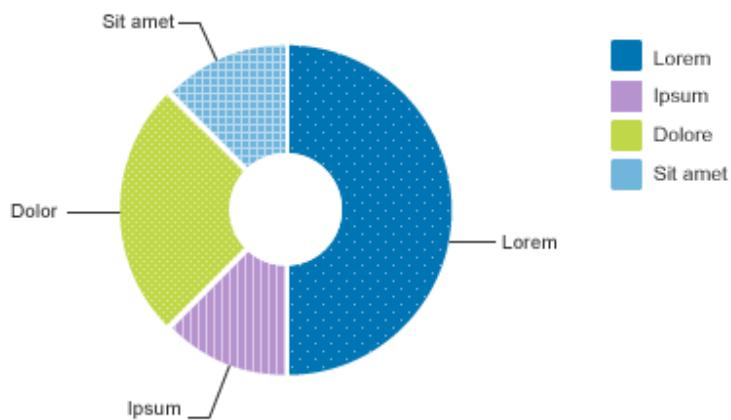


Figure 2. Pie Chart with Patterns

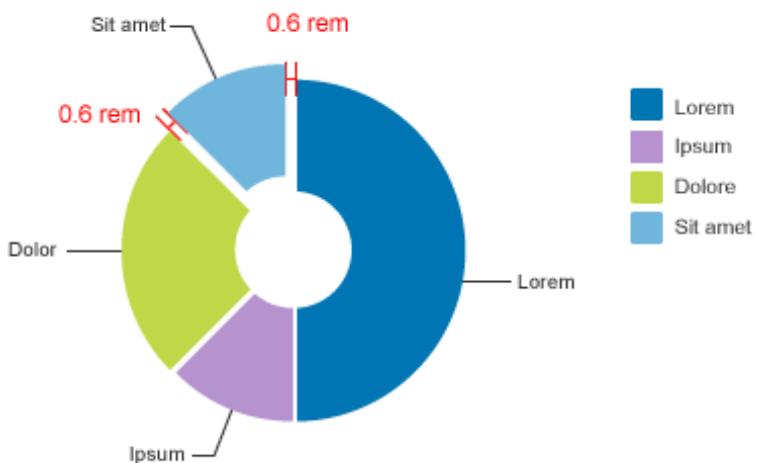


Figure 3. Specification for Pie Chart with Emphasized Wedge

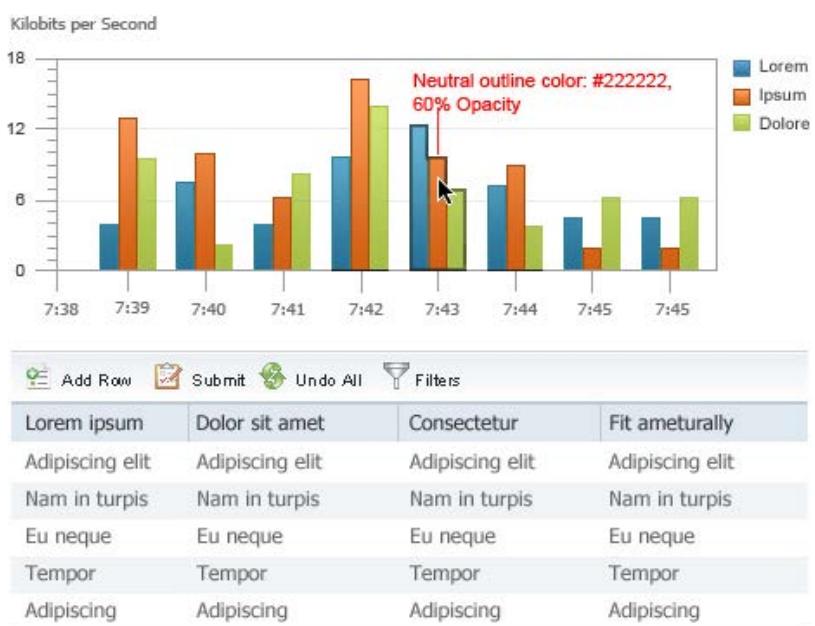


Figure 4. Specification for Pie Chart in Dashlet

Interaction Behavior

Example

The wedge corresponding to the first quantity begins at the "12 noon" position on the pie, and the wedges proceed clockwise from there.

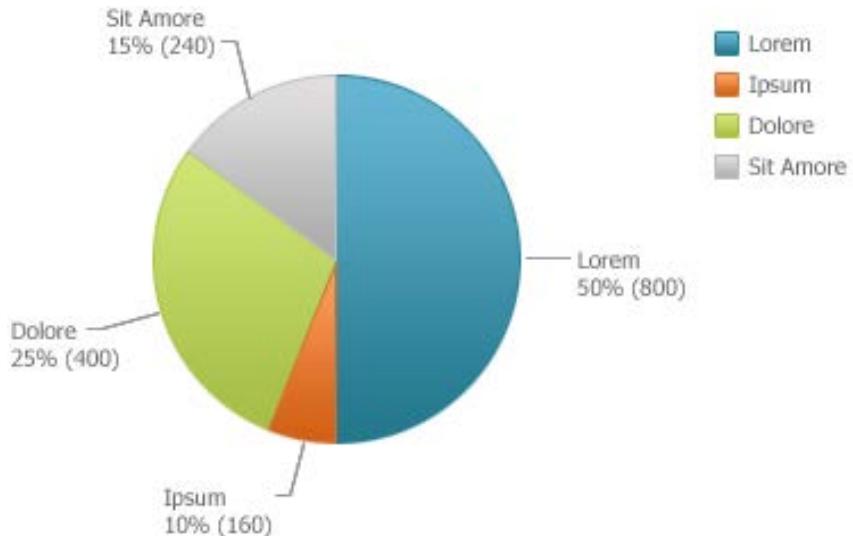


Figure 5. Pie Chart

Emphasized Wedge

If appropriate, consider providing a control to enable the user to call out a particular data.

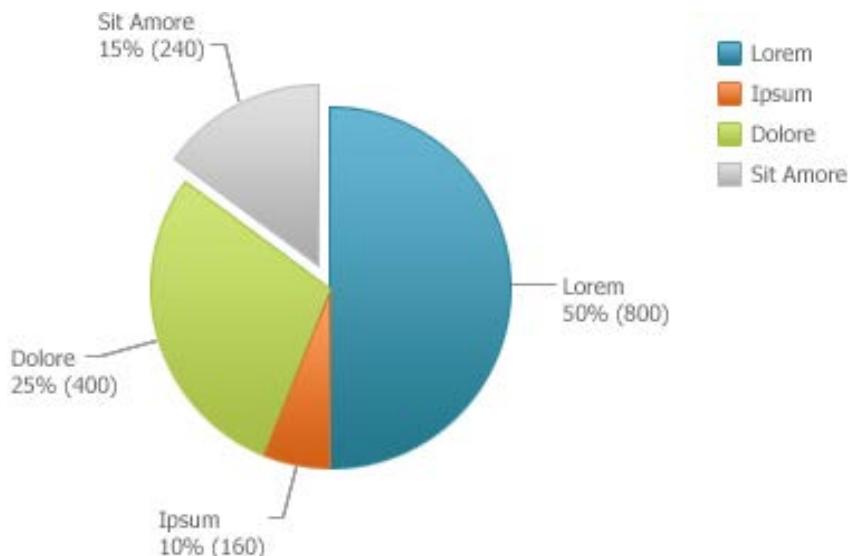


Figure 6. Pie Chart with Emphasized Wedge

Handling Large Data Variation in Charts

Charts are dynamically scaled so that the largest value fits within the available space. This works well when the values for each event are somewhat close together. However, if one or more values are outliers that are an order of magnitude or larger than the rest, this scaling of the value axis doesn't work as well visually. In this case, when the largest values fit within the chart, the smaller values may be very small and may hardly be visible at all. To address this you may use one of several methods.

One method we provide to support the user in viewing, hovering and clicking on series that would be too small otherwise is minimum value placeholders. In order to make the minimum values visible and interactable, it is not possible to make minimum values proportionate to the rest of a linear scale so they appear as placeholders that can be hovered and clicked on to reveal their correct values.

Make Use of "Other" Category

In order to avoid several too-small values, multiple slices under 5% are automatically grouped together into an "other" category. This category is clickable and displays a quickview that expands the details for this group in a bar chart:

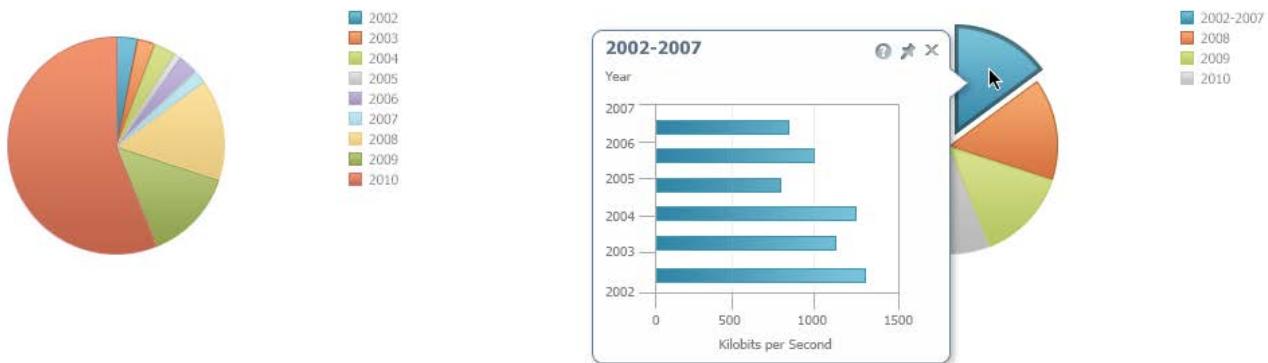


Figure 7. Pie chart without grouping, and pie chart with grouping

The pie chart is configured to automatically combine the smallest slices into an "other" category when the number of slices exceeds 7. (See the Usage Tab in this specification for more info)

Note that the series in the overlay that is displayed to represent the breakdown for the "other" category must have the same interaction ability as clicking on any of the other series would. The "Other" Category in a pie chart also uses a minimum value placeholder to ensure it is viewable, hoverable and clickable. Follow the standards for clicking or hovering to display information, per the Chart Basics Overlays section.

CHARTS - SPARKLINE

Description

To quote Edward Tufte, "Sparklines are *wordlike* graphics, with an intensity of visual distinctions comparable to words and letters." He continues, "A single letter set in 11 point type ... makes 20 to 200 visual distinctions... A single word of 6 or 7 letters, the average English word length, makes 100 to 1,000 visual distinctions. Why not also construct *data graphics* that work at the resolution of routine typography? Thus the idea of sparklines: small, intense, wordlike graphics."

Usage Guidelines

Is This Component Right For The Job?

Sparklines are an excellent choice whenever you need to show a high density of data in a compact space. They are great for use within tables and lists, compact spaces such as overlays, or anywhere where you need to communicate data in limited real estate.

Visual Specifications



Figure 1. Specification for Sparkline

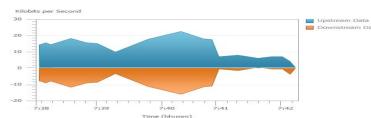


Figure 2. Specification for Sparkline with Normal Range



Figure 3. Specification for Sparkline with Single Value



Figure 4. Specification for Sparkline with Single Value and Projected Measure

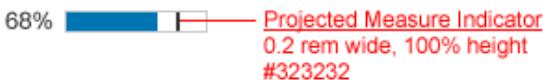


Figure 5. Specification for Legend Accompanying Multiple Single Value Sparklines

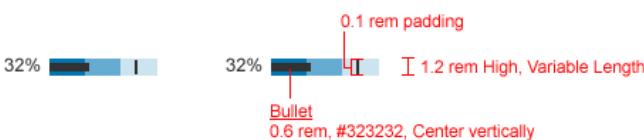


Figure 6. Specification for Sparkline Bullet Chart



Figure 7. Specification for Sparkline Bullet Chart with Projected Measure

32%  State colors for qualitative measures

Figure 8. Specification for Sparkline Bar Chart

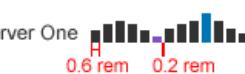
Server One  150 583 [2.6 rem Maximum height , Variable length
0.6 rem 0.2 rem

Figure 9. Specification for Sparkline Bar Chart

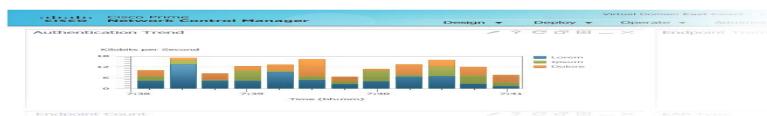


Figure 10. Specification for Sparkline Area Chart

Server One 

Figure 11. Specification for Sparkline Area Chart with Compact Axis Labels

Server One  3.4 6.1

Figure 12. Specification for Sparkline Bar Chart

Datatip Specification

Element	Font	Size	Style	Color
Datamak	5x5px			
Datatip Text	Tahoma	10 px	Regular, Left Alignmenet	#6A6A6A
Datatip	Stroke 1px Apply Opacity 90% Stroke: #9A9A9A Fille: #FFFFFF			

Table 1. Specifications for Data Tip

Interaction Behavior

Most Recent Value

Often the most interesting value is the most recent value. Showing this value in the context of the trend preceding it gives the data consumer a sense for whether the current value is high, low, normal, or unusual compared to previous values.



Figure 10. Sparkline With Most Recent Value Emphasized

Beginning, Ending, and High and Low Values

It is possible to show beginning and ending values as well as the highest and lowest values.

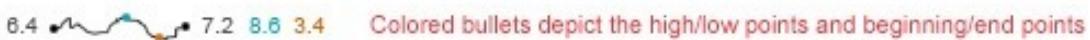


Figure 11. Sparkline With Beginning, Ending, High and Low Values

Normal Range

Adding a colored bar to the sparkline can give the data consumer a sense for the normal range of values. Values above or below the normal range are seen as deviations.



Figure 12. Sparkline Showing Normal Range

Comparing Two Trends

It is possible to use contrasting colors to directly compare two trends in the same space.

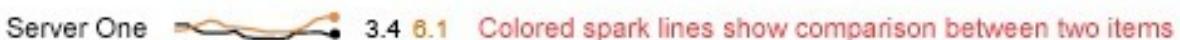


Figure 13. Sparkline Comparing To Trends.



Figure 14. Legend Accompanying Multiple Single Value Sparklines

Note: Data grid spec is not meant to focus on sparkline and their details. We are consolidating our specs and are avoiding replicating information that can later create inconsistencies. Specific mocks can be created for specific project features.

Bars for Discrete Points in Time

Bars can be used to emphasize the individual values for each point in time, rather than the trend over the entire period.



Figure 15. Sparkline With Bars for Each Point in Time

Bars With High and Low Values Emphasized

Colors can be used to emphasize high and low values in sparkline bar charts.



Figure 16. Sparkline Bar Chart With High and Low Values Emphasized

Bars With Negative Values

Sparkline bar charts can show negative values.



Bars below the X axis depict negative values

Figure 17. Sparkline Bar Chart with Negative Values.

Single Value Sparkline

A very simple kind of sparkline shows a single value. This is useful for showing progress towards completion, for example.



Figure 18. Sparkline Showing Single Value

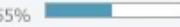
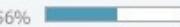
Module Title									
		Column 1	Column 2						
	Content Row 1	32%							
	Content Row 2	50%							
	Content Row 3	45%							
	Content Row 4	55%							
	Content Row 5	23%							
	Content Row 6	56%							
	Content Row 7	90%							
	Content Row 8	35%							
	Content Row 9	32%							
	Content Row 10	50%							

Figure 19. Sparklines Showing Single Value in a Table with Shared X Axis Labels

Single Value Sparkline with Projected Measure

A single value sparkline can be enhanced with a projected measure showing what an anticipated future value (or goal) could be.



Figure 20. Sparkline Showing Single Value and Projected Measure

Sparkline Bullet Chart

[Bullet charts](#) work well as sparklines.



Figure 21. Sparkline Bullet Chart

Sparkline Bullet Chart with Projected Measure

Sparkline Bullet Charts can also show a projected measure.



Figure 22. Sparkline Bullet Chart with Projected Measure

Sparkline Bullet Chart with State Colors

State colors can enhance a sparkline bullet chart, but keep in mind that the monochrome version is more accessible for color blind users than the color version. It is also important to consider that shades of a single monochrome color used for qualitative measures are less severe in terms of presenting a pre-defined interpretation of the meaning of the values to the data consumer. When there is a risk for misinterpretation of the values, it is better to choose the monochrome version.

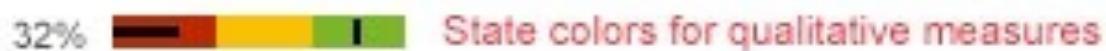


Figure 23. Sparkline Bullet Chart with State Colors

Sparkline Area Chart

Area charts can be shown as sparklines.

Server One  3.4.8.1 Colored spark lines show comparison between two items

Figure 24. Sparkline Area Chart

Sparkline Area Chart With Compact Axis Labels

Area charts can be shown with compact labels for the x and y axes.

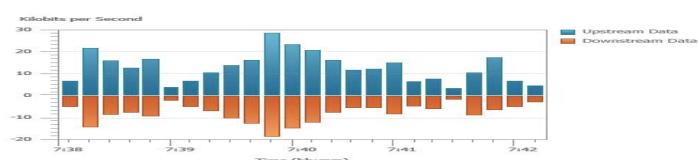


Figure 25. Sparkline Area Chart with Compact Axis Labels

Datatips



Figure 26. Specification for Sparkline Bar Chart with Datatips

As with other chart types, sparklines can support datatips and/or drill-downs using many of its elements, including:

- Individual data markers
- Individual data points

CHARTS - STACKED

Description

Two charts can be stacked vertically so that they both use the same X axis. Stacked charts can also be used to provide a range selector control, where the range selected in the lower chart is displayed in the upper chart.

Visual Specifications

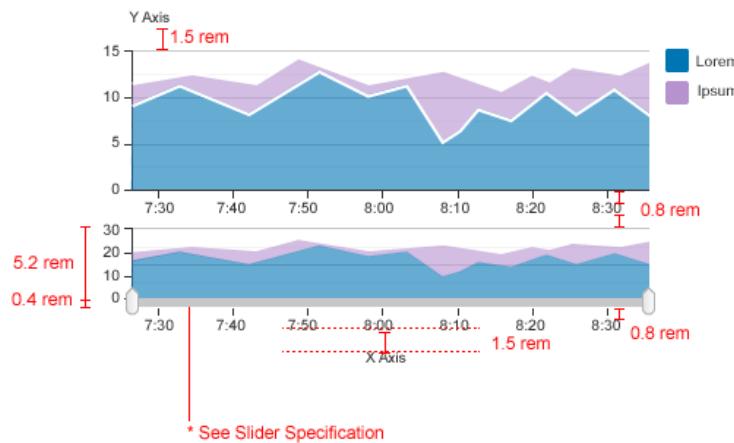


Figure 1. Specification for Stacked Chart.

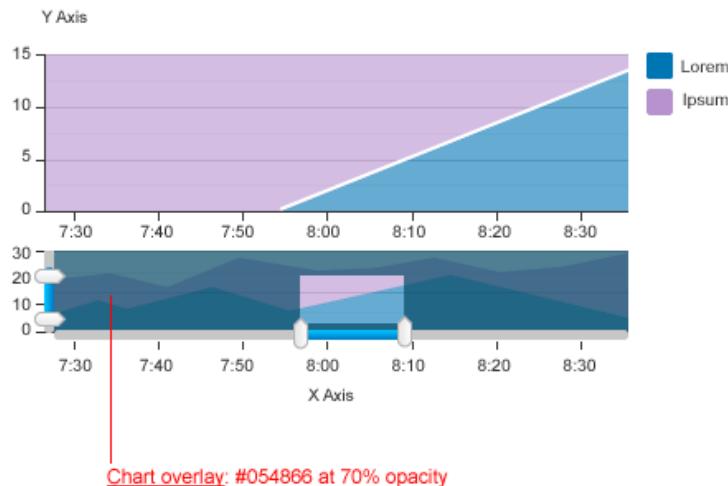


Figure 2. Specification for Stacked Chart with Range Selector (Expanded).

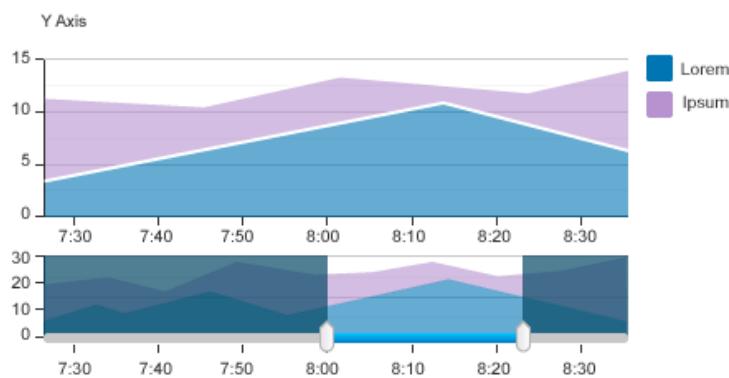


Figure 3. Specification for Stacked Chart with Range Selector.

Interaction Behavior

Stacked Charts are good for showing a clear subordinate relationship between data series. A common example is stock price and trading volume.

Example

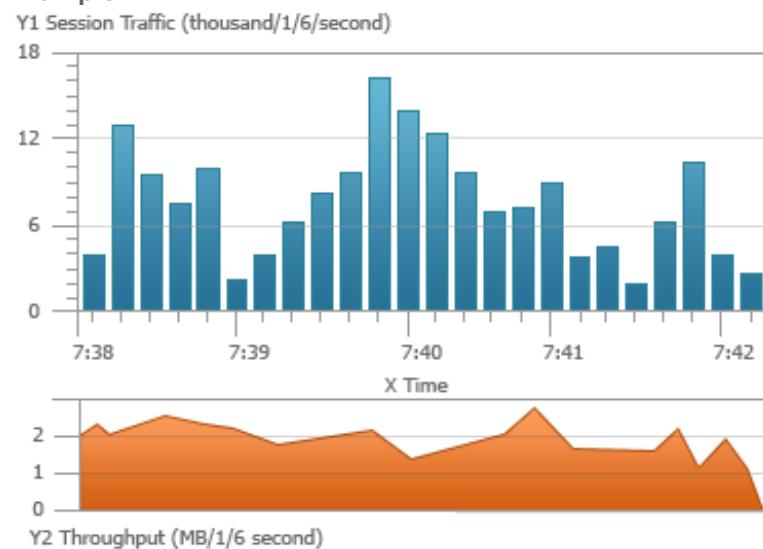


Figure 4. Bar/Area Stacked Chart

Range Selector

The lower chart can be used to select a range of values to be displayed in the upper chart. The lower chart can be collapsed when a range has been selected to provide more space for the selected data.

When the user moves their mouse over the range selector sliders a contextual overlay appears, allowing the user to directly enter specific values for the range if they desire.

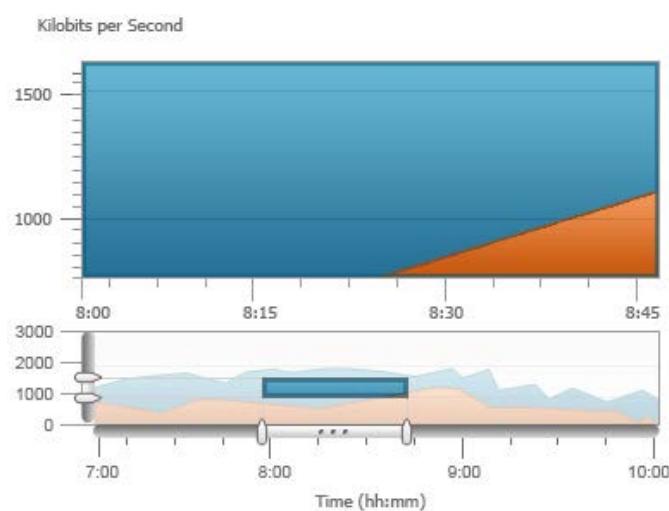


Figure 5. Bar/Area Stacked Chart

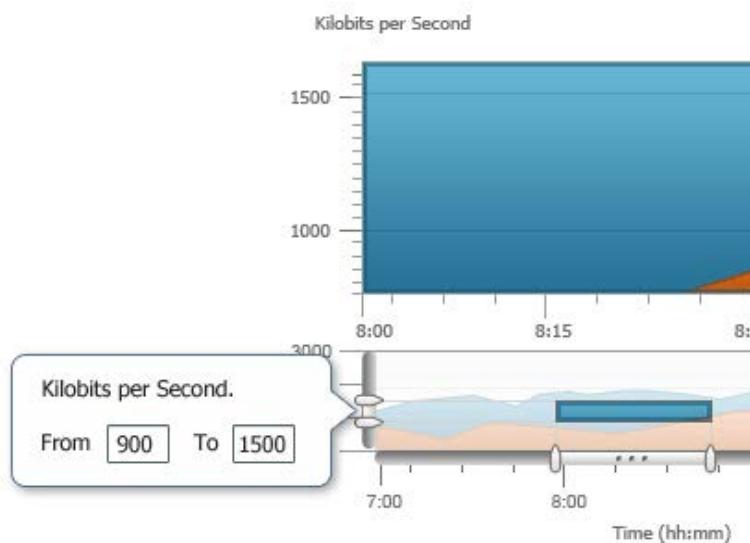


Figure 6. Stacked Chart with Range Selector Contextual Overlay.

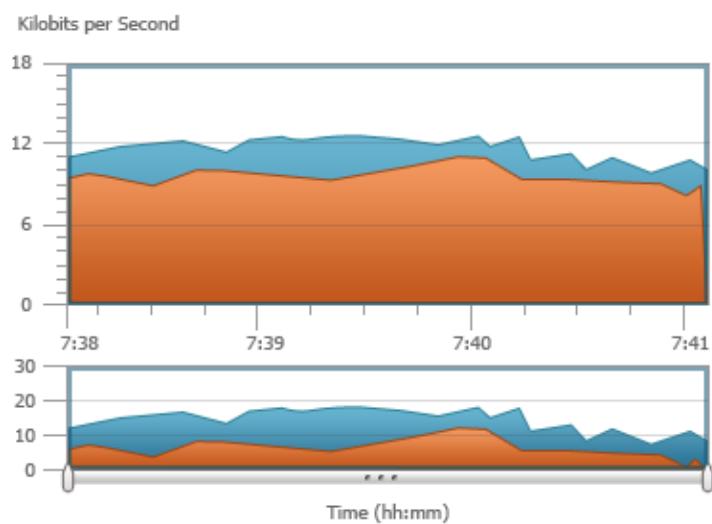


Figure 7. Bottom and top stacked chart and range-selectors initially show the sam data range.

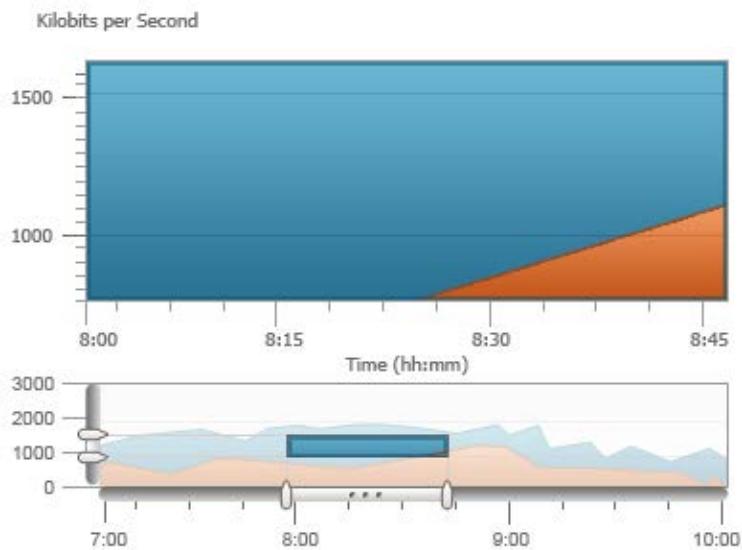


Figure 8. User has zoomed in using the range-selector, thereby expanding the scale to smaller increments

The chart should automatically adjust its scale to the appropriate units of measure, as well as increase or decrease the tick marks, grid spacing and axis labels per the General Charts specification.

CHARTS - STACKED BAR

Description

Stacked bar charts display multiple data sets in a single chart. This allows the user to compare the different data sets at a given point in time, as well as to see how each data set changes over time.

Usage Guidelines

Fill Patterns

Fill patterns should be used when your users may have trouble distinguishing between colors (color blindness) or when charts may be printed in monochrome.

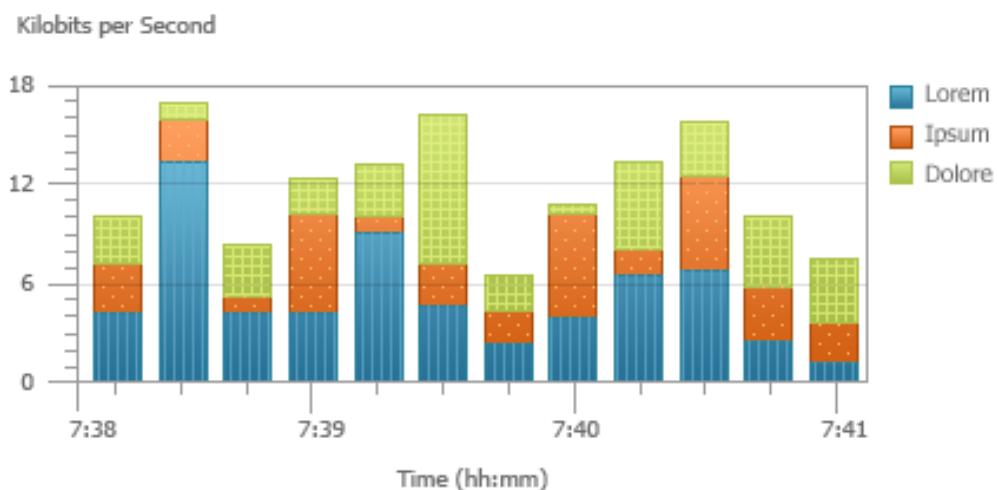


Figure 1. Stacked Bar Chart with Fill Patterns

Visual Specifications

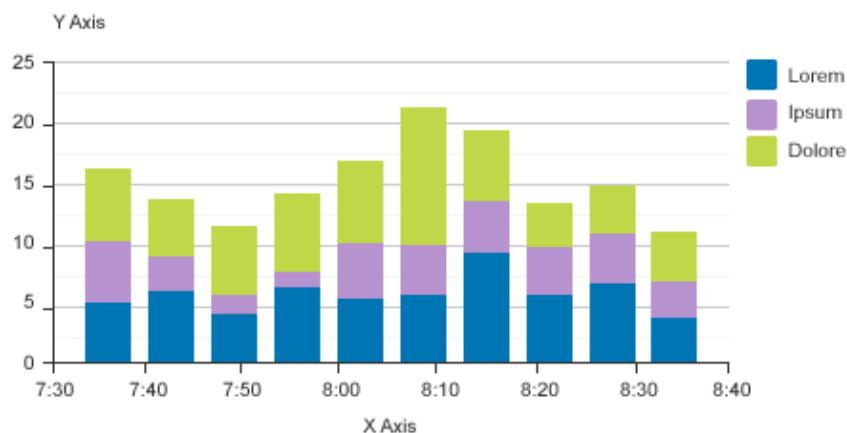


Figure 1. Stacked Bar Chart

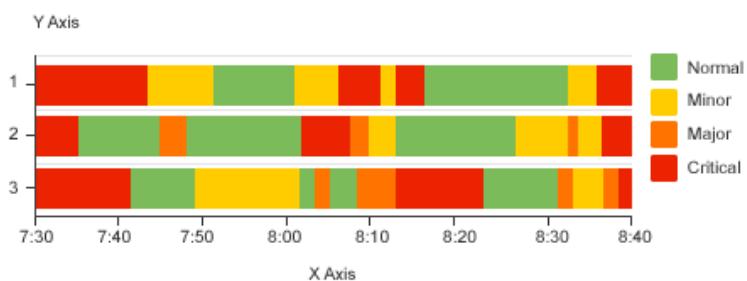


Figure 2. Stacked Bar Chart with Continuous Device State Time Series

Interaction Behavior

Example

Kilobits per Second

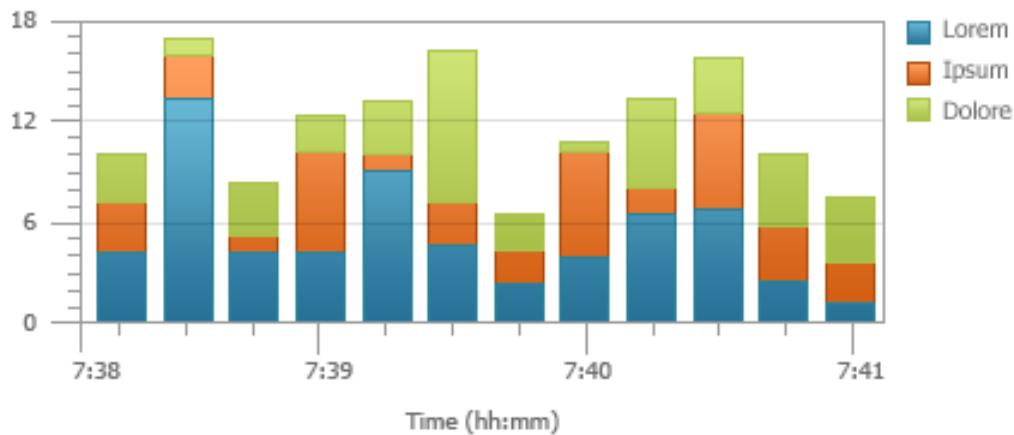


Figure 3. Stacked Bar Chart

Popup Datatip

The datatip should show the percentage represented by the value, and also the total for all values at that point.

Kilobits per Second

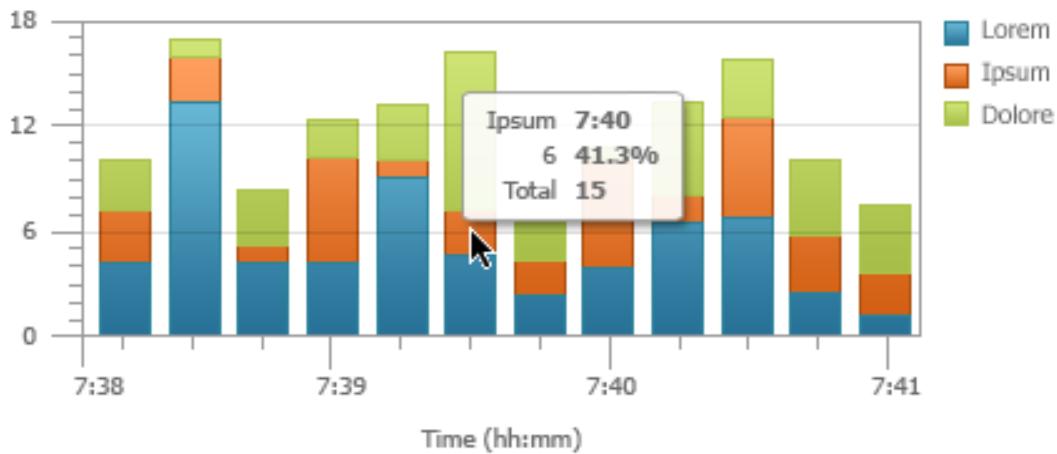


Figure 4. Stacked Bar Chart with Datatip

Continuous Device State Time Series

A stacked bar chart can also be used to show how a device state changes over time.

Task Beds

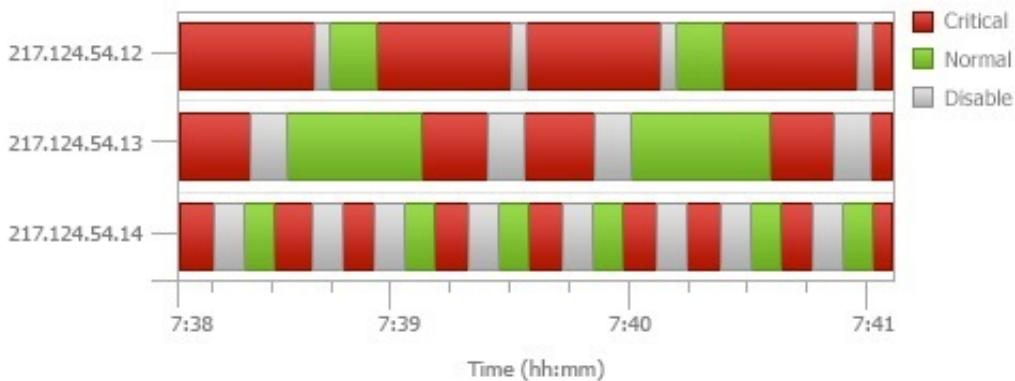


Figure 5. Stacked Bar Chart with Continuous Device State Time Series.

Handling Large Data Variation in Charts

Charts are dynamically scaled so that the largest value fits within the available space. This works well when the values for each event are somewhat close together. However, if one or more values are outliers that are an order of magnitude or larger than the rest, this scaling of the value axis doesn't work as well visually. In this case, when the largest values fit within the chart, the smaller values may be very small and may hardly be visible at all. To address this you may use one of several methods.

Since minimum lengths would distort a stacked percentage bar too much, a range-selector should be used instead:

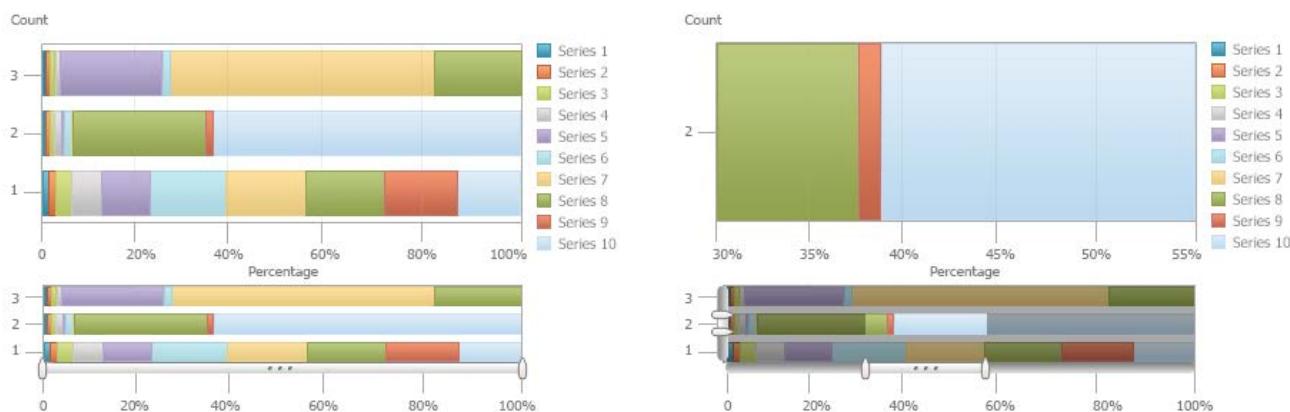


Figure 6. Stacked percentage bar chart without and with range-selector.

CHARTS - SCATTER PLOT

Description

Scatter plots show the relationship between two variables by displaying data points on a two-dimensional graph. Scatter plots are especially useful when there is a large number of data points. They provide the following information about the relationship between two variables:

- Strength
- Shape (linear, curved, etc)
- Direction (positive or negative)
- Presence of outliers

A correlation between the variables results in the clustering of data points along a line.

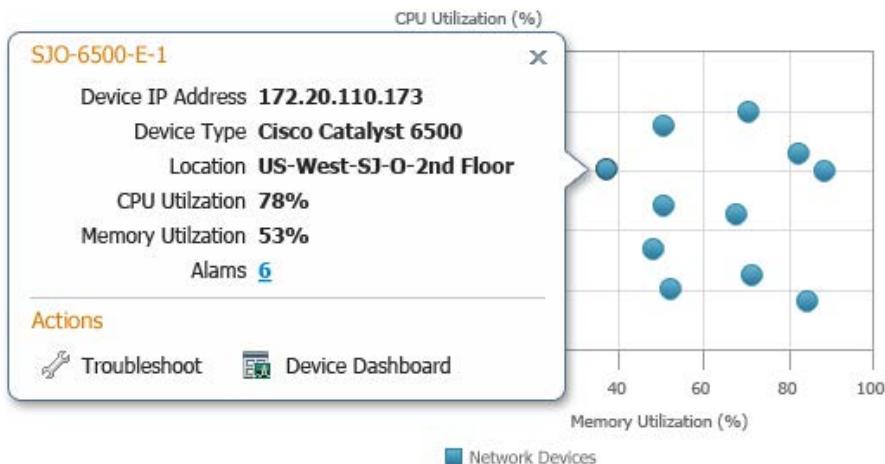


Figure 1. Example of a Scatter Plot Chart

Types of Scatter Plots

The types of scatter plots we currently support are shown below.

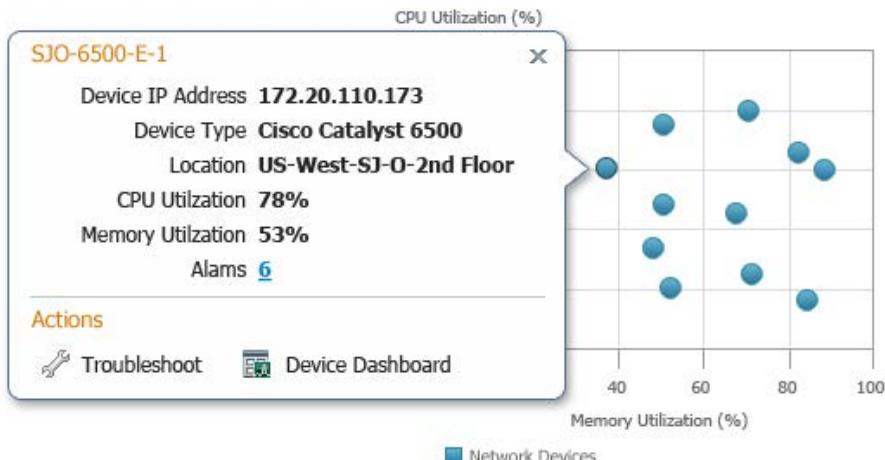


Figure 2. Single series scatter plot



Figure 3. Scatter Plot with each point in a single series represented via different colors

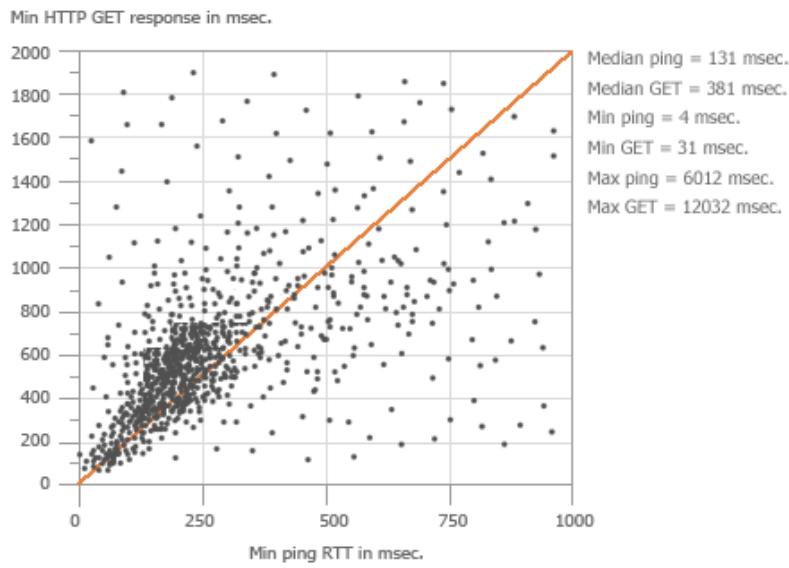


Figure 4. Scatter Plot with Trend Line

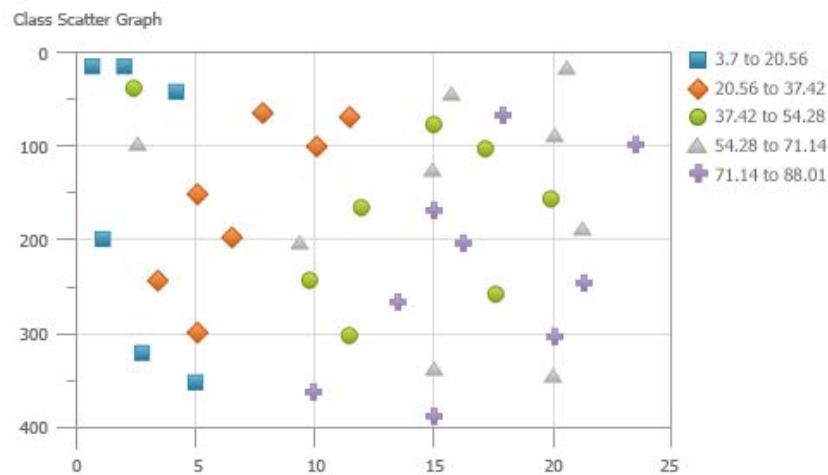


Figure 5. Multiple Series Scatter Plot

Usage Guidelines

Is This Component Right For The Job?

Scatter plots are similar to line graphs in that they both map quantitative data points. The individual points in a scatter plot, however, may express a correlation via the distribution of points rather than a line (although a trendline can be added). Scatter Plots have the advantage of displaying the outliers in a set of data points, which may be significant. Scatter plots differ from

bubble charts in that two values are represented per data point marker, vs three values in the bubble chart. Scatter plots are useful in the early stages of analysis when exploring data to help determine whether a trend or correlation even exists.

Visual Specification

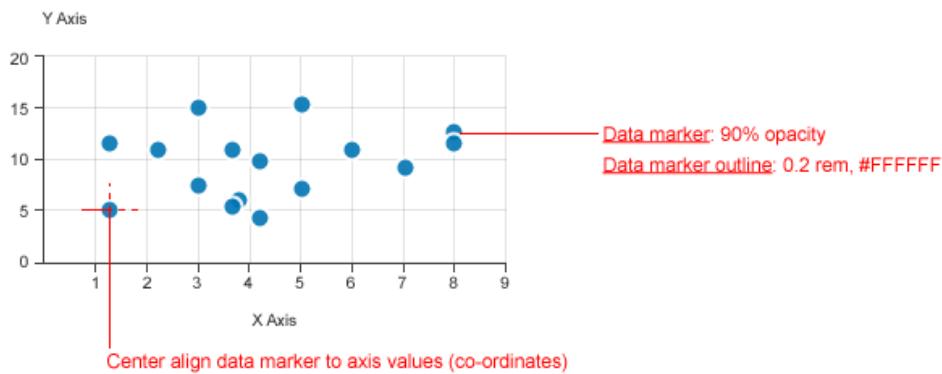


Figure 1. Visual Specification for Scatter Chart

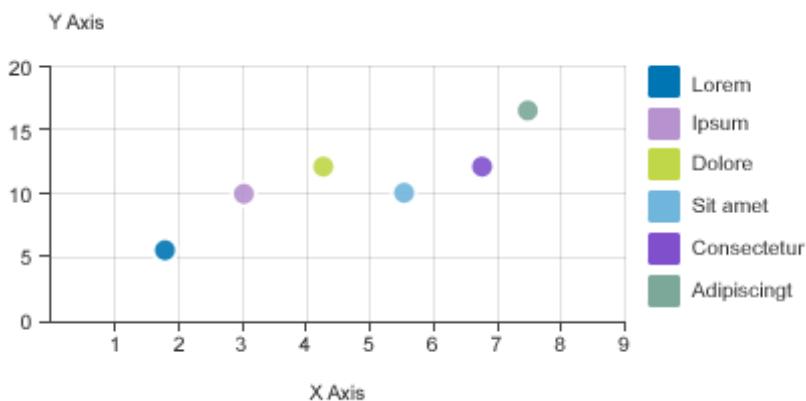


Figure 2. Visual Specifications for single-series scatter plot using multiple colors

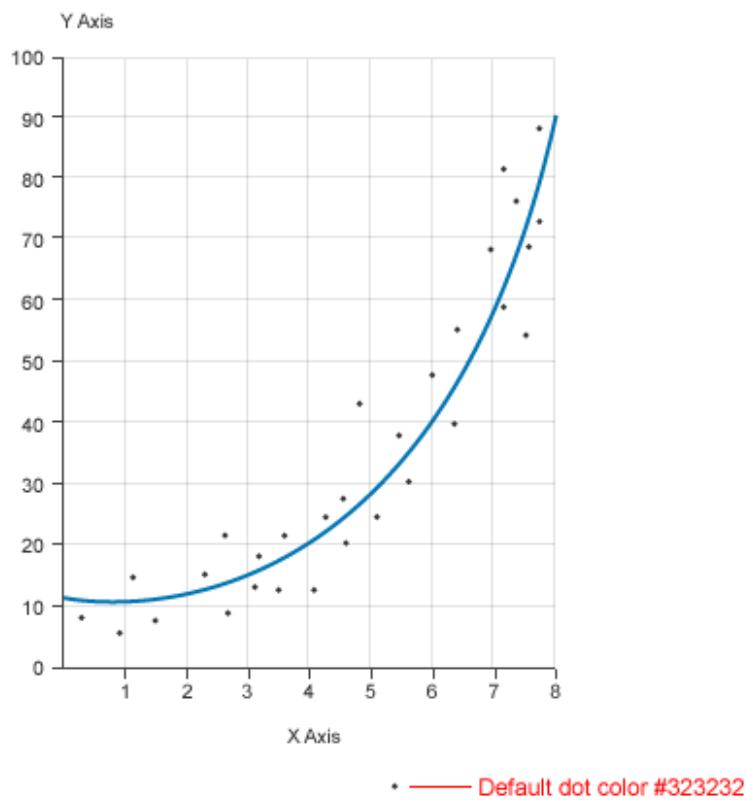


Figure 3. Visual Specifications for single-series scatter plot with a trend/regression line

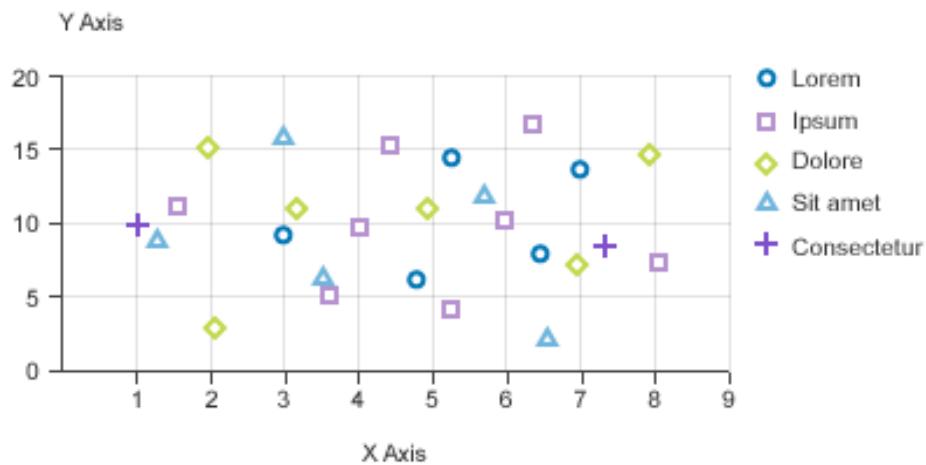


Figure 4. Visual Specifications for multiple-series scatter plot

Interaction Behavior

Logarithmic Scales

Logarithmic scales are the ideal way to display data with large range variations. Please see the Charts Basic specification under "Handling Large Data Variation in Charts" for more information about using this feature.

DASHBOARD

DASHBOARD AND DASHLET

Description

Dashboards can provide users status and alerts, surfacing monitoring and reporting information from deeper within applications. Dashboard contains Dashboard Global Filter area and Dashlet area. Dashboard Global Filters provide users a way to filter the scope of the content of ALL the dashlets in the Dashlet area on current Dashboard tab, unless the dashlet is locked to its customized settings. Dashlets area contains one or more dashlets which are the UI containers that display a variety of widgets, including text, form elements, tables, charts, tabs, and nested content modules.

Usage Guidelines

Problem Summary

An user would like to see high level summarized/overview information before they drill down further for more details. He/she would also like to narrow down the content in the dashlets by certain criteria for him/her to be able to focus on the information he/she is interested.

This Solution

The Dashboard framework provide information in high level/summary view with Global Filtering features which helps the users to filter the data on all the dashlets of the current Dashboard tab when the filters are applicable to the correspondent dashlets.

Dashboard Philosophy

The fundamental purpose of a dashboard is to provide an at-a-glance view of the most important parts of an application. A quick scan should let users know if anything needs their attention.

The dashboard is the correct place to get a user's attention, but it is not the correct place for them to address an issue. Like the low gas light in a car, the dashboard should alert the user if they need to take action, and it should provide some information regarding the cause of the alert. The user knows the problem needs to be addressed, and they should address the problem at its source.

In all cases, when users require more than a quick status update on a component, they should proceed to the natural page of that component within the application.

Visual Specifications

Dashboard

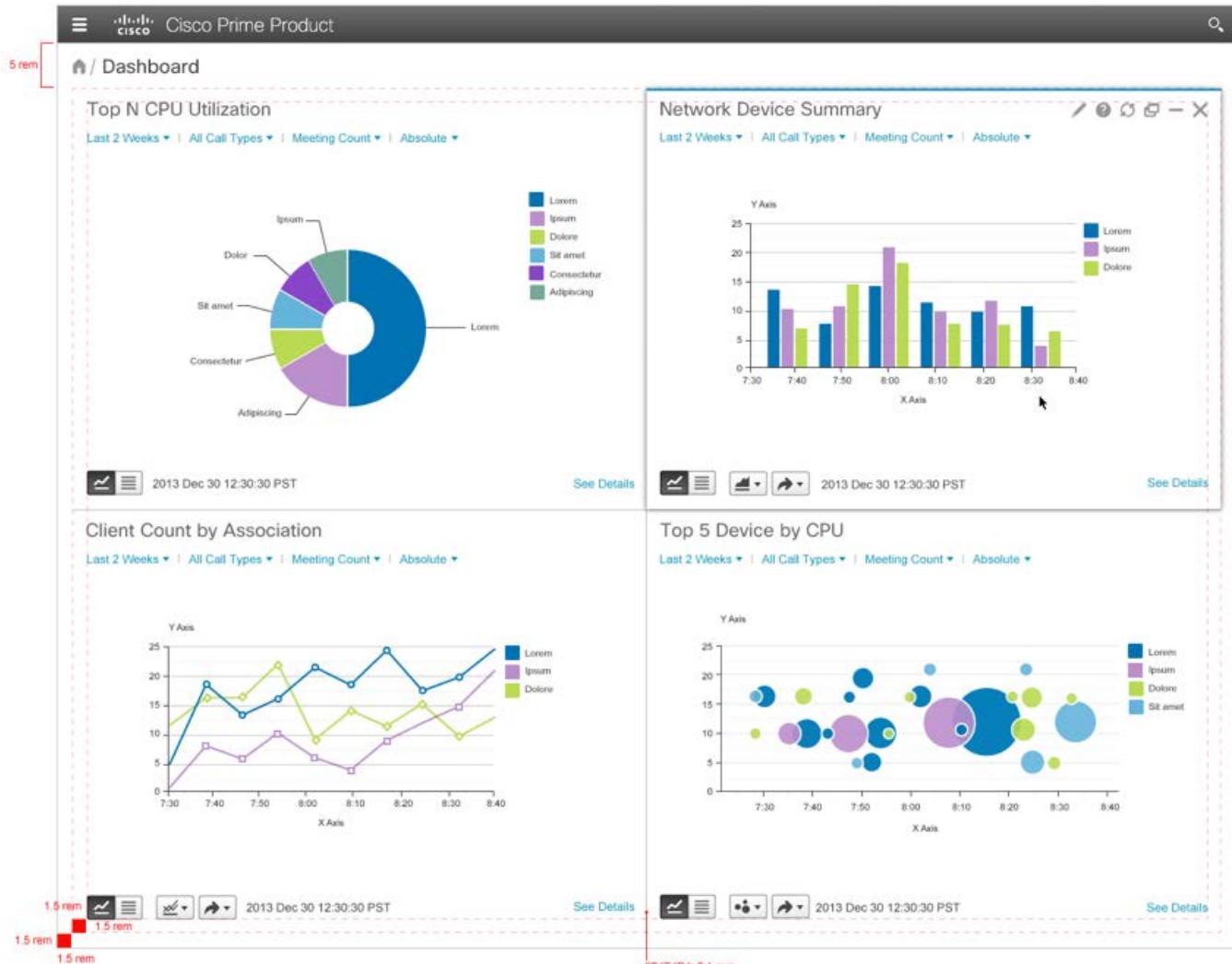
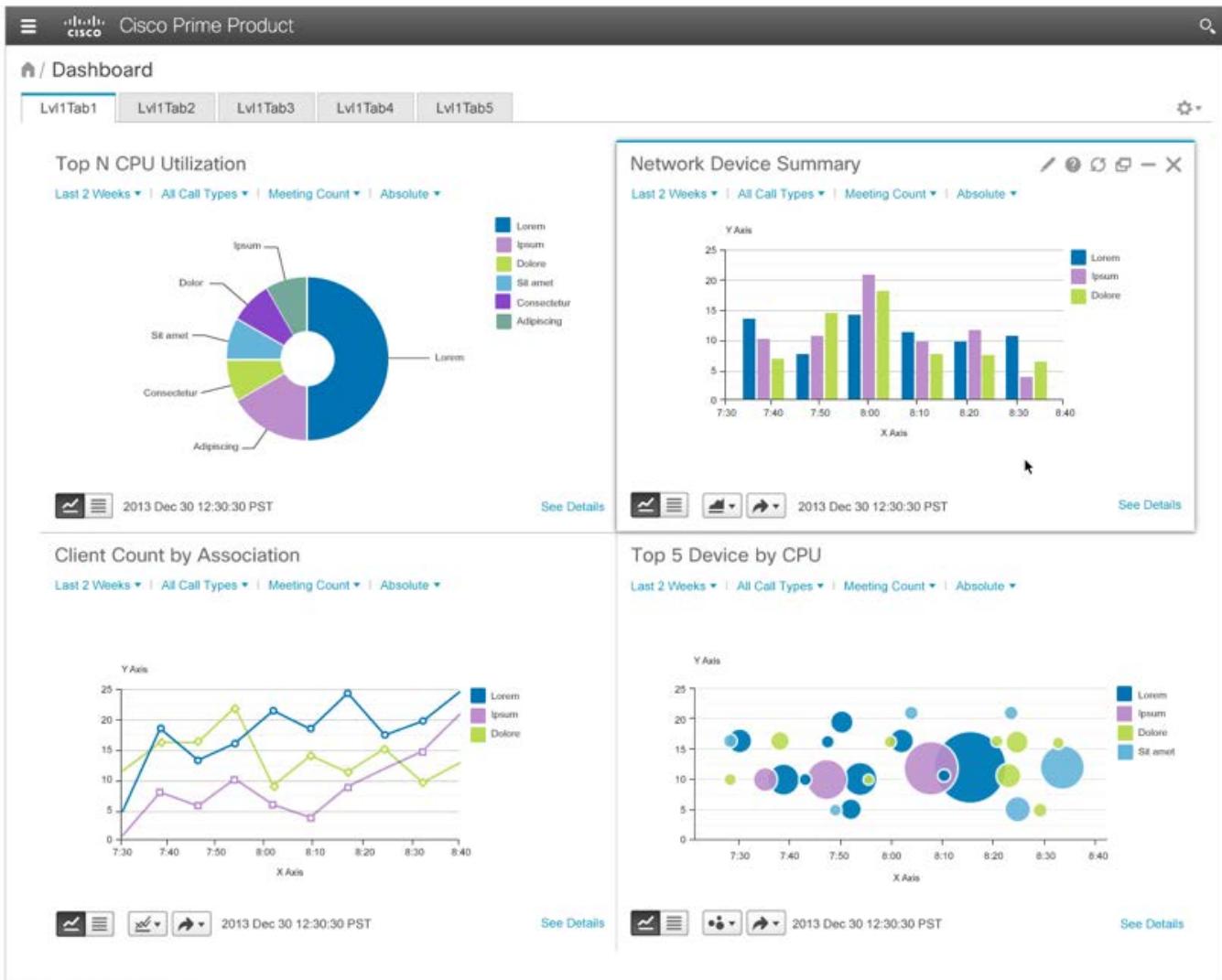


Figure 1. Dashboard Overview Specifications



* See Content Tabs Specification

Figure 2. Dashboard with Tabs

Visual Specification

Element	Style
UI Shell Tabs	See UI Shell Specification
Dashboard Tabs	See Content Tab Specification
Dashboard Setting Menu Icon	Located on the top right of the content area (Same level as the Page Title or Dashboard Tabs)

Table 1. Visual Specifications for Dashboard

Dashboard Global Filters

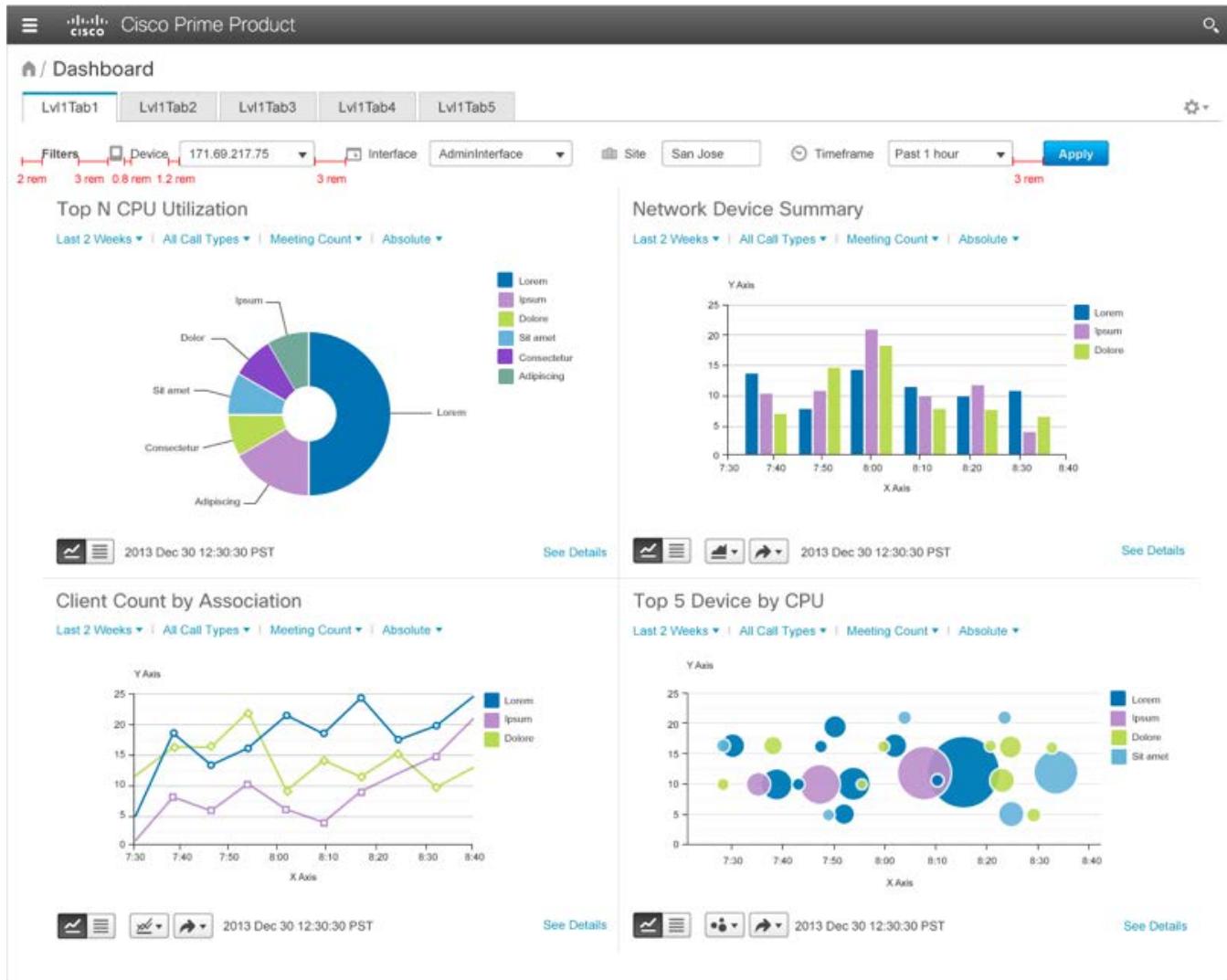


Figure 3. Dashboard Global Filters Spacing Specification

Font and Color Specification

Element	Font	Size	Style	Font Color	Sample
Filters Label	Arial	1.3 rem	Bold	#464646	Filters
Filter Title	Arial	1.3 rem	Normal	#464646	*Site, *Timeframe

Table 2. Fonts and Colors Specifications for Dashboard Global Filters

Dashboard Setting Menu

* See Dropdown List Specification

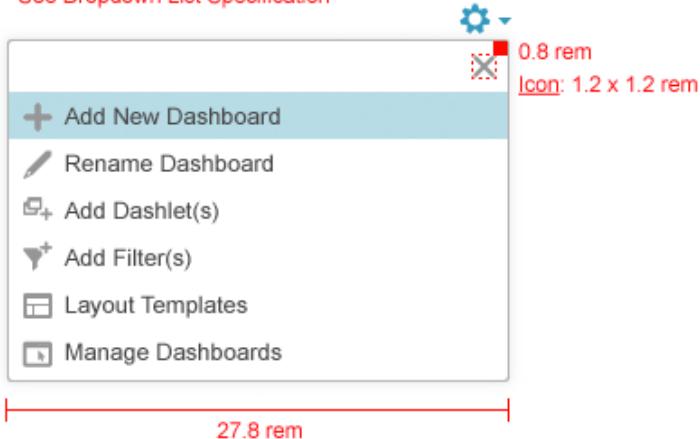


Figure 4. Dashboard Setting Menu Specification (Collapsed)

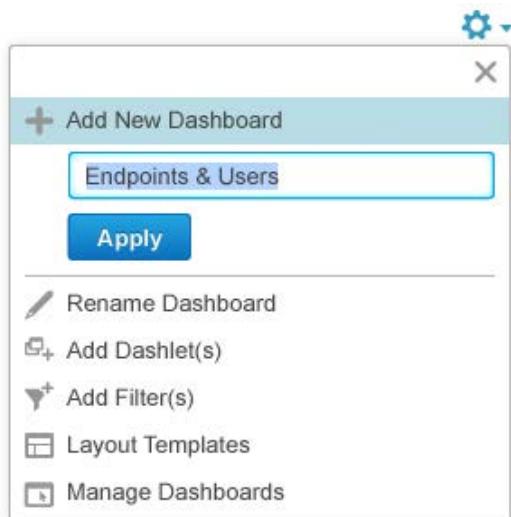


Figure 5. Dashboard Setting Menu Specification (Add New Dashboard)

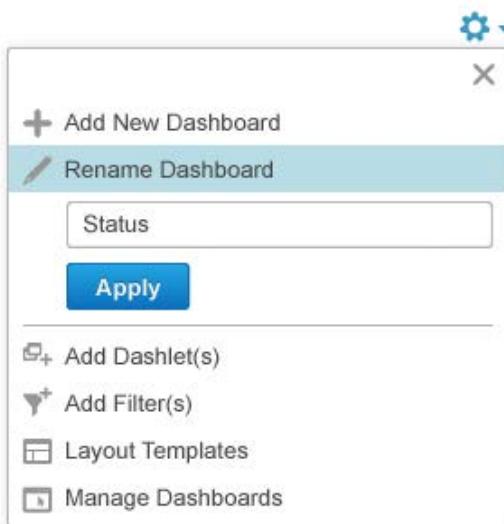


Figure 6. Dashboard Setting Menu Specification (Rename Dashboard)

Customer Device Information

1.2 rem

Device Information (2) **Add**

Category	Count	Action
Alarms	1	Add
Device Information	2	Add
Other	0	
Charts	0	
Grid Charts	0	

Add Filter(s)

Layout Templates

Manage Dashboards

Figure 7. Dashboard Setting Menu Specification (Add Dashlet)

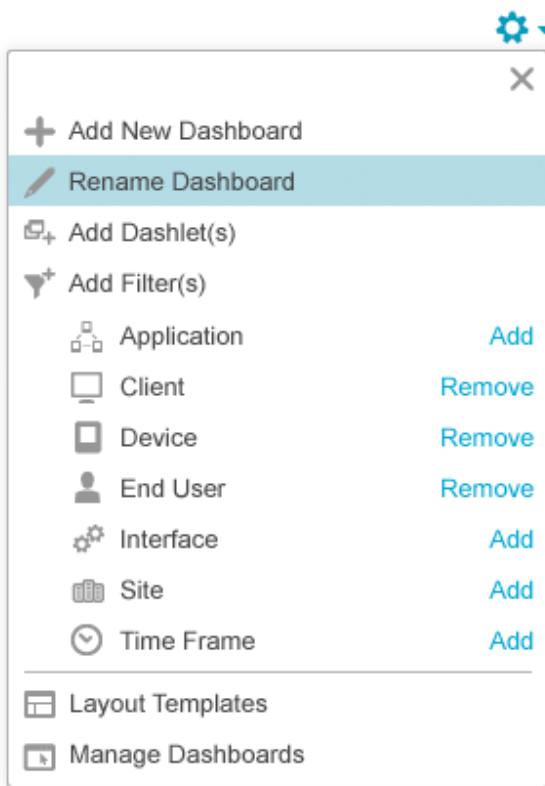


Figure 8. Dashboard Setting Menu Specification (Add Filter)

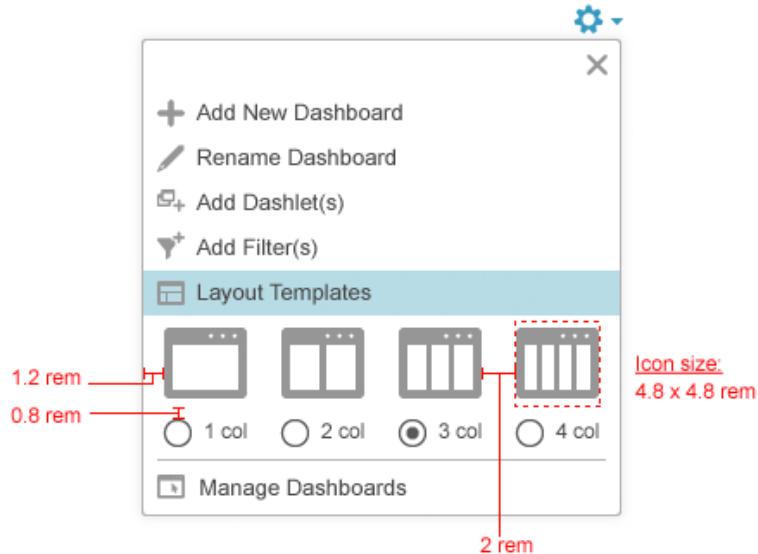


Figure 9. Dashboard Setting Menu Specification (Layout Template)

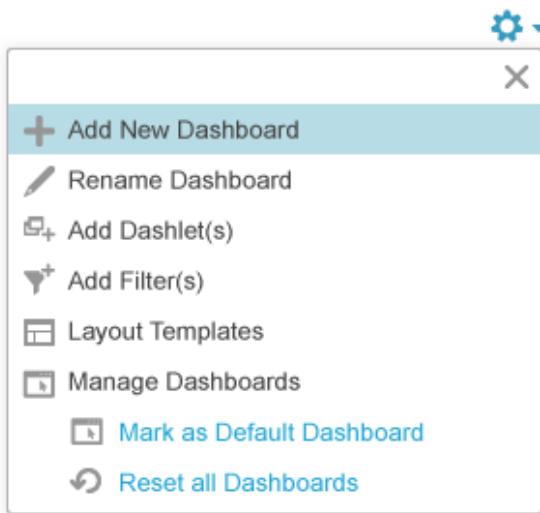


Figure 10. Dashboard Setting Menu Specification (Manage Dashboards)

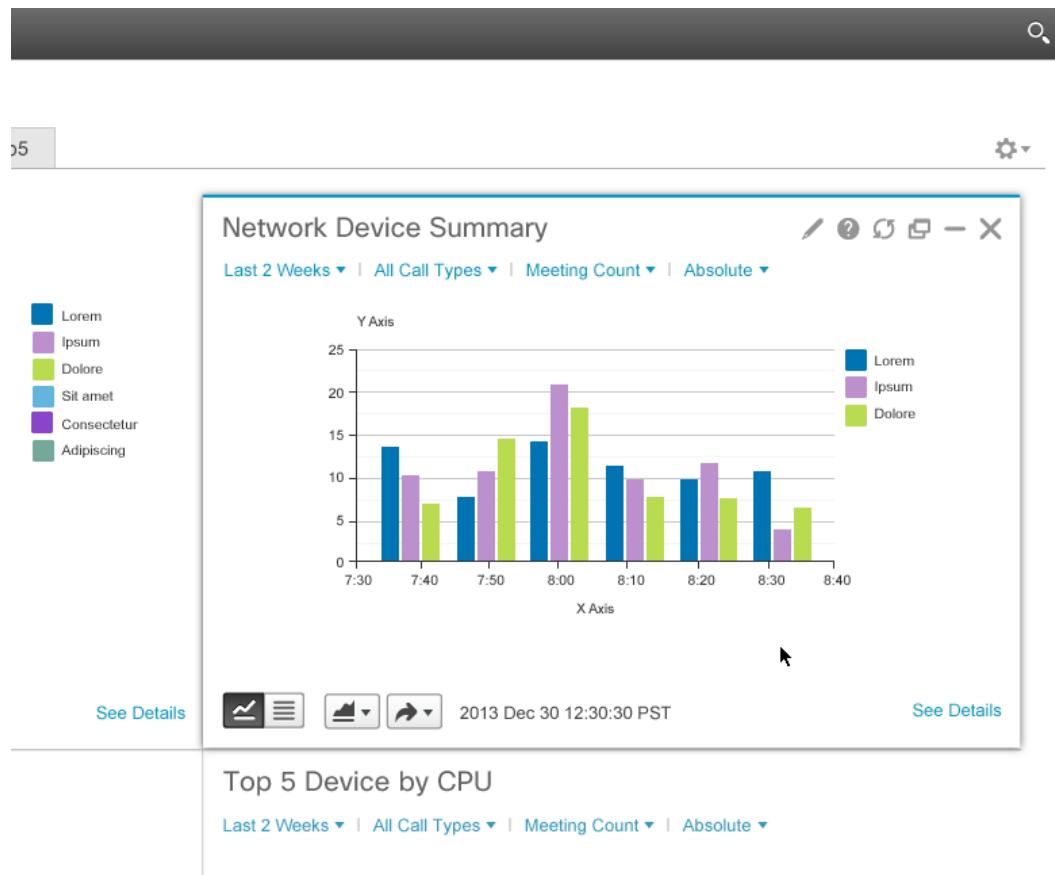


Figure 11. Dashlet Focused States Activates on Hover

Font and Color Specification

Icon Name	Icon Example	HTML Code	Class Name	Size	Icon Color
Add				1.6 rem	#969696
Rename				1.6 rem	#969696
Add - Dashlets				1.6 rem	#969696
Add - Filters				1.6 rem	#969696
Layout				1.6 rem	#969696
Manage				1.6 rem	#969696
Application				1.6 rem	#969696
Client				1.6 rem	#969696
Device				1.6 rem	#969696
End User				1.6 rem	#969696
Interface				1.6 rem	#969696
Site				1.6 rem	#969696
Time Frame				1.6 rem	#969696
Reset				1.6 rem	#969696
Export				1.6 rem	#969696
1 Column Layout				4.8 rem	#969696
2 Column Layout				4.8 rem	#969696
3 Column Layout				4.8 rem	#969696
4 Column Layout				4.8 rem	#969696

Table 3. Dashboard Setting Menu Icons

Dashlet

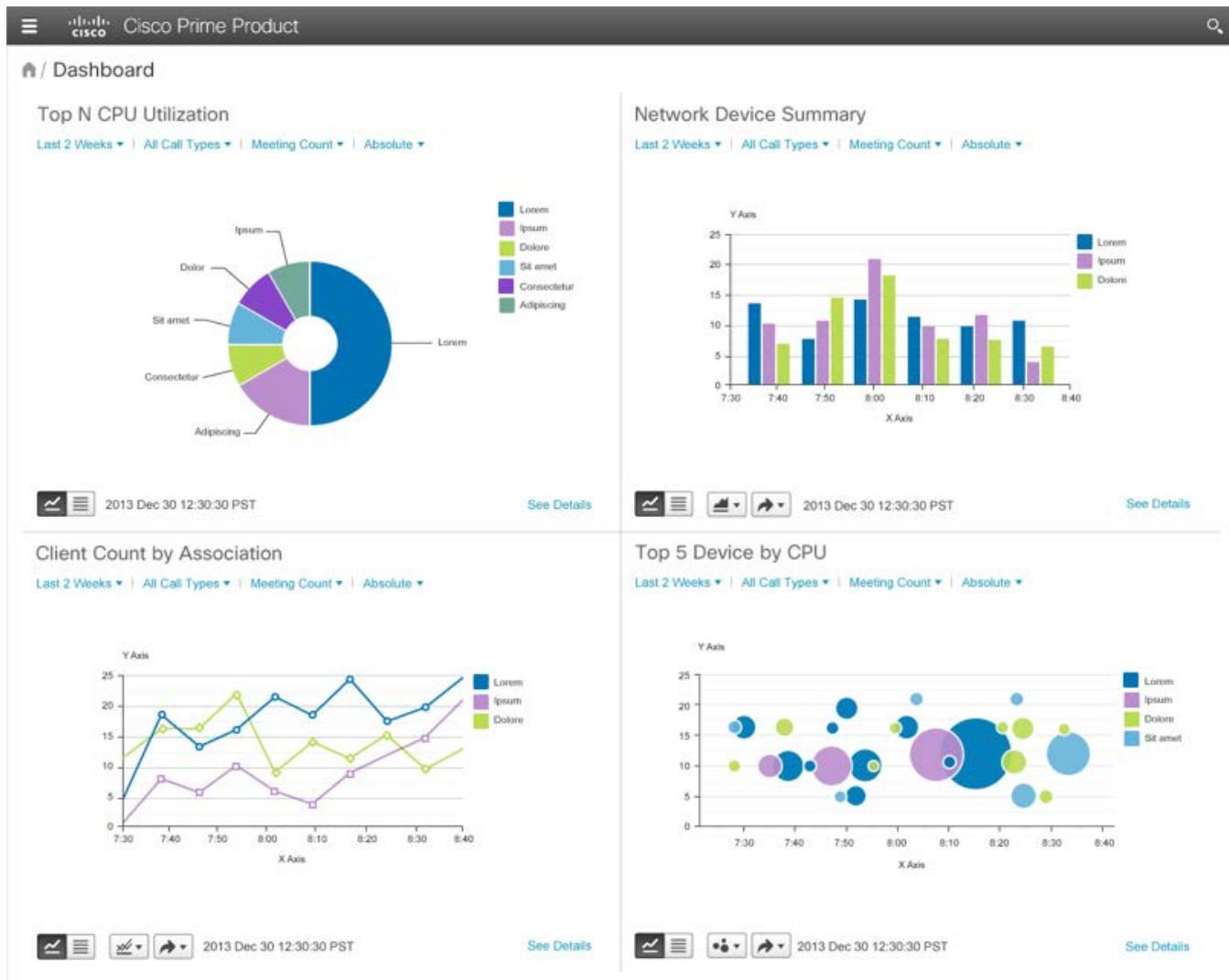


Figure 12. Dashlets in Inactive State

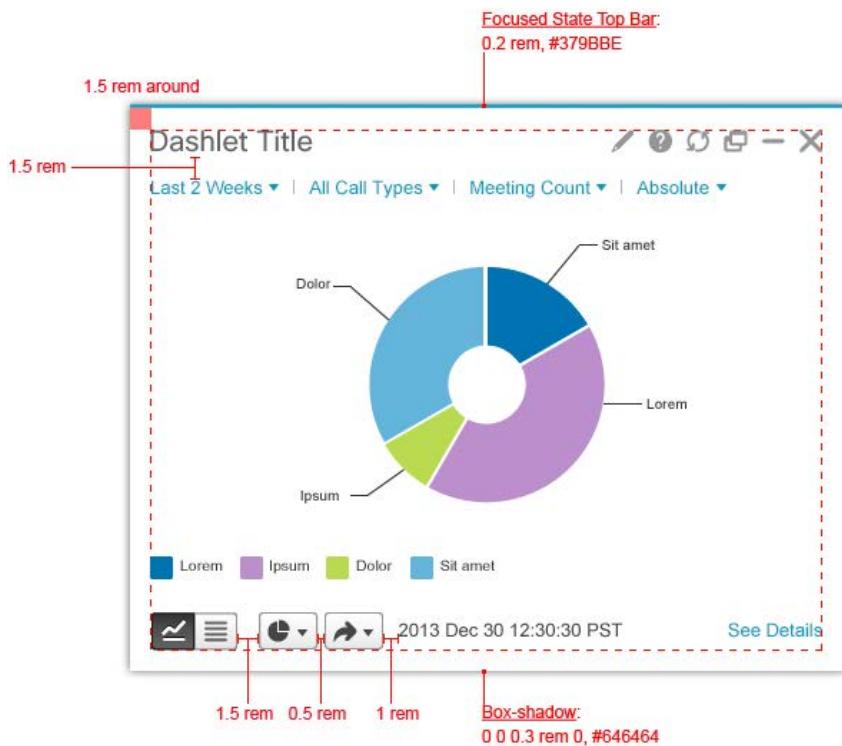


Figure 13. Dashlet Spacing Specification

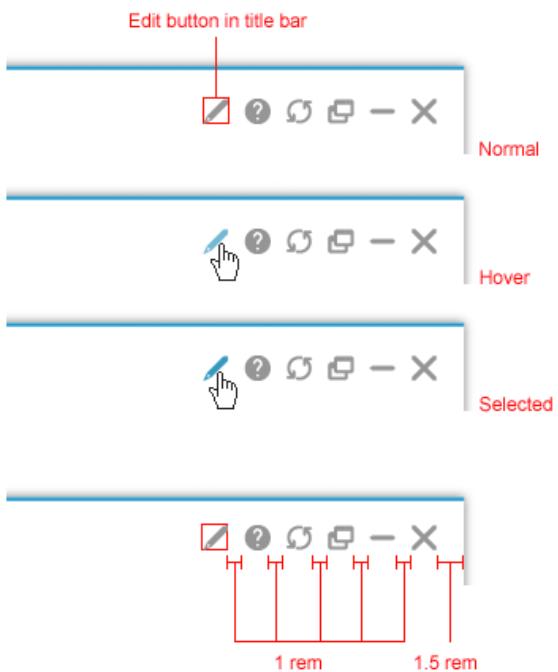


Figure 14. Dashlet Toolbar Icons

Font and Color Specification

Element	Font	Size	Style	Font Color
Dashlet Title Bar	CiscoSans	2.0 rem	Normal	#646464
Information Text (lower left)	Arial	1.3 rem	Normal	#464646
See All Link (lower right)	Arial	1.3 rem	Normal	#28AAD7
See All Link (hover)	Arial	1.3 rem	Normal / Underline	#28AAD7
See All Link (inactive)	Arial	1.3 rem	Normal	#C8C8C8
Informational Text Link	Arial	1.3 rem	Normal	#28AAD7
Informational Text Link (hover)	Arial	1.3 rem	Normal / Underline	#28AAD7
Informational Text Link (inactive)	Arial	1.3 rem	Normal	#C8C8C8
"No data available" Text	Arial	1.3 rem	Normal	#323232

Table 4. Specifications for Fonts and Colors for Dashlet

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Inactive Color	Active Color	Hover Color	Selected Color
Close				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe
Minimize				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe
Maximize				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe
Detach				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe
Refresh				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe
Help				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe
Edit				1.6 rem	#c8c8c8	#969696	#74bad1	#379bbe

Table 5. Dashlet Icons Specifications

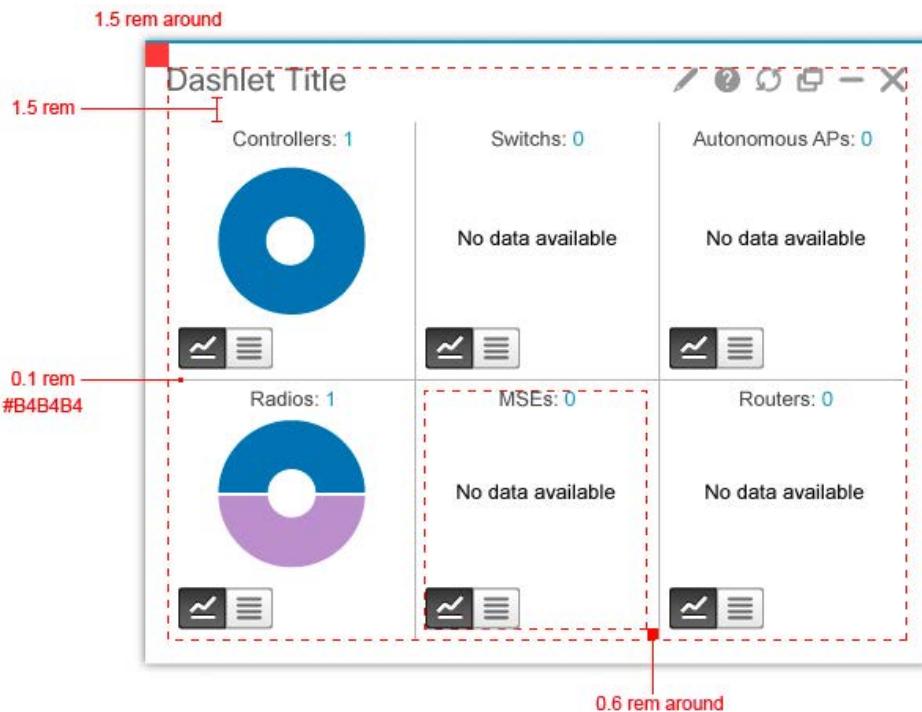


Figure 15. Dashlet Spacing Specification for Multiple Widgets_Sample(1)

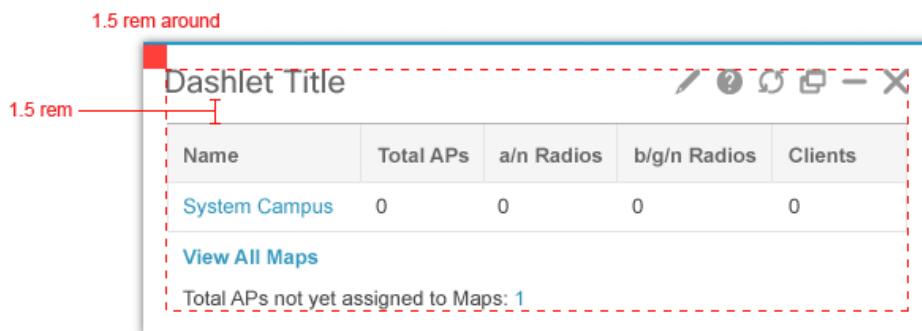


Figure 16. Dashlet Spacing Specification for Multiple Widgets_Sample(2)

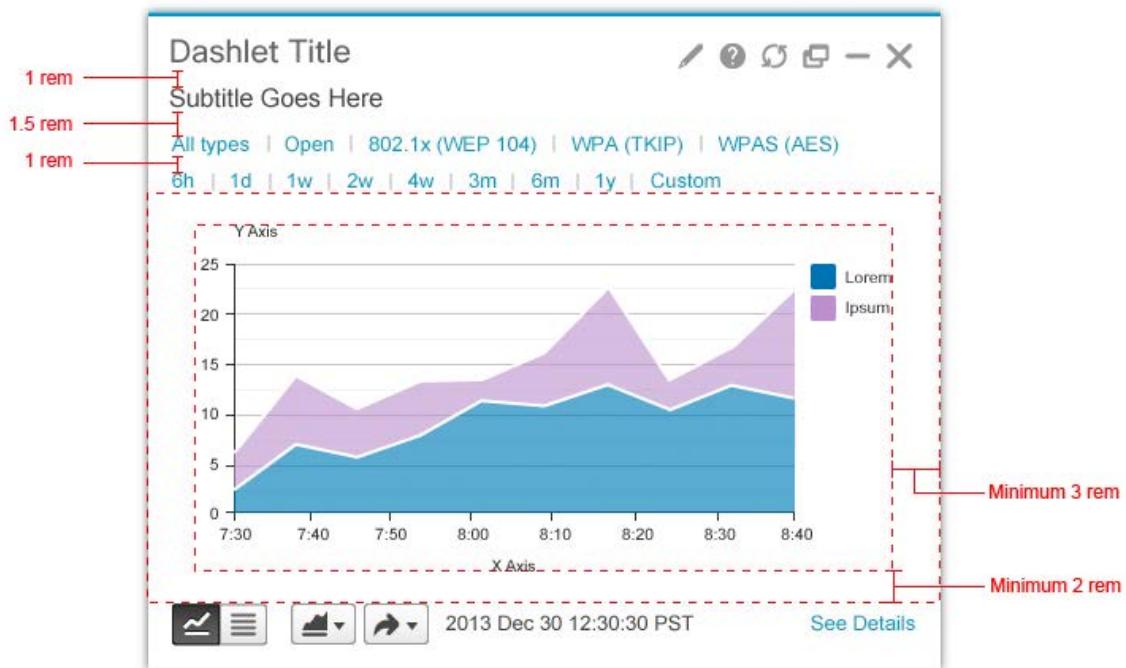


Figure 17. Dashlet Spacing Specification for Multiple Widgets_Sample(3)

Filters in Dashlet

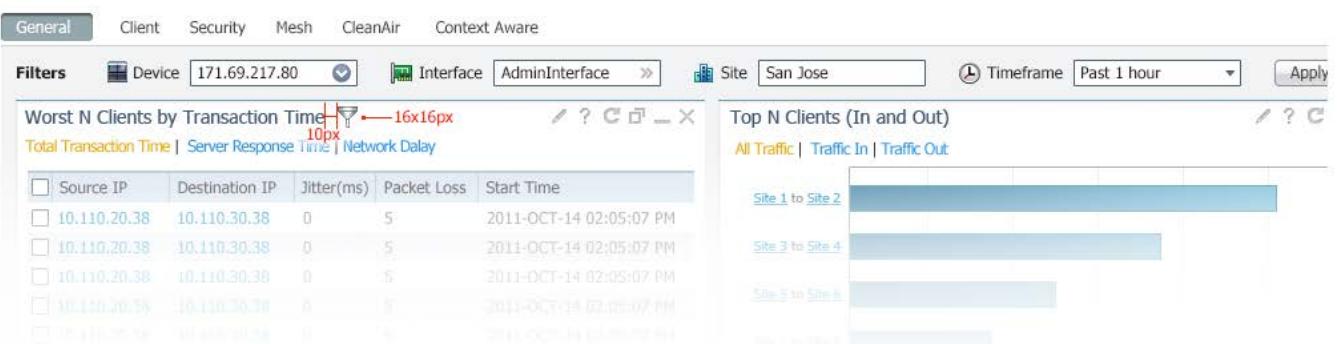


Figure 18. Dashboard Global Filter Icon in Dashlet



Figure 19. Filters in Dashlet Settings

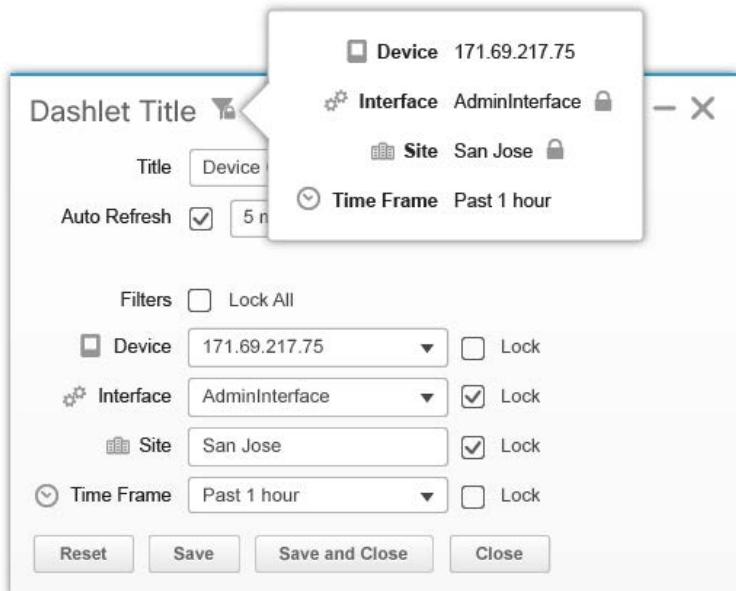


Figure 20. Dashlet Settings Locked

#FFCD00

Dashlet Title

Name	Total APs	a/n Radios	b/g/n Radios	Clients
System Campus	0	0	0	0

[View All Maps](#)

Total APs not yet assigned to Maps: 1

Figure 21. Dashlet Settings Edited

Interaction Behavior

Dashboard

A dashboard represent a collection of information from various sources within (or outside of) an application. It's also known as:

- Portal: a term commonly used for accessing data across various sources or applications.
An example of a portal would be a weather forecast and a map, side-by-side.
- Mashup: a term commonly used for aggregation / overlayment of multiple data streams into a combined view.
An example of a mashup would be a map, with data overlayed (ie: <http://www.housingmaps.com/>)

Regardless of its purpose or usage, a dashboard is a page container encompassing one or more dashlets of the above behaviors.

Layouts

A dashboard can have several layouts, as shown below.

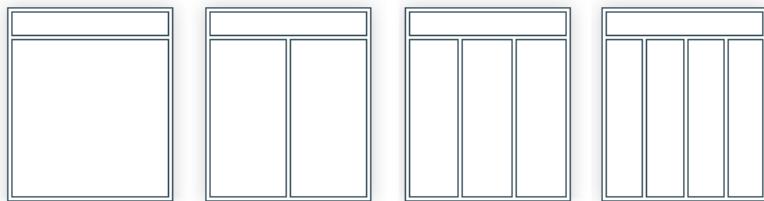


Figure 18. Valid Dashboard Layouts

Example Layout

A completed dashboard could look like the following.

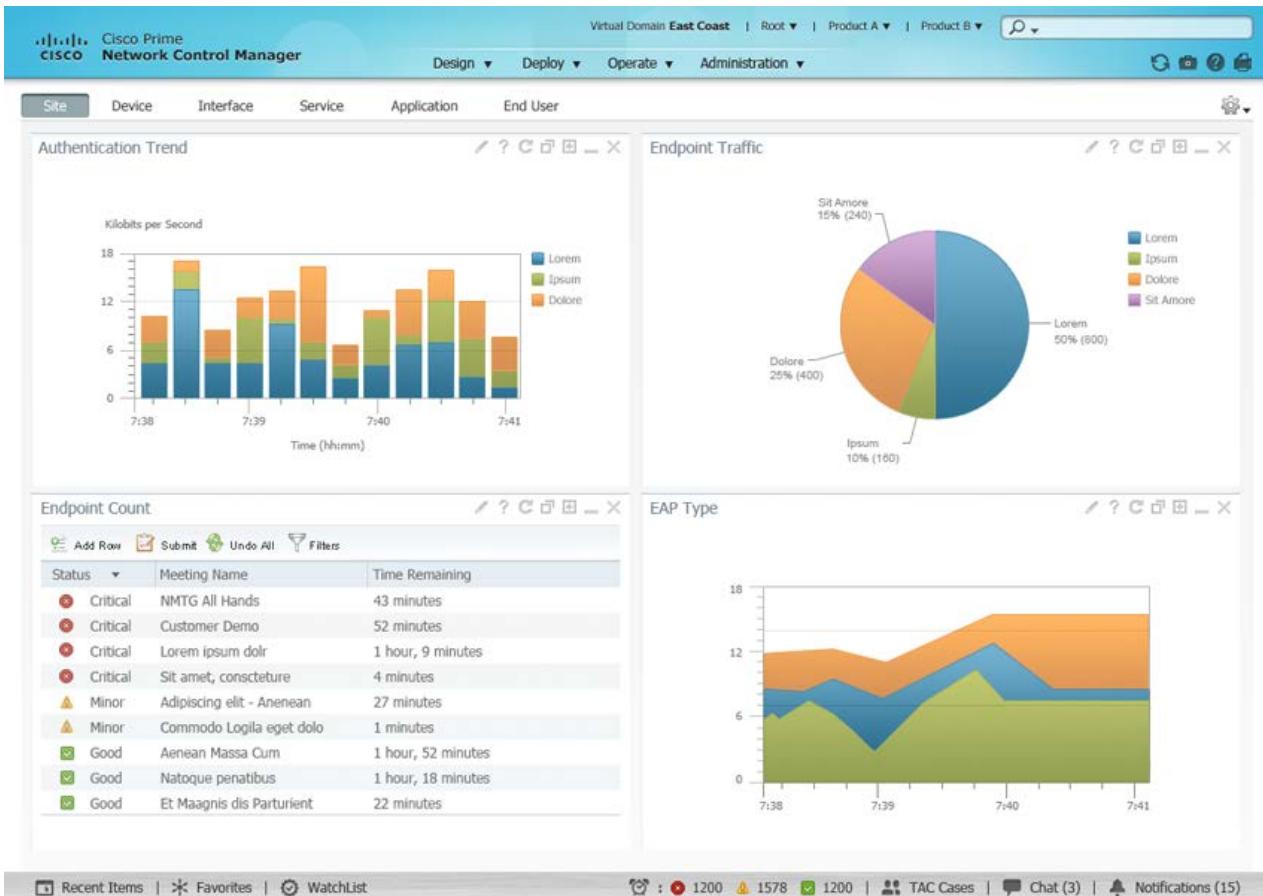


Figure 19. Example Dashboard Layout

Dimensional Constraints

In general the dashlet dimension should take on the size of the content. It should be large enough to display all the content without horizontal or vertical scrolling. The minimum and maximum dimensions are specified within the widget specifications.

Horizontal Constraints

The contents of the dashlet may not exceed the width of the column it is in. For instance, if a chart is too big to fit in the current dashlet, the dashlet will be resized to fit the entire content and all the remainder dashlets within the same dashboard will resize to the same width. The browser horizontal scrollbar will be displayed. Do not "crunch" the content to fit the space, and do not use horizontal scrollbars within dashlets.

- In general, there is no minimum and maximum dimension guidelines.
- For charts, the minimum and maximum size are part of the Chart specifications.
- For tables, there is a minimum and maximum row display guidelines in the Tables specifications.

Vertical Constraints

There is no vertical constraint. The height of the dashlet will scale to accommodate the content. The vertical constraints are part of the widget inside the dashlet.

- For tables, the row display option is, by default, set by the developers but user can customize. The dimensional constraints or guidelines are in the table specs.
- For charts, the vertical constraint is set by the horizontal constraints. Charts grow proportionally so when the horizontal is met, the vertical is proportional to it.

Elements of a Dashboard

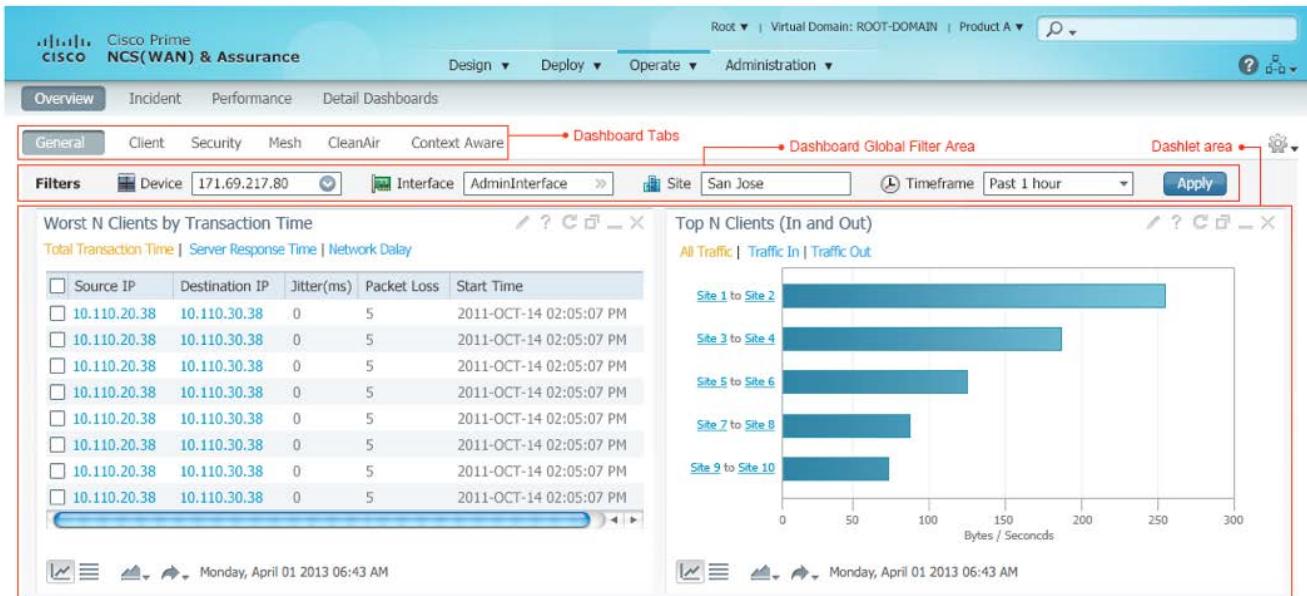


Figure 20. Elements of a Dashboard

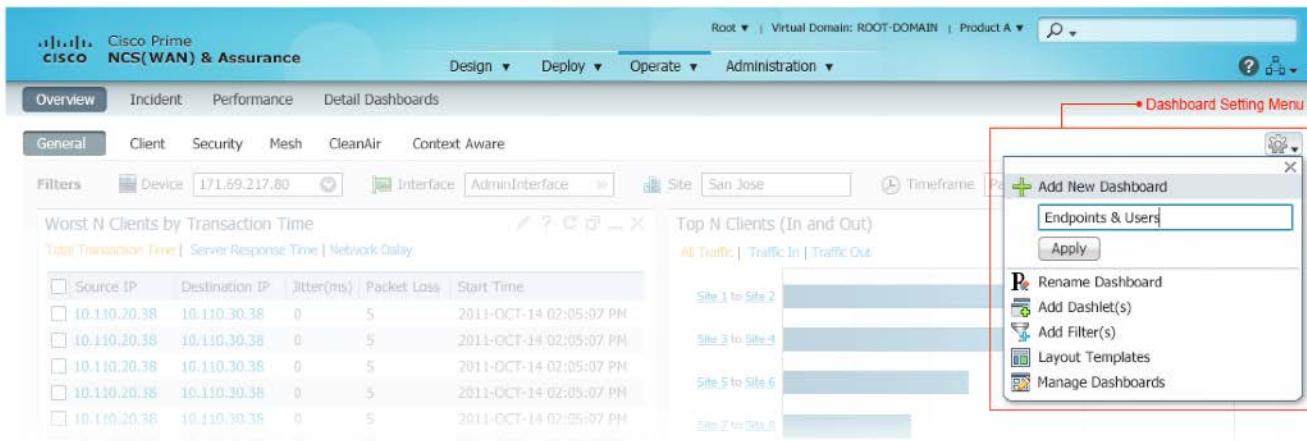


Figure 21. Dashboard Menu Setting

Element	Inclusion	Notes
Dashboard Tabs	Optional	Each dashboard is a tab in the Context Tab
Dashboard Global Filter	Optional	A list of filters is located on top of the dashlet area
Dashboard Setting Menu	Optional	Drop-down icon is located in the right toolbar of the main menu bar. Hovering over the drop down icon displays the setting menu.

Dashlet Area	Required	No wrapper / background. Dashlets float in one of the four available layouts.
Table 5. Elements of a Dashboard		

Dashboard Global Filters

Dashboard Global Filter Area consists of one or more Dashboard Global Filters. It is located in the area between Dashboard Tabs and Dashlet Area.

Elements of Dashboard Global Filters

Dashboard Global Filter consists of four parts:

- Filter Badge : an graphical icon to indicate the filter
- Requirement Indication : an asterisk * sign to indicate whether the filter is a required filed
- Filter Title : the title of the filter
- Filter selection widget : the filter selection widget could be a quick picker, drop down box, text box, and anchor overlay.



Figure 22. Elements of Dashboard Global Filter

Element	Inclusion	Notes
Filter Badge	Required	TBD
Requirement Indication	Optional	TBD
Filter title	Required	TBD
Filter Selection Widget	Required	TBD

Table 6. Elements of Dashboard Global Filters

Dashboard Global Filter Badge

Dashboard Global Filter Badge shows on the Dashboard Global Filter Area and the Dashlet title area behind the Dashlet title of the Dashlets which are correspondent to the Dashboard Global Filter. Here is the list of the current available badges:

Badge	Description
	Application filter
	Client filter

Device filter
Interface filter
Site filter
Time Frame filter
Cluster filter

Table 7. Dashboard Global Filter Badge List

When to Use

Dashboard Global Filters are used in following situation:

- When the dashboard needs to have a context to present the data in dashlets
- When the dashboard needs to provide a quick way to

How to Use

The user sets up the Dashboard Global Filters by selecting the options of the filters, and then clicks on GO button in the right most to trigger the filtering action. After the user clicks on GO button, the page will be refreshed with dashlets in the right data set.

Filtered Result

The result of the Dashboard Global Filters will be based on AND operator of all the filters. For example, in the following filter, the content of the dashlets on the dashboard will be in the scope of Client IP equals to 10.1.12.14, and Time frame equals to Past 1 Hour on any Application.

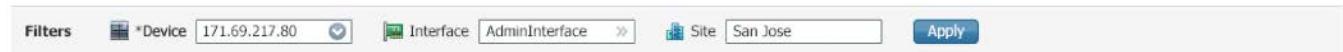


Figure 23. Filters in Dashlet Settings

Dashboard Setting Menu

The Dashboard Setting Menu icon is located within the right toolbar of the Main Menu Bar. It's a drop-down icon with the following menu items: Add New Dashboard, Rename Dashboard, Add Dashlet(s), Layout Template, and Manage Dashboards. Hovering over the drop-down icon displays the setting menu. Clicking on each menu item expands that section to allow user to perform the task. The menu is dismissed upon an explicit click on the close icon in the upper right corner.

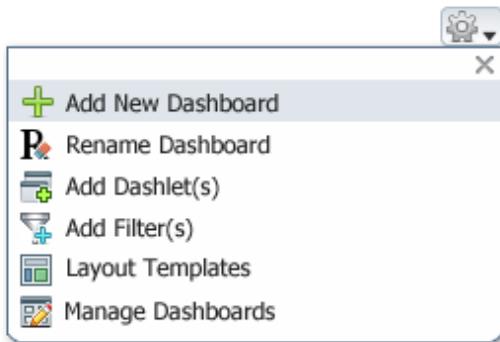


Figure 24. Dashboard Setting Menu

Add New Dashboard

Creates a new dashboard subscription (new page is blank/unpopulated by default) and add it as a new dashboard to the Context Tab.

Rename Dashboard

Renames the currently displayed dashboard.

Add Dashlet(s)

Adds dashlets to the current dashboard by selecting or by drag-and-drop into the Dashlet Area. Hovering over the label will highlight the label and display the gripper to provide users with a visual indicator that the drag-and-drop function is available. The user can drag-and-drop the dashlet anywhere inside the dashlet area of the dashboard.

Multiple instance of the dashlet can be added to the same dashboard. The user can add multiple instances by drag-and-drop the label into the dashlet area or by clicking on the Add link to the right of the label multiple times. The count number will increase with each instance added. The instance count is shown in parenthesis immediately to the right of the label. If there is no instances of a dashlet in the dashboard, the count will not be shown.

Manual Add behavior

- Clicking the Add link will add an instance of that dashlet into the dashlet area immediately below the last currently existing dashlet.
- If the one column template is used, the new dashlet instance will be added as the last dashlet.
- If multiple columns template is used, the new dashlet instance will be added to the end of the last column.
- For multiple column templates, when there is no currently existing dashlet in the dashboard (a new or empty dashboard), each new dashlet is added to the end of the first column. The behavior is exactly as the single column template. Only once the user has repositioned the dashlets into multiple columns, adding a new dashlet will be added to the end of the right most column.

Drag-and-Drop Add behavior (Not yet implemented)

- Drag-and-drop the dashlet label into position anywhere within the dashlet area of the dashboard. When the label is dragged into the dashlet area, the closest acceptable drop area will be indicated by the invitation to drop.

Hovering over each label displays the Quick View panel which provides a thumbnail sketch of the dashlet and brief information on that dashlet to help aid the user in the selection process.

The dashlets can be categorized into logical groupings. Clicking on the arrow will expand or collapse the group.

Dashlets can be repositioning within the dashlet area by drag-and-drop the dashlet's title bar. Refer to the Drag-and-Drop section below.

Layout Templates

Selects one of the four layout templates: 1 Col, 2 Col, 3 Col, and 4 Col

The dashlet will be laid out based on the template selected. Each dashboard can have a different layout template.

Manage Dashboards

Manages the order position of the dashboards and deleting of dashboards.

Dashlet

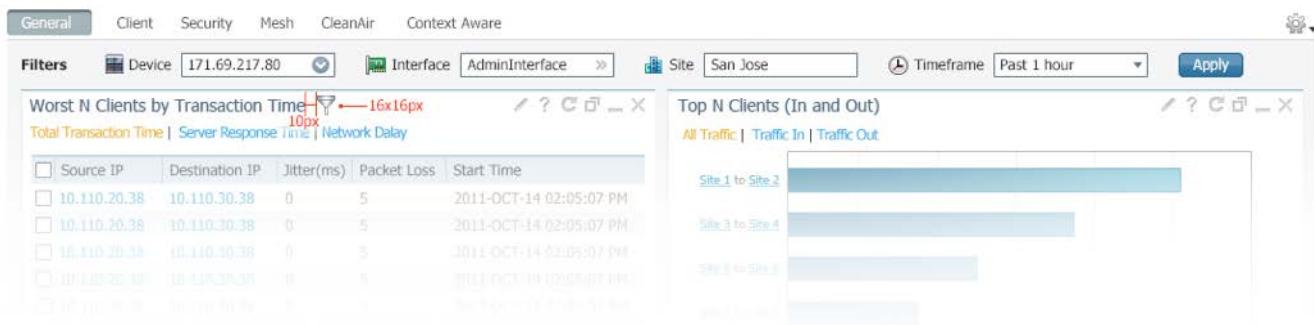
- Widget: a term commonly used for a small component that accesses data from outside the data's source application.
Carries a more low-end, consumer oriented association.
- Gadget: similar to widget, but with a stronger desktop association.
- Portlet: a term commonly used for a sub-component of a portal that can talk to other components on its page.
- Channel: a term similar to module, representing a generic selection of information placed within a dashboard.

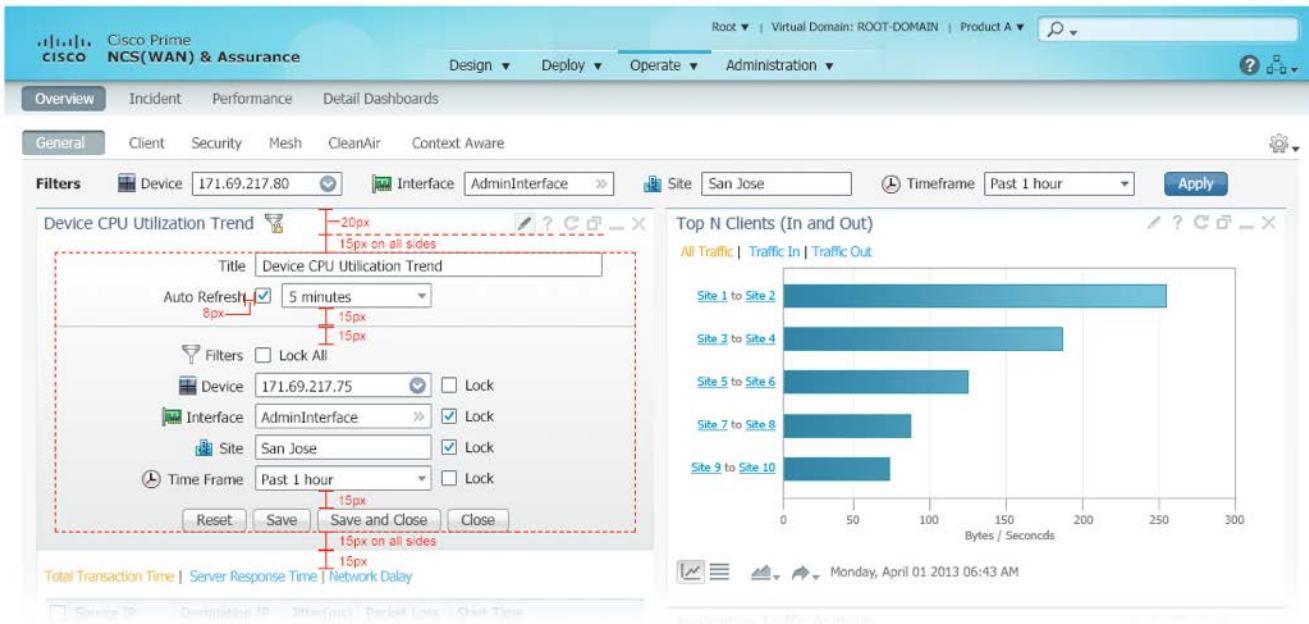
Each term above carries certain implications and varying interpretations, and those terms should not be used within this specification.

Dashlets are used to monitor specific aspects of system health and functionality. Since a dashlet can encompass any of the above behaviors it will always be generically referred to as a "dashlet".

Content

Each dashlet contains content that provides a meaningful representation of data to the user. This content may come from within the application itself, from an outside data source, or may be a combination of both.





The screenshot shows the Cisco Prime NCS(WAN) & Assurance interface. At the top, there's a navigation bar with tabs for Design, Deploy, Operate, and Administration. Below the navigation is a main dashboard area with several dashlets:

- Device CPU Utilization Trend:** A configuration panel for a specific device (171.69.217.80) and interface (AdminInterface). It includes fields for Site (San Jose), Timeframe (Past 1 hour), and a toolbar with icons for edit, help, copy, and close.
- Top N Clients (In and Out):** A chart showing traffic volume between various site pairs over the last hour. The chart has a blue gradient and a scale from 0 to 300 Bytes / Seconds.
- Client Count By Association/Authentication:** A chart showing the count of associated wireless and wired clients over time. The chart uses orange bars and shows a peak around 20:00.
- Lower Bar:** A footer bar with icons for refresh, search, and other navigation, along with the date and time (Monday, April 01 2013 06:43 AM).

Elements of a Dashlet

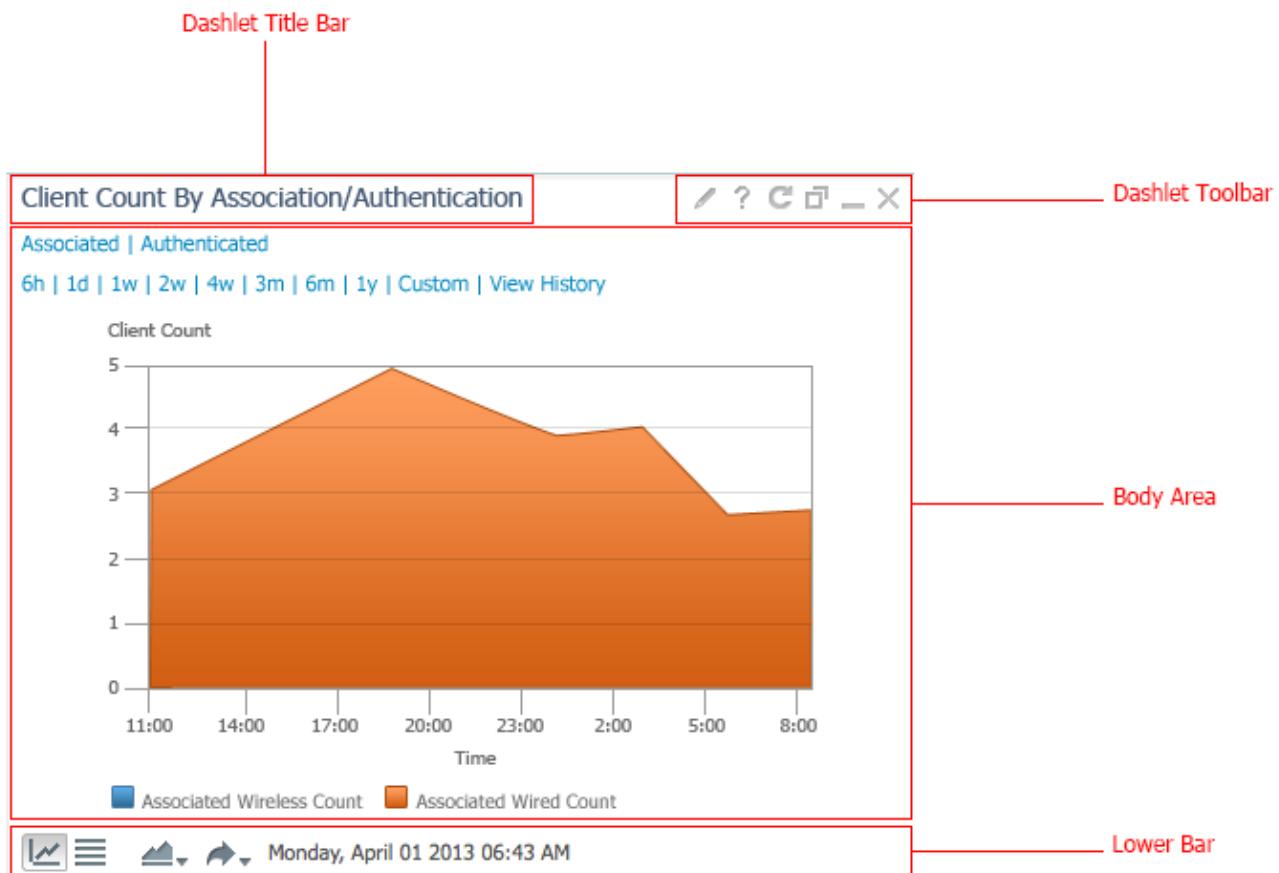


Figure 25. Elements of a Dashlet

Element	Sub-element	Inclusion	Alt/Hover	Notes
---------	-------------	-----------	-----------	-------

Dashlet Title Bar		Required	N/A	
	Dashlet Title	Required	N/A	Duplicate of 'link to all', but not visually shown as a link.
	Dashlet Subtitle	Optional	N/A	Displayed adjacent to dashlet title separated by a hyphen. User-customizable sub title to differentiate duplicated modules.
	Dashlet Filter Badges	Optional	N/A	Displayed adjacent to dashlet title separated by a hyphen. User-customizable sub title to differentiate duplicated modules.
Dashlet Toolbar		Required	N/A	
	Edit Icon	Optional	Edit this Module	Provides users the ability to change settings within a dashlet.
	Manual Refresh Icon	Optional	Refresh	Allows users to refresh individual dashlet contents.
	Detach	Optional	Detach	Replicates the dashlet and opens in another window.
	Collapse/Expand Icon	Optional	Collapse/Expand	Use this function only on dashboards which are very full and have potential screen space problems. Rather than removing the dashlet from the page, the collapse icon allows a user to change the state of the dashlet. The collapsed view will hide the body area from view, and toggle the icon state from a collapse icon to an expand icon.
				If a dashlet is collapsed, clicking the expand icon returns the dashlet to its original state.
	Maximize/Restore Icon	Optional	Maximize/Restore	Provides users the ability to maximize a dashlet. When maximized switches to a Restore Icon.
				If a dashlet is maximized, clicking the restore icon returns the module to its original state.
	Close Icon	Optional	Remove	Removes the dashlet from the dashboard, after which it will be available on the Dashboard setting menu.
	Help Icon	Optional	Help	Provides access to a help system for the dashlet.
		Optional	N/A	
Body Area		Required	N/A	Can contain most components in the family except navigation components (ie: primary tabs, secondary tabs, navigation panes). Dashlets are correctly used to present data, not to navigate an application.
Lower Bar		Optional	N/A	Inclusion of this status bar is highly recommended.
	Display Option Toggle Button	Optional	Chart, Table	The dashlet supports multiple display options. Application teams can use this function to allow users to toggle between different display options (table, charts, list, etc)
	Informational Text	Optional	N/A	Shows any information or highlighted settings for the dashlet. For example, if viewing a report: Last 24 Hours, Last Week, Last Month. Or last updated timestamp.

Action Area	Optional	N/A	Provides a deep, immediate link to that area of the application. Suggestions of text to create this link include: See All View Details View More
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Table 8. Elements of a Dashlet

Dashlet Toolbar Icons

Title bar icons provide quick access to common dashlet actions, such as Edit, Help, Refresh, Detach, Minimize/Maximize, Collapse/Expand, and Close.

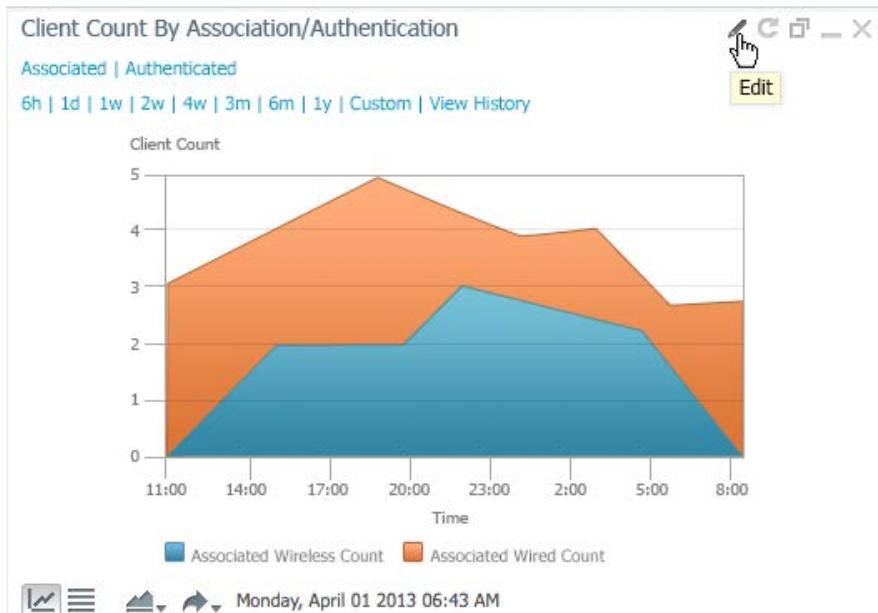


Figure 26. Tooltip for Dashlet Toolbar

Name	Icon	Tooltip Text
Edit		Edit
Help		Help
Refresh		Refresh
Detach		Detach
Collapse/Expand		Collapse/Expand
Close		Close

Table 9. Dashlet Title Bar Icons

Edit

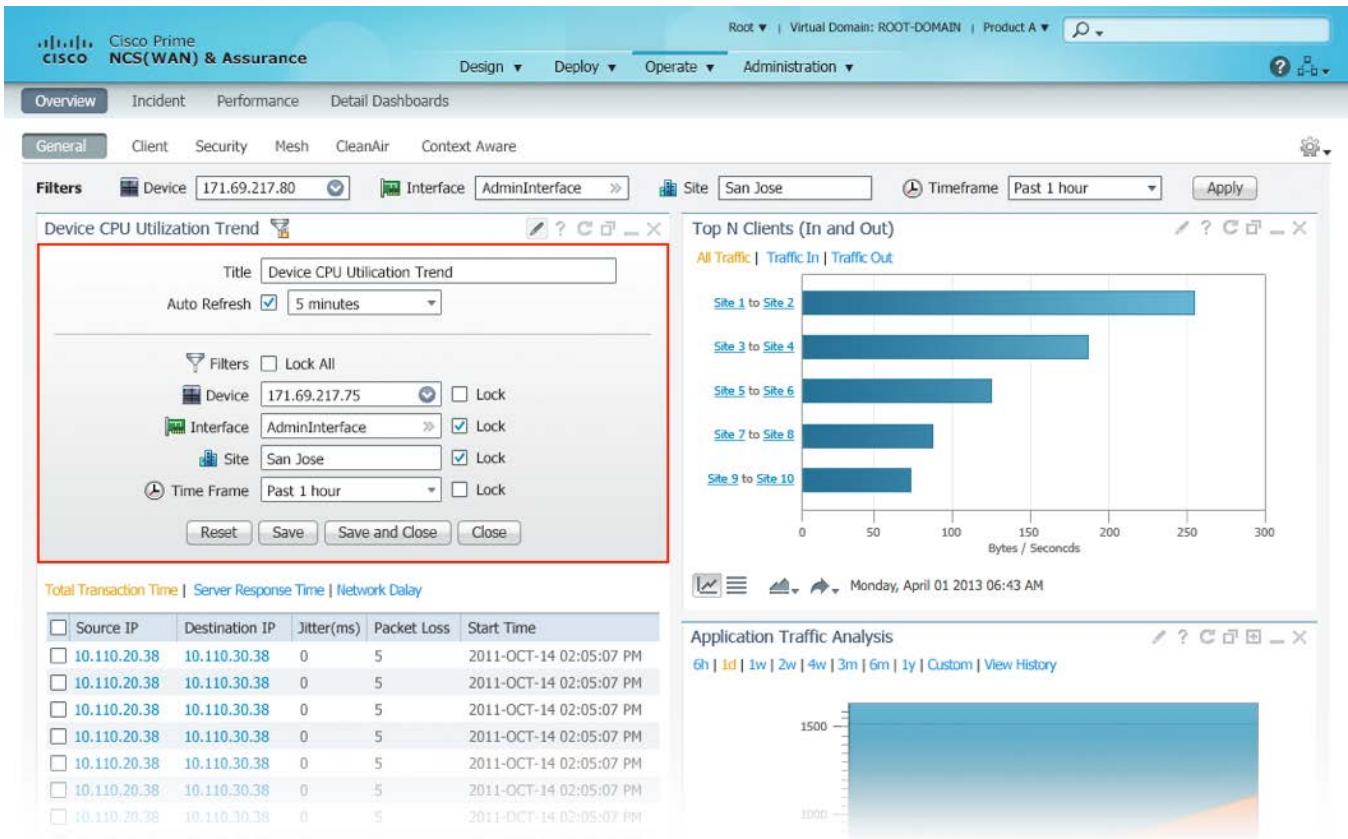


Figure 27. Dashlet Edit Region

By using the optional edit icon, users have the ability to change certain view settings within a single dashlet. After clicking the edit icon, an edit region comes down into view (via animation). The edit region comes down into view, pushing the rest of the dashlet's contents down. There should always be a Reset button to go back to default settings.

For example the user may be able to change the units or timeframe used in the view. Additionally, user may input custom titles for a dashlet. This is useful primarily when a user creates multiple instances of the same module and wishes to apply different view settings, such as "East Coast" and "West Coast".

Dashboard Global Filters in Dashlet Settings

Dashboard Global Filters should be also shown in Dashlet Settings for the user to customize the Dashlet with different settings for either one time only view, or lock and save the settings to avoid the Dashlet settings to be overwritten by the Global settings in the future.

Refresh/Auto Update

In addition to the optional manual refresh title bar icon, auto update/refresh may be valueable for some uses. If a dashlet has options for auto-updating, provide those options to the user in the dashlet edit screens discussed below. It is up to the development team to decide appropriate options, but possible options include:

- Enable auto update? (Checkbox)
- Update interval: (Dropdown)

Lock Dashlet Settings for Dashboard Global Filters

When the user does not want his/her Dashlet settings to be overwritten by the Global Filters, the user can lock the filter settings on Dashlet in Dashlet Settings.

All the listed filters should be listed as the options under Filter Lock for the user to lock the current settings on the Dashlet, and avoid the settings to be overwritten by the Global Filters.

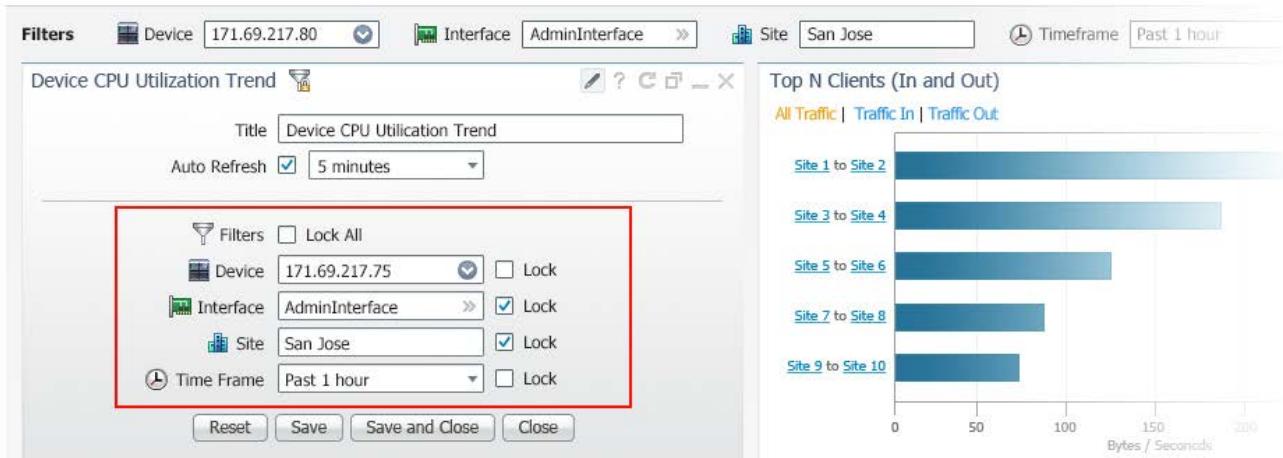


Figure 28. Lock Dashlet Settings

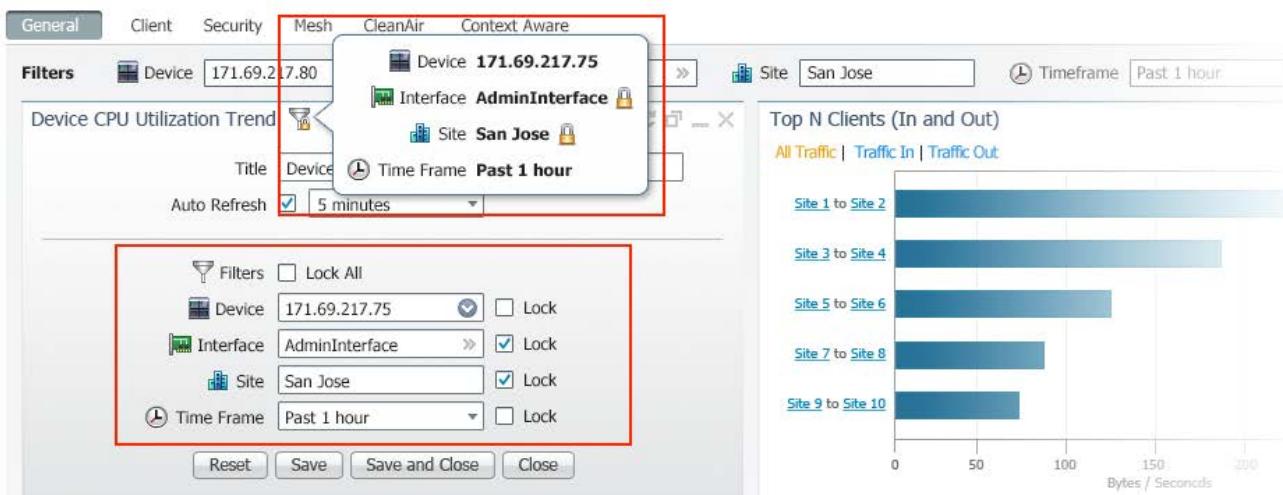


Figure 29. Dashlet Settings Locked

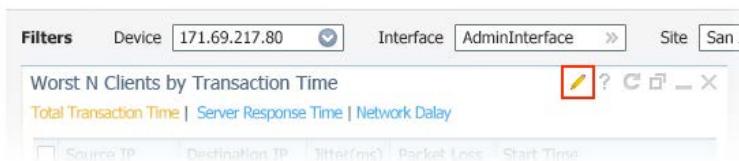


Figure 30. Dashlet Settings Locked

Detach

Replicates the dashlet and opens it in another window.

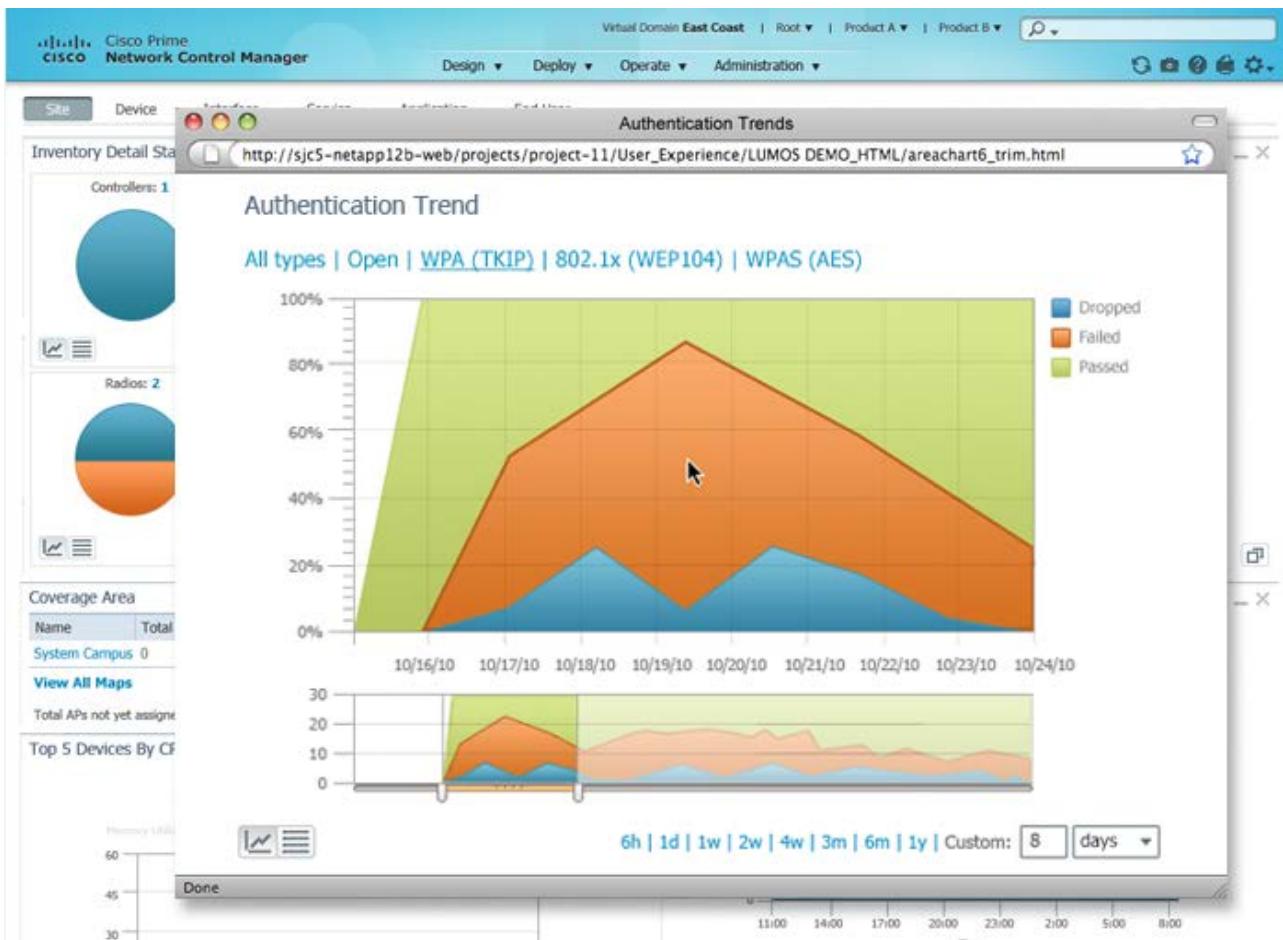


Figure 31. Detached dashlet in new window

Clicking the collapse icon reduces the dashlet (via animation) to only a title bar and status bar (if applicable). Clicking expand returns the dashlet back to its original size (via animation).

Close

The close icon on each dashlet is one of the mechanisms provided to remove a dashlet from a user's dashboard. Once a user removes a dashlet, they lose all custom settings for that dashlet. Always provide a user with the following confirmation when they click the close icon.

- A dialog box with a warning message.
- "Are you sure you want to remove this dashlet? You will lose any custom settings you have applied."

If a user wishes to add the dashlet at a future time, they can add the original dashlet, and manually re-apply their custom settings.

Lower Bar

The Lower Bar provides additional space to provide the Display Option toggle button, timestamp, and links to more information when needed.

2009 Dec 30 12:30:30 PST

[See All](#)

Figure 32. Dashlet Lower Bar

Behavior — Moving a dashlet with Drag and Drop

Dashlets may be rearranged on a page using drag and drop. Using the handle area, a user can drag a dashlet to a new location on the dashboard.

Settings

The Dashboard/Dashlet Customization features in Dashboard Setting Menu and Dashlets Customization area should be able to be enabled and disabled based on the Role Based Access Control (RBAC) settings. There could be four levels of the settings to control the user privilege in different level

- Full Access: The user is allowed to change settings on Dashboard Setting Menu, use drag and drop to change Dashlet arrangement on a Dashboard, and also change Dashlet settings by clicking on Edit icon on Dashlet title bar.
- Limited Access: The user is not allowed to change the settings on Dashboard Setting Menu, but allowed to change the Dashlet arrangement on a Dashboard, and also change Dashlet settings by clicking on Edit icon on Dashlet title bar.
- Dashlet Only Access: The user is not allowed to change the settings on Dashboard Setting Menu and Dashboard arrangement. He/she can only change the Dashlet settings.
- No Access: The user is not allowed to change the settings on Dashboard Setting Menu, Dashboard arrangement, or Dashlet settings.

Access	Dashboard Settings	Dashlet Arrangement (drag-n-drop on Dashboard)	Dashlet Settings
Full Access	X	X	X
Limited Access		X	X
Dashlet Only Access			X
No Access			

Table 11. Access Control Levels

Note: RBAC might not support all four levels, however, the Dashboard framework should be able to handle the above four access control levels.

Full Access

The user is allowed to change settings on Dashboard Setting Menu, use drag and drop to change Dashlet arrangement on a Dashboard, and also change Dashlet settings by clicking on Edit icon on Dashlet title bar.

When the user has the Full Access, he/she will be able to see the Gear icon at the same level with dashboard tabs for him/her to pull down the Dashboard Editing Menu to customize the Dashboard based on his/her own needs.

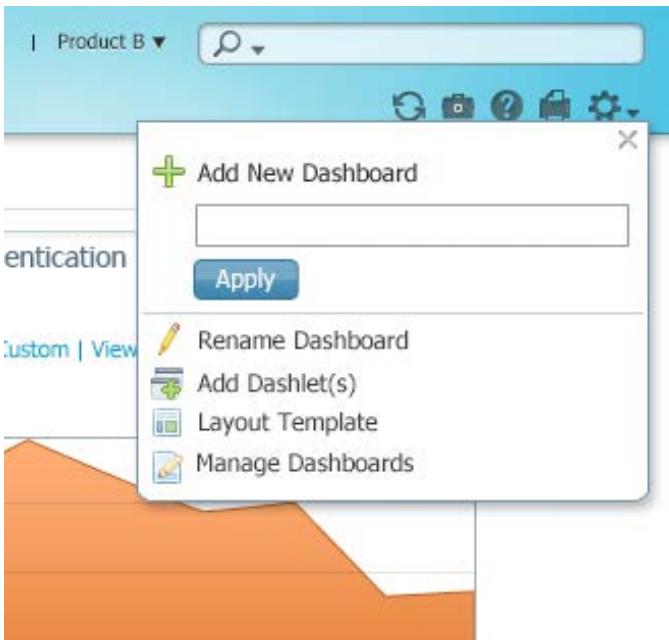


Figure 33. Full Access - Dashboard View

When the user mouse over the Dashlet title bar, the user can drag the Dashlet and drop it off to the location that the user desires.

Limited Access

The user is not allowed to change the settings on Dashboard Setting Menu, but allowed to change the Dashlet arrangement on a Dashboard, and also change Dashlet settings by clicking on Edit icon on Dashlet title bar.

The user will not see the Gear icon for the user to perform any features on the Dashboard Editing Menu.

- When the user mouse over the Dashlet title bar, the user can drag the Dashlet and drop it off to the location that the user desires.
- On Dashlet, when the user mouse over the title bar, the Edit icon will show up for user to change the Settings of the Dashlet.

Dashlet Only Access

- User is not allowed to change the settings on Dashboard Setting Menu and Dashboard arrangement. He/she can only change the Dashlet settings.
- The user will not see the Gear icon on the Global tool bar for the user to perform any features on the Dashboard Editing Menu.
- When the user mouse over the Dashlet title bar, the user can not drag and drop the Dashlet. The cursor icon will be changed to hand cursor.
- On Dashlet, when the user mouse over the title bar, the Edit icon will show up for user to change the Settings of the Dashlet.

No Access

- The user is not allowed to change the settings on Dashboard Setting Menu, Dashboard arrangement, or Dashlet settings.

- The user will not see the Gear icon on the Global tool bar for the user to perform any features on the Dashboard Editing Menu.
- When the user mouse over the Dashlet title bar, the user can not drag and drop the Dashlet. The cursor icon will be changed to hand cursor.
- When the user mouses over the Dashlet Title Bar, the user will not see the Edit icon available for the user to edit the Dashlet settings.

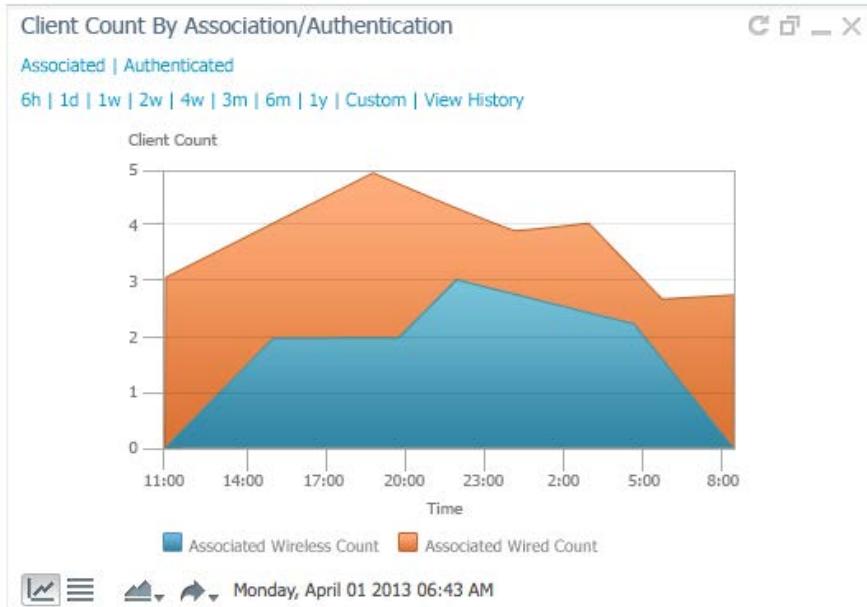


Figure 34. No Access – Dashlet Title Bar View

Dashboard Export

Design Problem

Allow user to export the entire dashboard with one click. The report may be used to export the most current information displayed on the dashboard to further share with more members or may be used to make analyze the data. The dashboard can be exported as in PDF or CSV format.

Solution

Allow user to export an entire dashboard in one click. Option to export as PDF or CSV is available. User would click on the gear icon and it shows the option for Export.

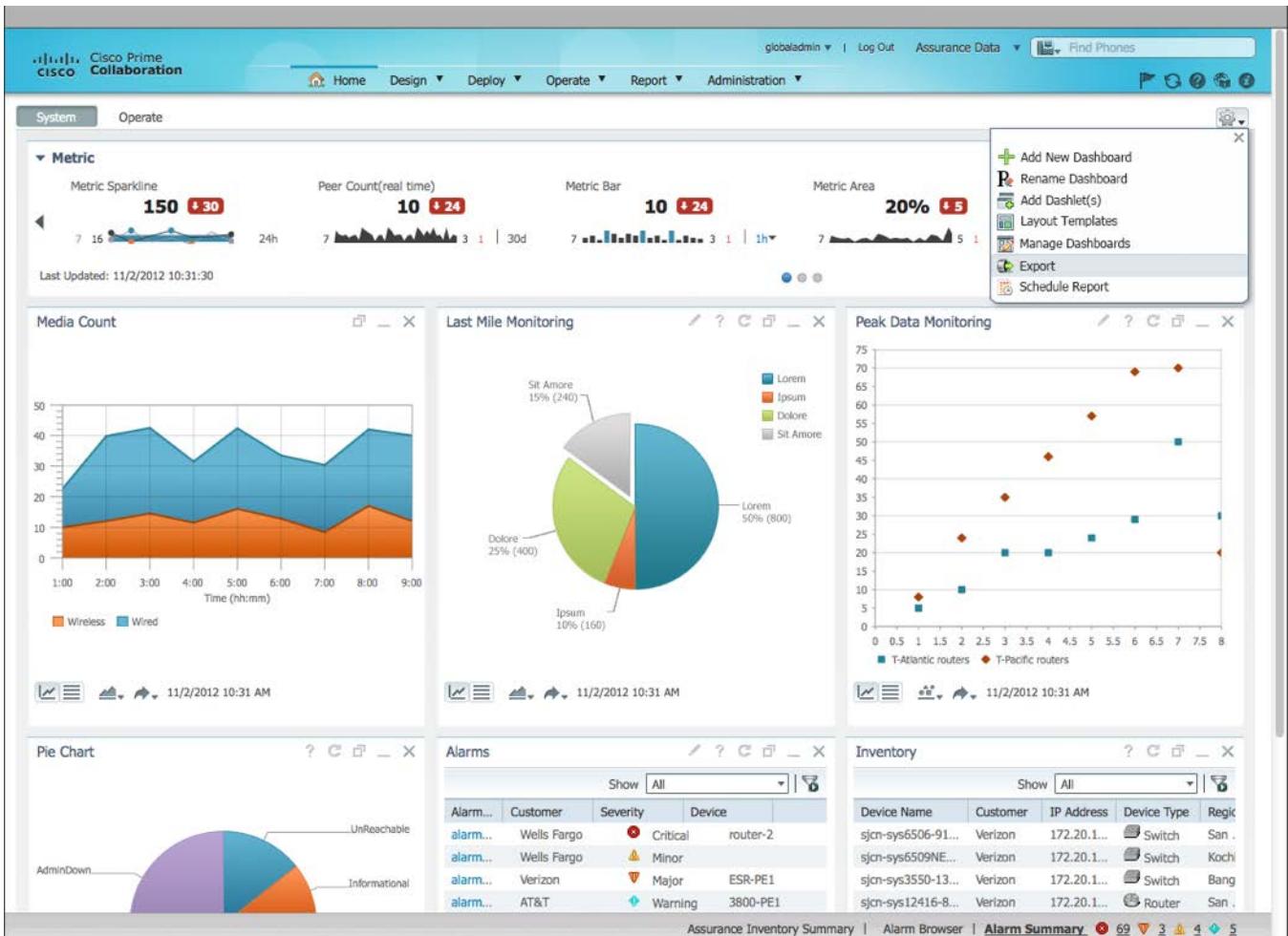


Figure 35. Dropdown options shown under the gear icon.

Allows the user to select the Export option. The dialog allows the user to select or deselect one or more dashlets to export. By default when the dashboard is exported all the dashlets are selected.

User can click "Export" to begin the export. To cancel, they can click the "x" or click cancel

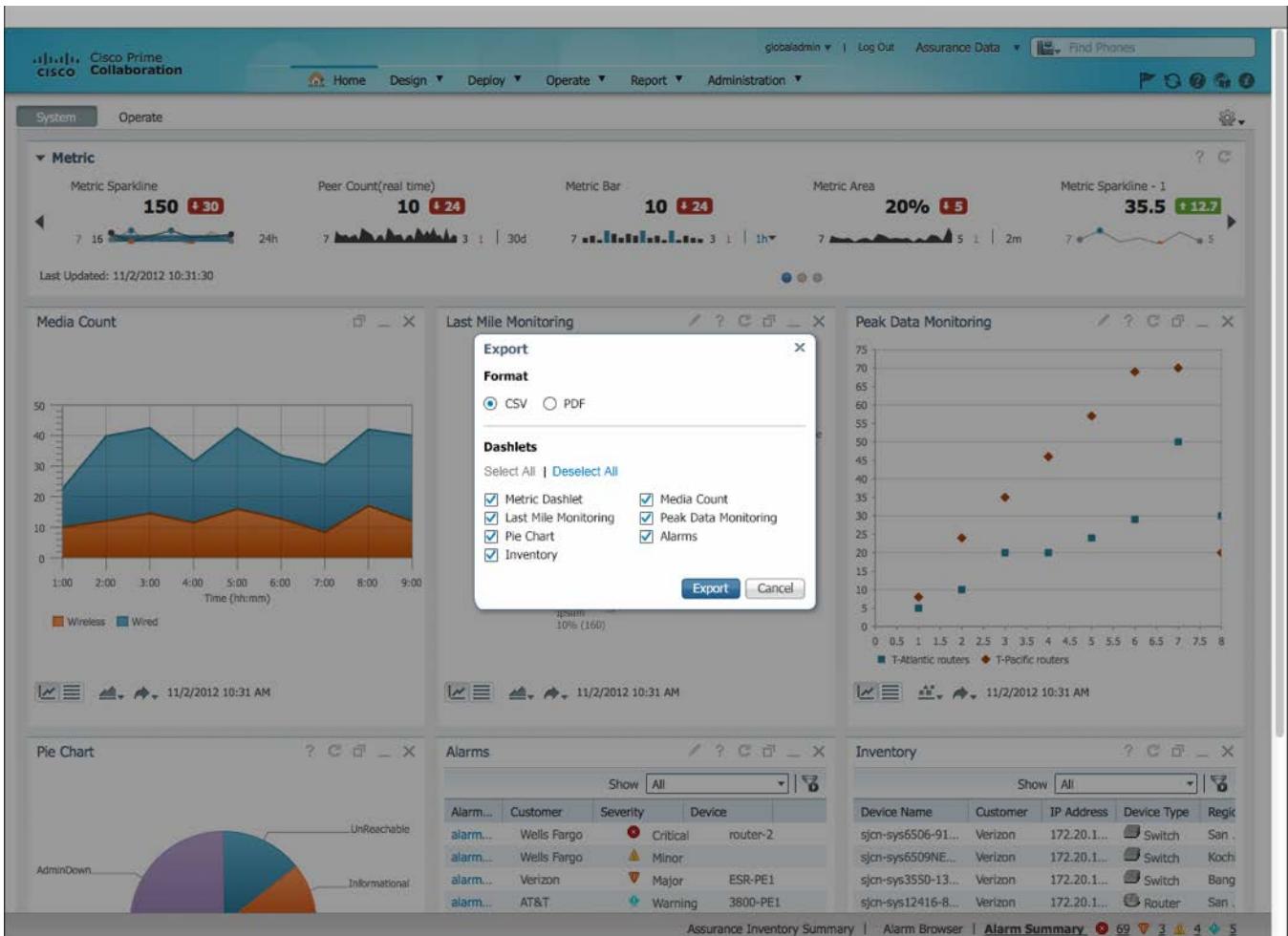


Figure 36. Export dialog.

The dashboard framework has a limitation of exporting <X> rows per dashlet. If the dashlets that is getting exported has more than <X> rows, than a notification shows up along with the Export options.

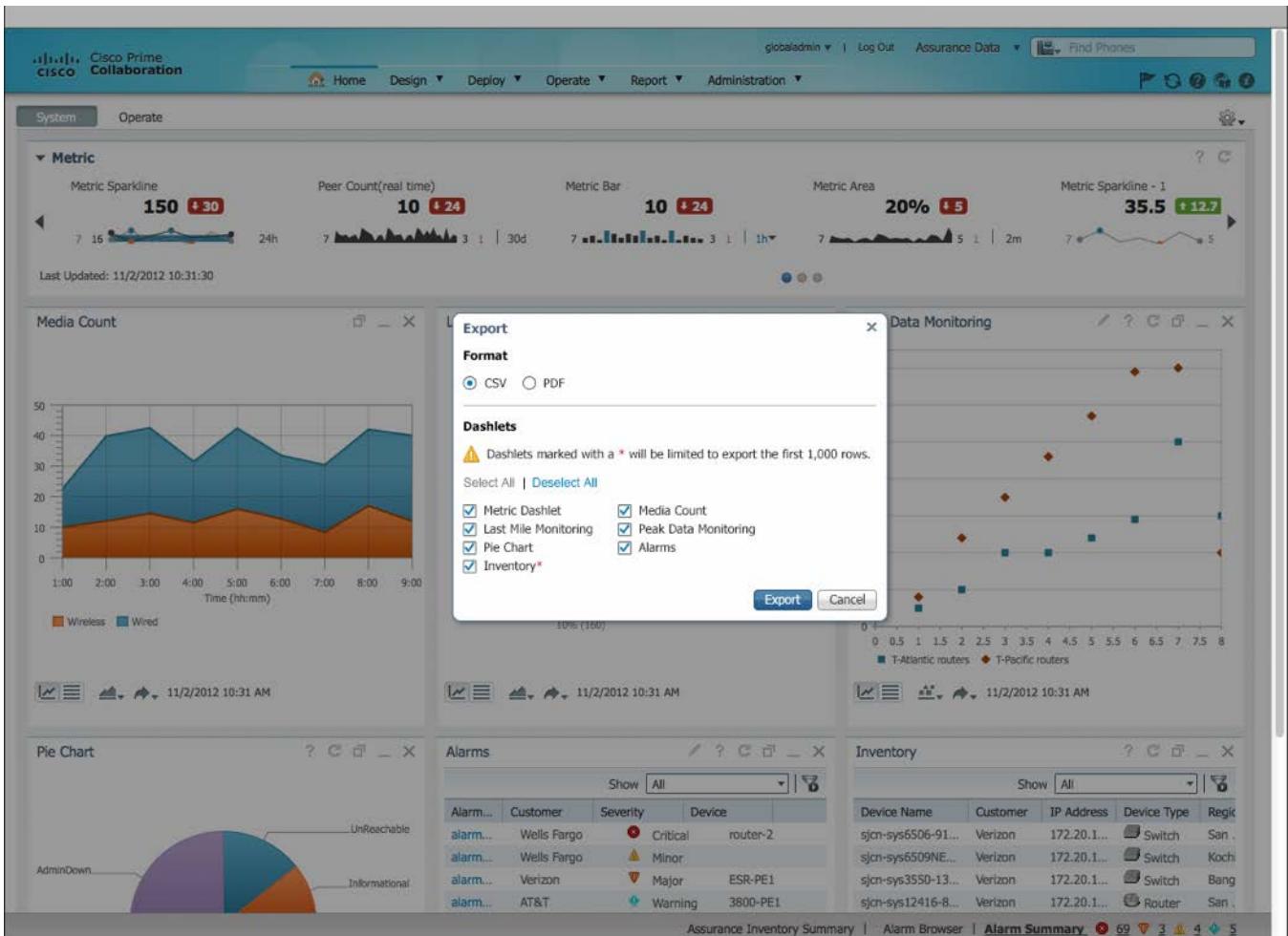


Figure 37. Export options showing limitations.

When the export begins a modal dialog is shown to the user informing them that they'll receive a notification when ready. This message allows user to continue to work while export is being processed. The window can be moved or would be floating. Clicking OK or the "X" closes the dialog and export continues to process.

User can choose to Cancel Export by clicking on the Cancel Export button. This will abort the export process.

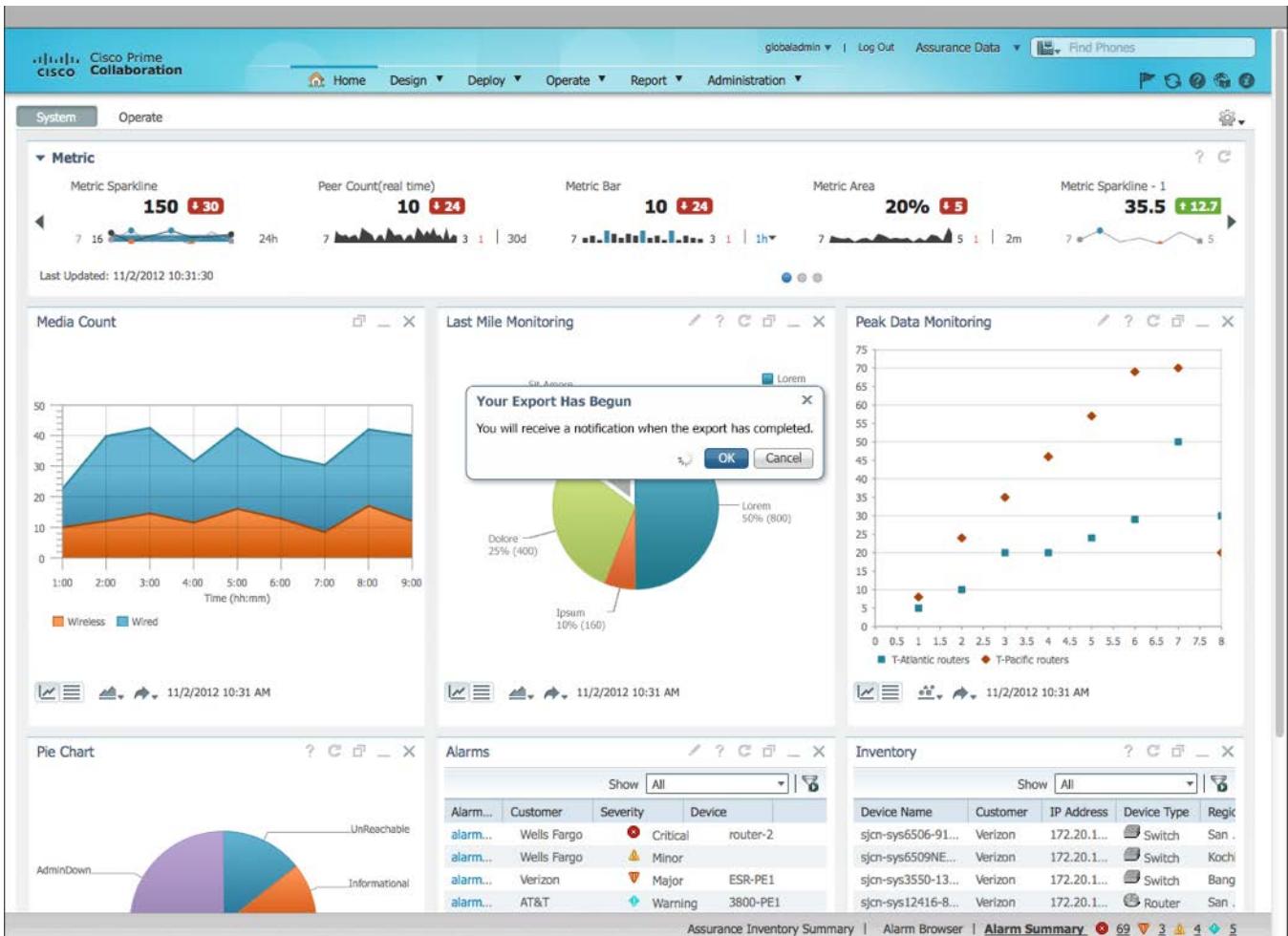


Figure 38. Cancel export option.

When export is ready, native browser/OS displays export and we also display toaster in app to ensure user is aware that potentially another tab/application opened. The toaster stays for longer duration so the user gets a chance to observe it if they are busy in other tasks.



Figure 39. Completed dashboard export notification displayed on a toaster.

Export Dashboard - PDF Format

Design Problem:

Allow the user to create an export of a dashboard. The export should contain the data/view he has currently selected. Dashlets can have a chart or as a grid view of that chart. Dashlet can also have a non-chart content (table).

Solution:

This document shows an example of cover page and dashlet when exported as a PDF.

When the dashboard gets exported, each dashlet is exported in a new page. The view is exported in landscape layout.

The cover page contains a header with Cisco logo and the Product Name.

The date and timestamp of export is printed on the first page. The name of the dashboard title is printed.

Each page contains a footer with Cisco copyright and page number.

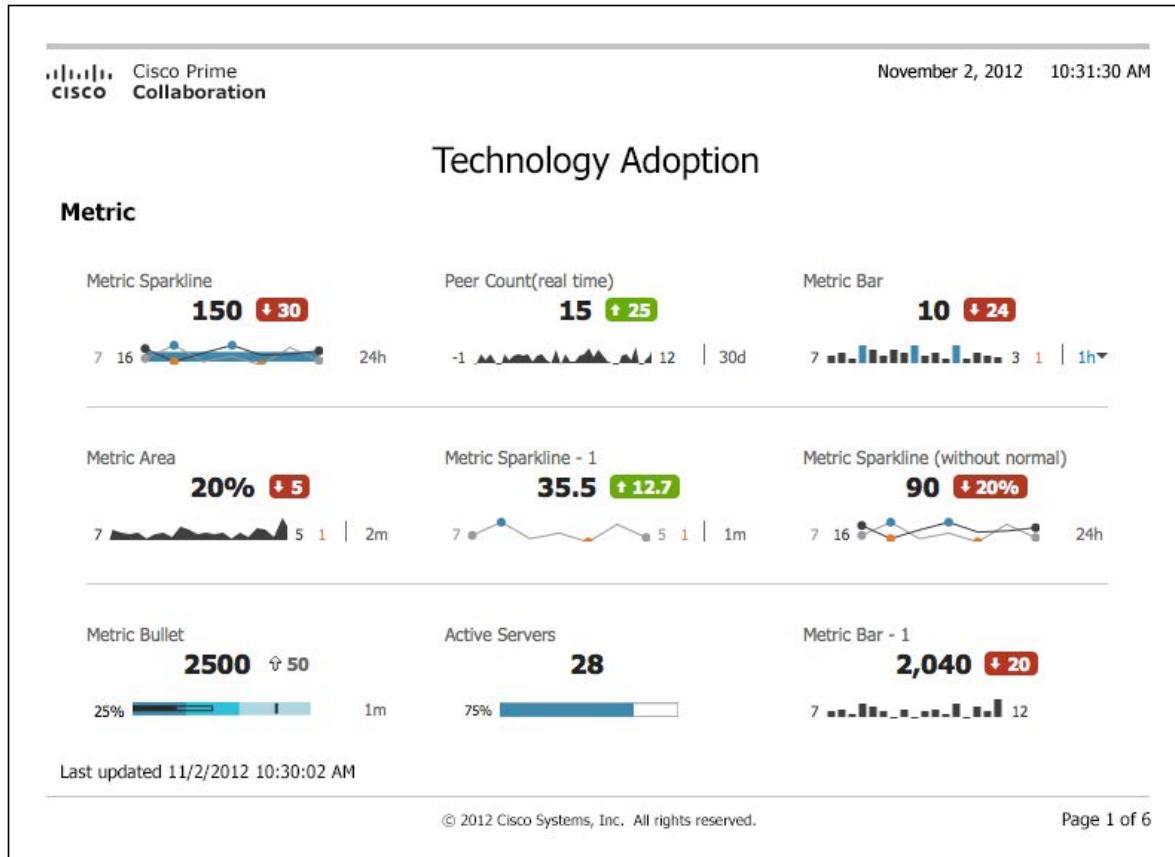


Figure 40. Dashboard with Metric Dashlet (3 dashlets are displayed in one row)

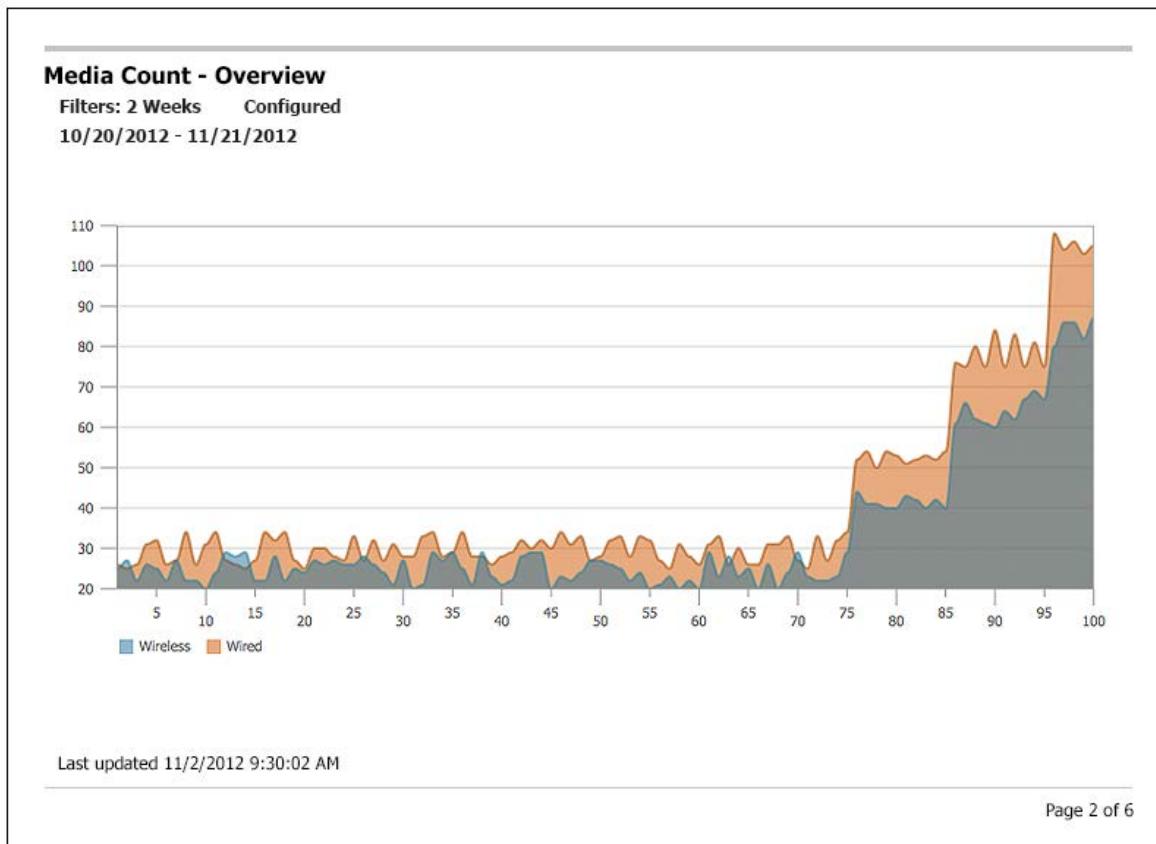


Figure 41. Dashlet shows the settings, chart image, last updated and footer with copyright and page number

Media Count - Chart Table		
Filters: 2 Weeks Configured		
10/20/2012 - 11/21/2012		
Records 1-15 of 30		
X	Wireless	Wired
1	25	26
2	27	25
3	22	26
4	26	31
5	25	32
6	22	26
7	27	27
8	22	34
9	22	26
10	20	31
11	24	34
12	29	27
13	28	26
14	29	25
15	22	27

Last updated 11/2/2012 9:30:02 AM

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Figure 42. Dashlet type when charts grid is in view and exported

Media Count - Chart Table		
Filters: 2 Weeks Configured		
10/20/2012 - 11/21/2012		
Records 16-30 of 30		
X	Wireless	Wired
16	27	30
17	26	30
18	27	28
19	26	27
20	26	33
21	28	27
22	26	32
23	24	27
24	21	31
25	27	28
26	20	28
27	21	33
28	29	34
29	27	28
30	29	29

Last updated 11/2/2012 9:30:02 AM

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Figure 43. Overflows to another page, if the number of rows does not fit on a single page. Displays row number on the top of each table

Inventory - Overview				
Records 1-17 of 200				
ID ▲		Device	IP Address	Device Type
1		sjcn-sys6506-91NPE	172.20.124.91	Cisco Catalyst 6506 IOS Switch
2		sjcn-sys6509NEBA-122NPE	172.20.124.122	Cisco Catalyst 6509-NEB-A IOS Switch
3		sjcn-sys3550-134UPE	172.20.124.134	Cisco Catalyst 3550 48 Switch
4		sjcn-sys12416-87CORE	172.20.124.87	Cisco 12416 Router
5		sjcn-sys12010-76CORE	172.20.124.76	Cisco 12010 Router
6		sjcn-syscrs1_16-41CORE	172.20.124.42	Cisco CRS1-16
7		sjcn-syscrs_8-80CORE	172.20.124.80	Cisco CRS1-8
8		sjcn-syscrs_8-79CORE	172.20.124.79	Cisco CRS1-8
9		sjcn-sys12416-88CORE	172.20.124.88	Cisco 12416 Router
10		sjcn-sys12404-72CORE	172.20.124.72	Cisco 12404 Router
11		sjcn-sys3550-214UPEdot1q	172.20.124.214	Cisco Catalyst 3550 48 Switch
12		sjcn-sys3550-213UPEdot1q	172.20.124.213	Cisco Catalyst 3550 48 Switch
13		sjcn-sys3550-212UPEdot1q	172.20.124.212	Cisco Catalyst 3550 48 Switch
14		sjcn-sys3550-211UPEdot1q	172.20.124.211	Cisco Catalyst 3550 48 Switch
15		sjcn-sys6506-91NPE	172.20.124.91	Cisco Catalyst 3550 48 Switch
16		sjcn-sys6509NEBA-122NPE	172.20.124.122	Cisco Catalyst 6509 IOS Switch
17		sjcn-sys3550-134UPE	172.20.124.134	Cisco Catalyst 6509 IOS Switch

Last updated 11/2/2012 9:30:02 AM

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Figure 44. Example of a dashlet which is a non-chart table. The displayed data in each column never gets truncated. It always wraps to show all the text. Displays images if present in the table

Inventory - Overview			
Records 1-17 of 200			
Version	SysName	IsSendingAlarms	Element Type
12.2(33)SRB2	SMITH	false	Cisco Catalyst 6506 IOS Switch
12.2(20080605:055316)	JOHNSON	false	Cisco Catalyst 6509-NEB-A IOS Switch
12.1(22)EA4	WILLIAMS	false	Cisco Catalyst 3550 48 Switch
3.5.0	JONES	false	Cisco 12416 Router
3.4.1	BROWN	false	Cisco 12010 Router
3.5.3	DAVIS	false	Cisco CRS1-16
3.4.2	MILLER	false	Cisco CRS1-8
3.6.1	WILSON	false	Cisco CRS1-8
3.4.1	MOORE	false	Cisco 12416 Router
12.0(32)S6	TAYLOR	false	Cisco 12404 Router
12.2(35)SE5	ANDERSON	false	Cisco Catalyst 3550 48 Switch
12.1(14)EA1a	THOMAS	false	Cisco Catalyst 3550 48 Switch
12.1(13)EA1c	JACKSON	false	Cisco Catalyst 3550 48 Switch
12.2(44)SE2	WHITE	false	Cisco Catalyst 3550 48 Switch
12.2(33)SRB2	SMITH	false	Cisco Catalyst 3550 48 Switch
12.2(20080605:055316)	JOHNSON	false	Cisco Catalyst 6509 IOS Switch
3.4.1	MOORE	false	Cisco Catalyst 6509 IOS Switch

Last updated 11/2/2012 9:30:02 AM

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Figure 45. Overflows to another page, if the number of columns do not fit on a single page. Displays row number on the top of each table

Visual Specification - Export Dashboard Multiple Page PDF Format

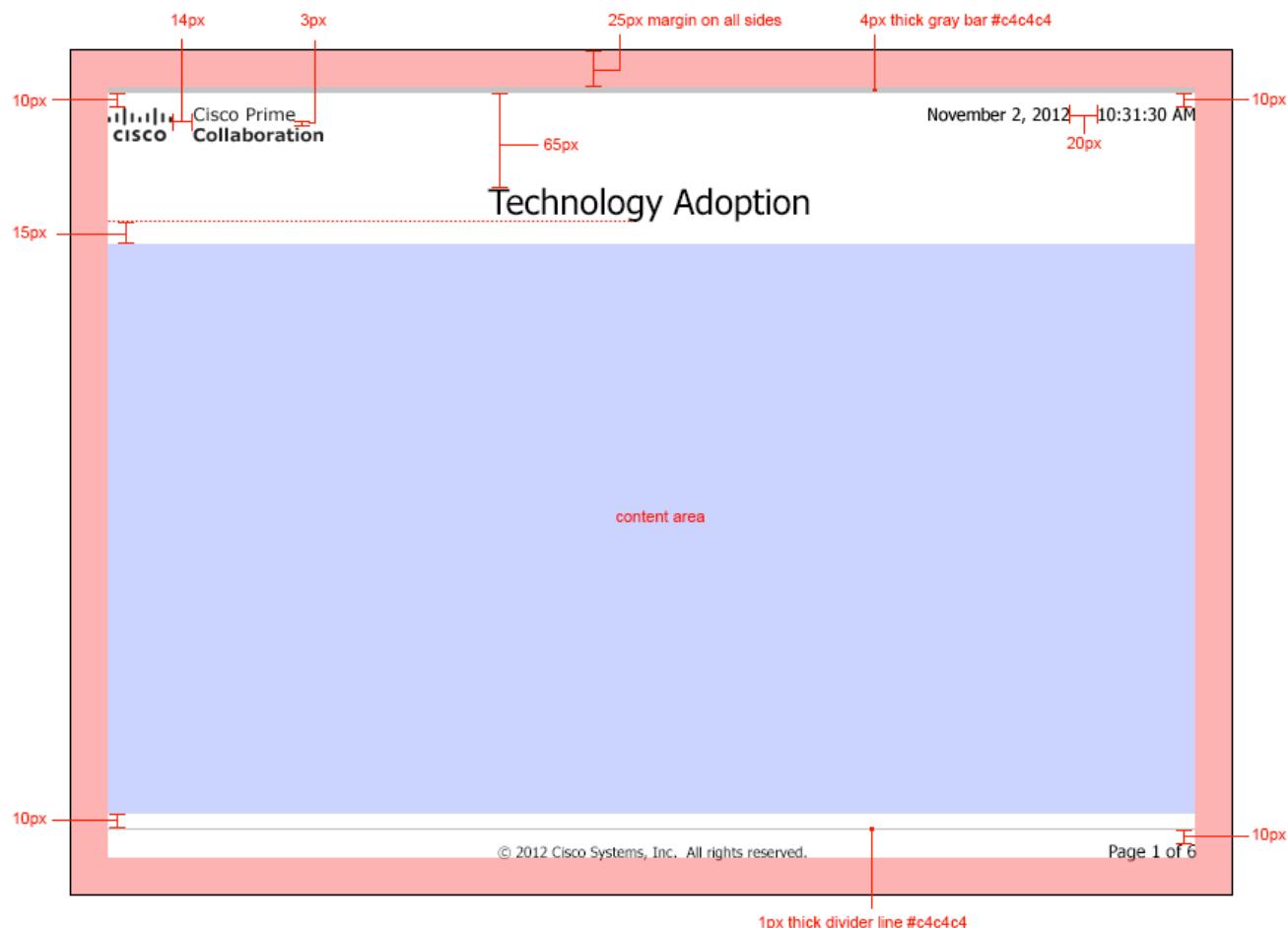


Figure 46. Cover page visual specification

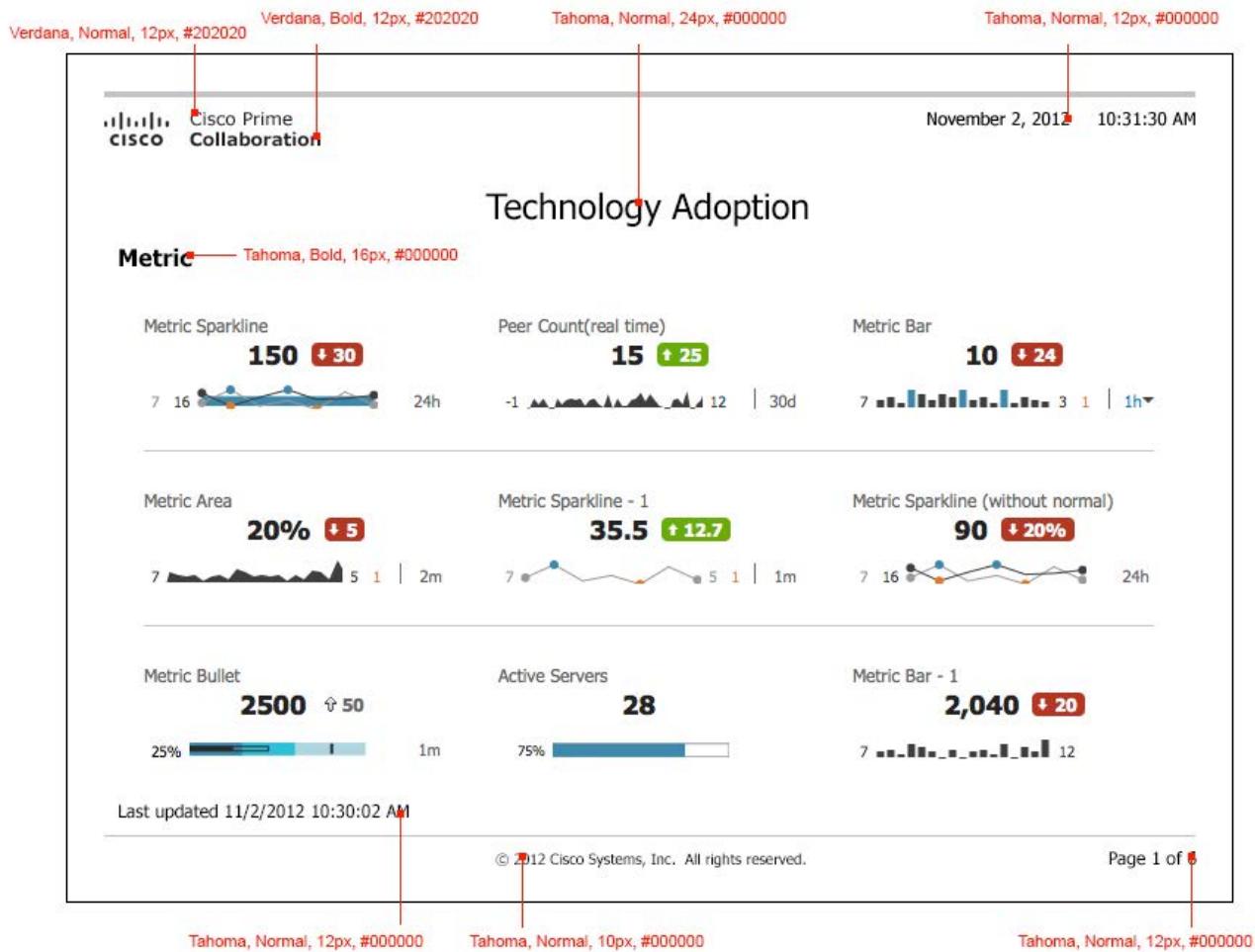


Figure 47. Cover page visual specification continued

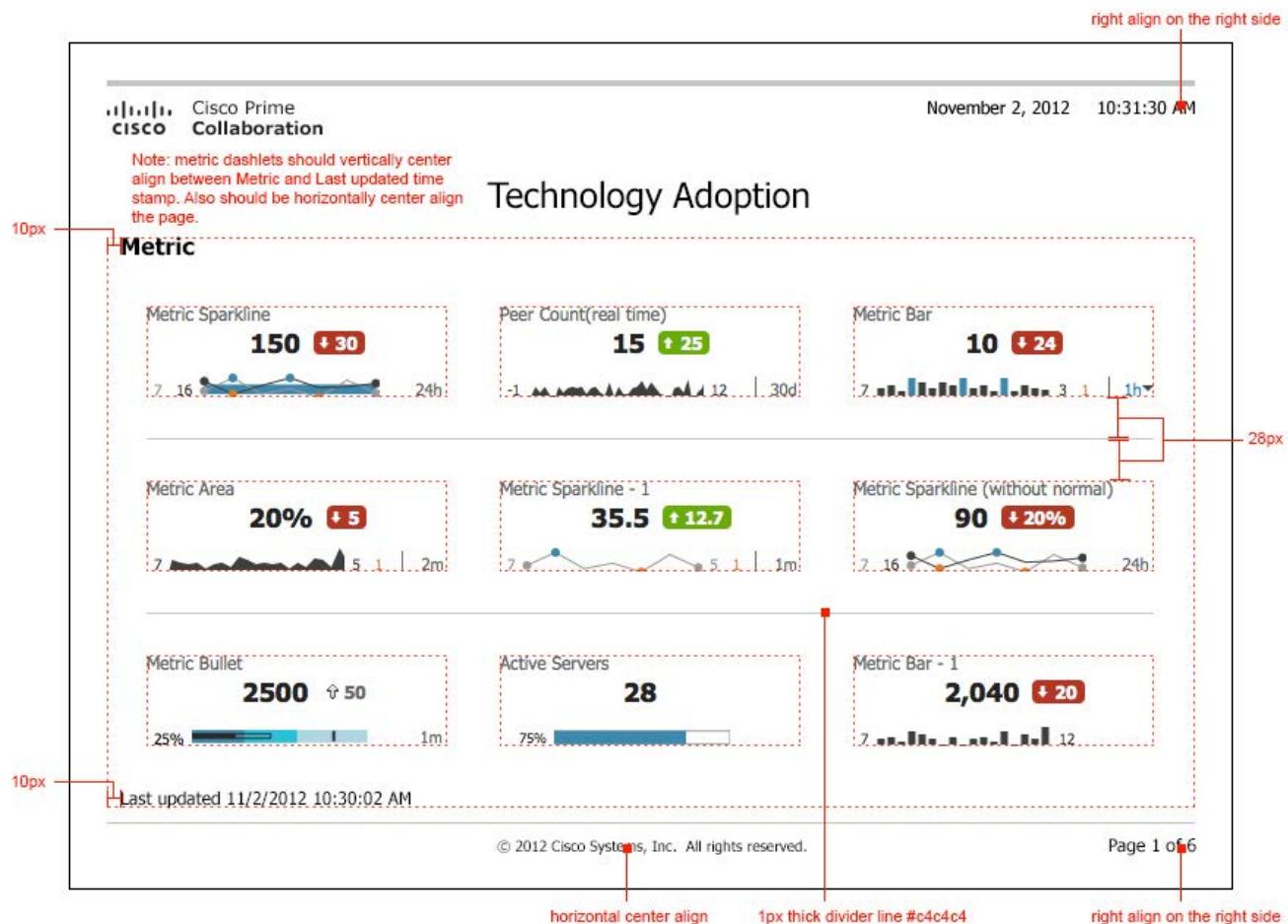


Figure 48. Cover page visual specification continued

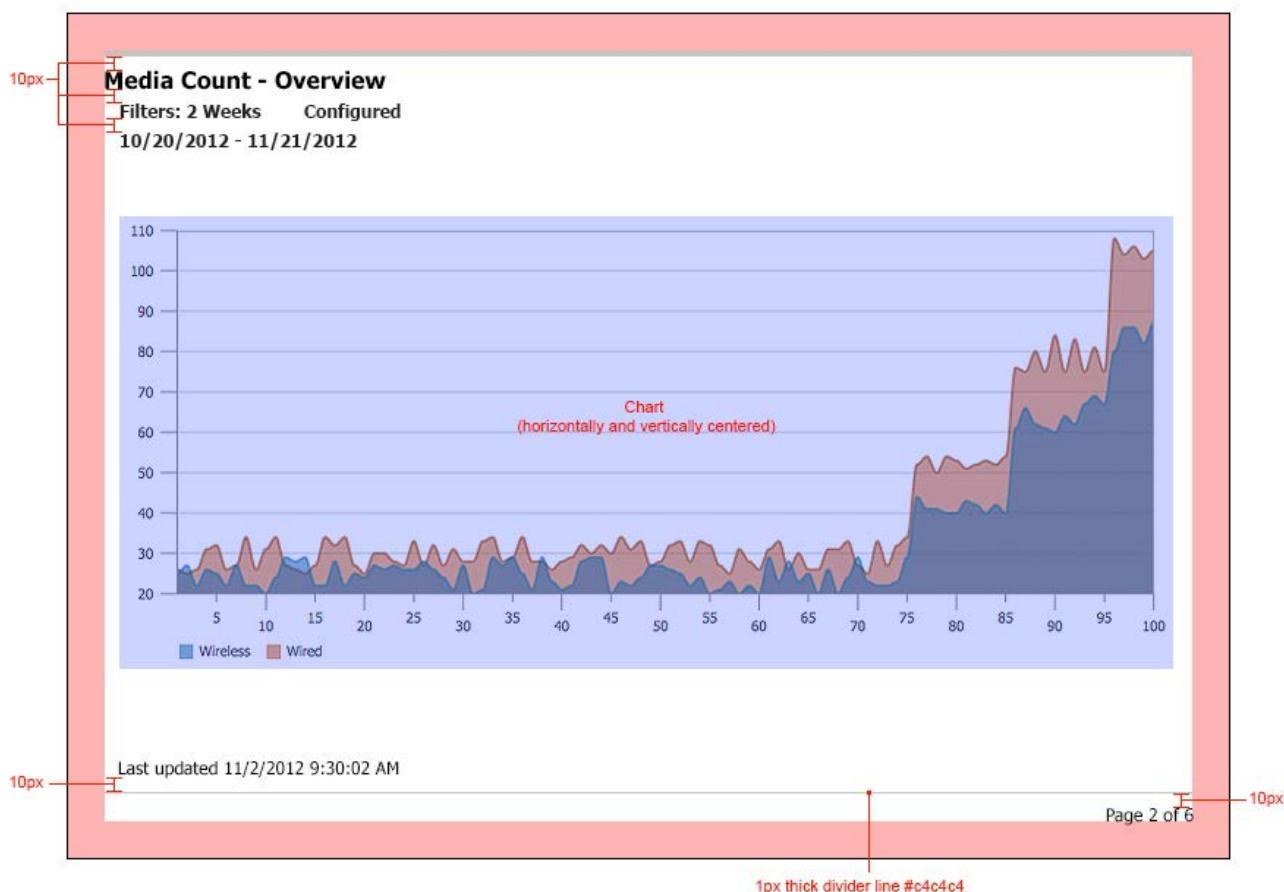


Figure 49. Media Count Overview visual specification



The diagram illustrates the visual design of the 'Media Count - Chart Table' page. It features a light gray header bar at the top with the title 'Media Count - Chart Table', filter information ('Filters: 2 Weeks Configured'), and a date range ('10/20/2012 - 11/21/2012'). Below the header is a table titled 'Records 1-15 of 30' with columns for 'X', 'Wireless', and 'Wired'. The table rows show data points from X=1 to X=15. A red callout box highlights the word 'Chart' with the note '(horizontally and vertically centered)'. At the bottom left is a timestamp ('Last updated 11/2/2012 9:30:02 AM'). On the right side, there is a vertical red bar with a red callout pointing to the text 'Page 3 of 6'. Red arrows and text labels indicate 10px padding on the left and right sides, and a 1px thick divider line at the bottom.

X	Wireless	Wired
1	25	26
2	27	25
3	22	26
4	26	31
5	25	32
6	22	26
7	27	27
8	22	34
9	22	26
10	20	31
11	24	34
12	29	27
13	28	26
14	29	25
15	22	27

Figure 50. Media Count Chart Table visual specification

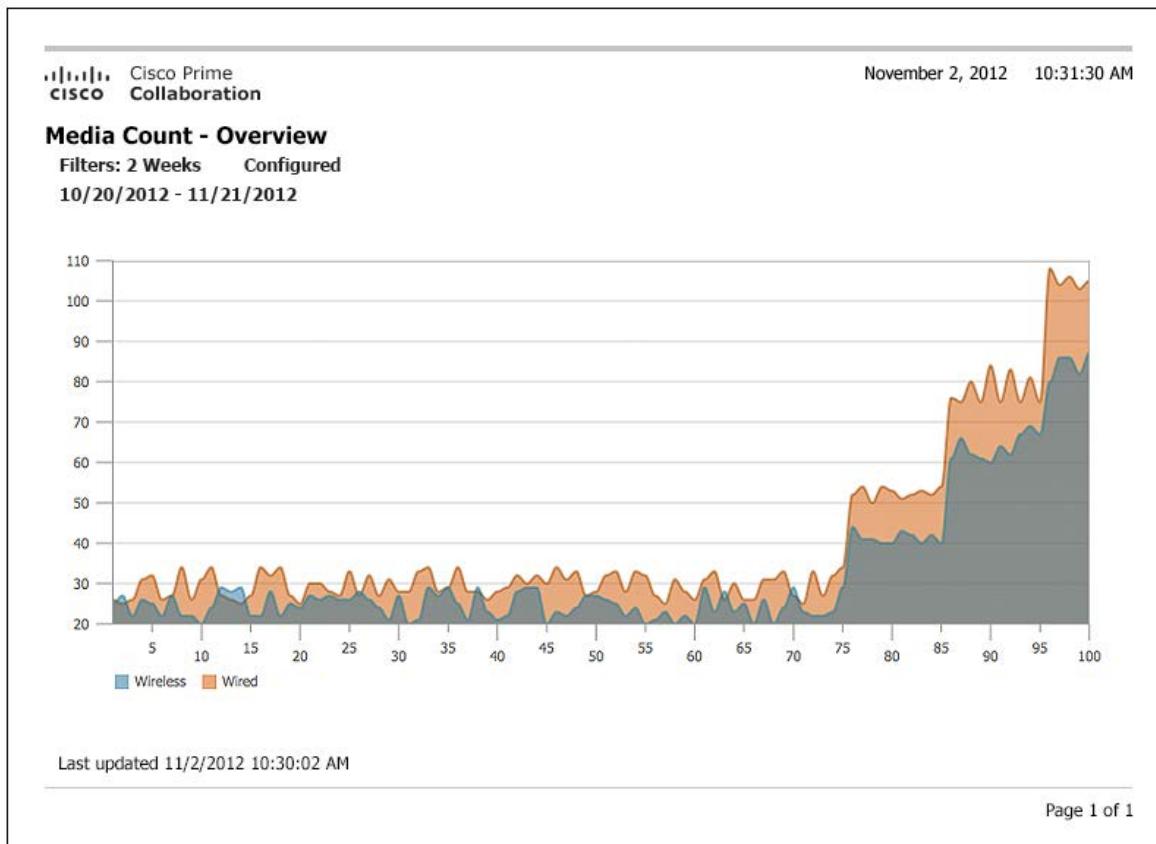


Figure 51. Single cover page layout

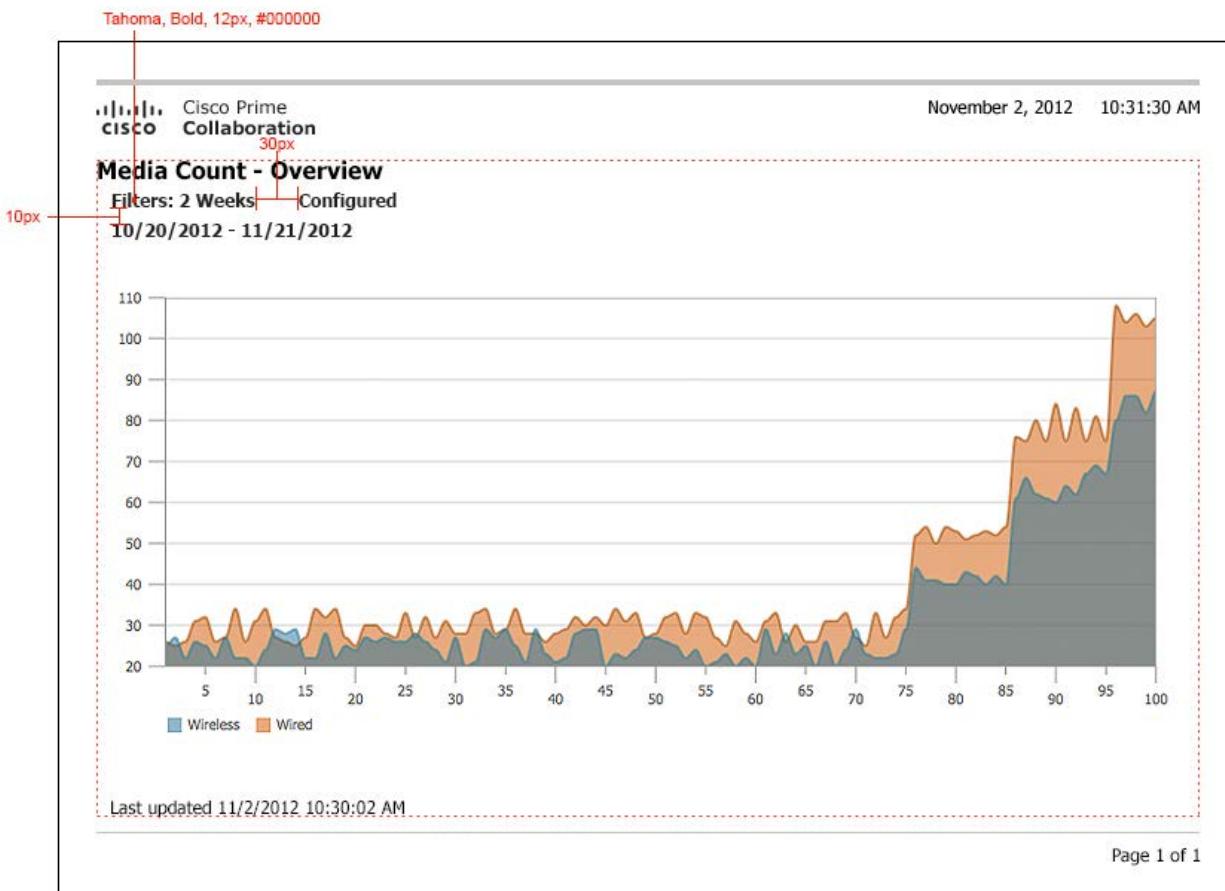


Figure 52. Single cover page visual specification

PDF Export Function



Figure 53. Export function from Dashlet



Figure 54. Export function from Quickview

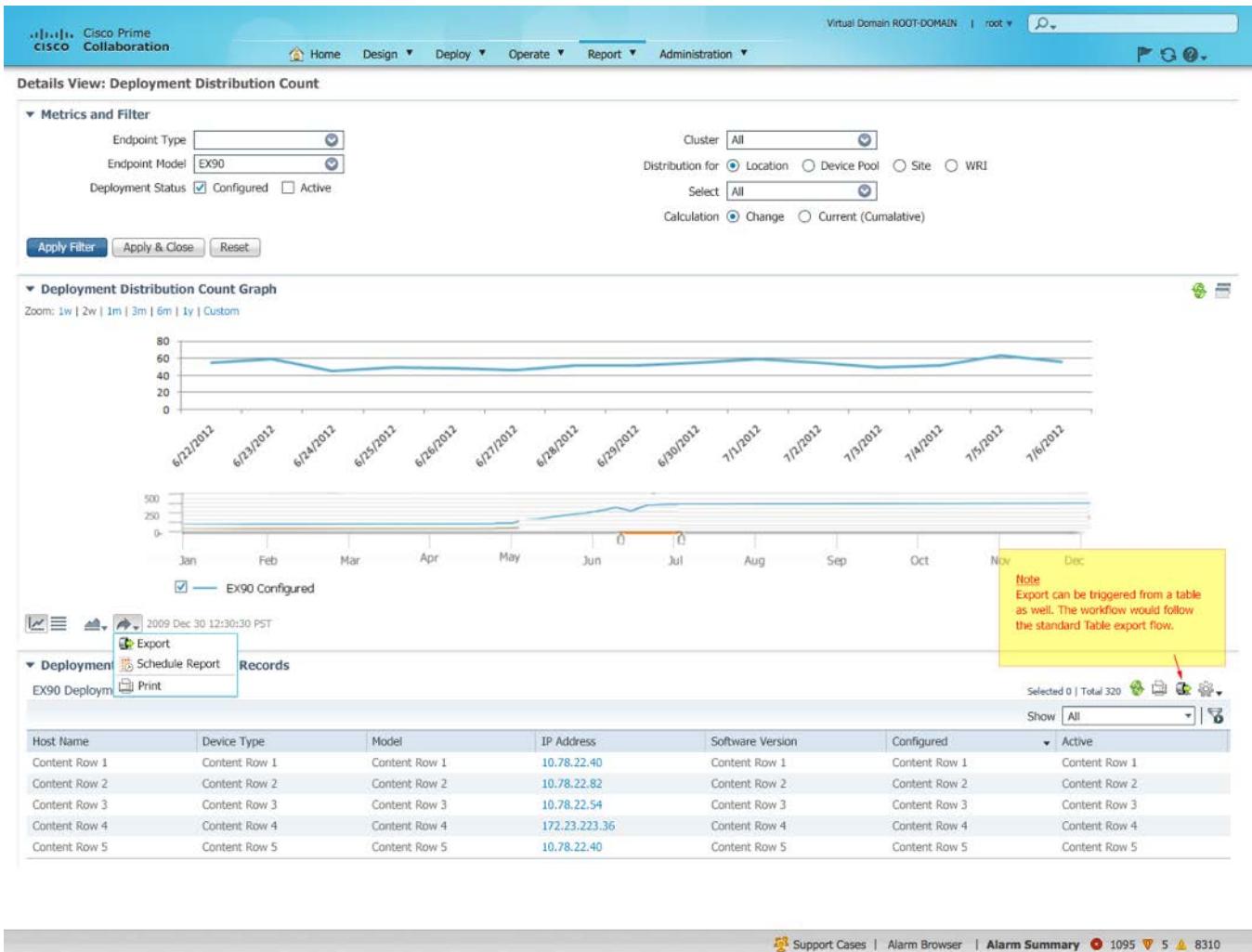


Figure 55. Export function from Table

METRIC DASHLET STRIP

Description

A Metric Dashlet Strip represents a collection of Metric Meters from various sources within (or outside of) an application. Each metric prominently displays a single metric that is critical to operations.

A Metric Dashlet can be used to display collection of Metrics that are critical to operations and draw immediate attention to the current value.

Usage Guidelines

Metrics Dashlet strips should be used to show key performance indicators (KPIs) in context so that they are meaningful. Present them in a way that allows users to instantly understand the significance of the information. It should offer users the option to "drill-down" to as much detail as they require, or even link into reporting systems.

Visual Specifications

Metric Dashlet Strip

The size of the Metric Dashlet Strip is driven by a particular application's needs. The number of Dashlets shown at a time will depend on the amount of real estate available for the Featured Content Display. A good rule of thumb is between three and five items at a time. If there is more real estate, you may show more Dashlets. The strip would show part of the dashlet if the entire dashlet does not fit in the view. Dashlets are not resizeable, but you can drag and drop them in any order for your convenience.

Elements of the Metric Dashlet Strip



Figure 1. Elements of Metric Dashlet Strip

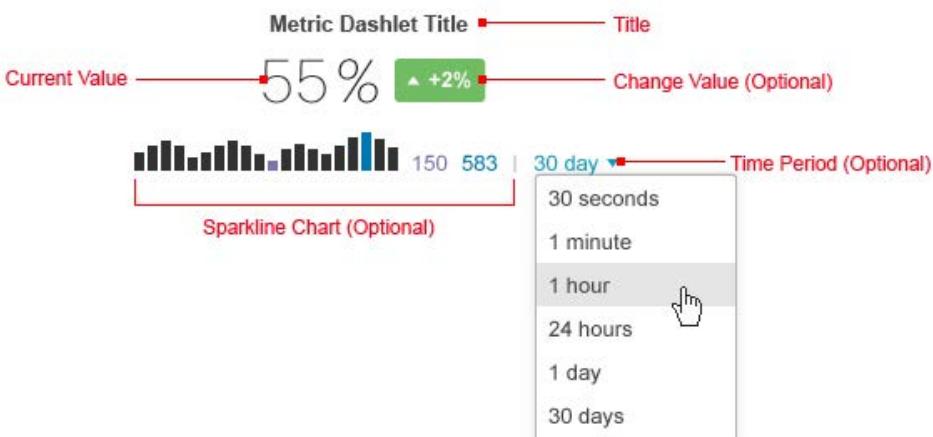


Figure 2. Elements of Metric Dashlet Strip

Change Value

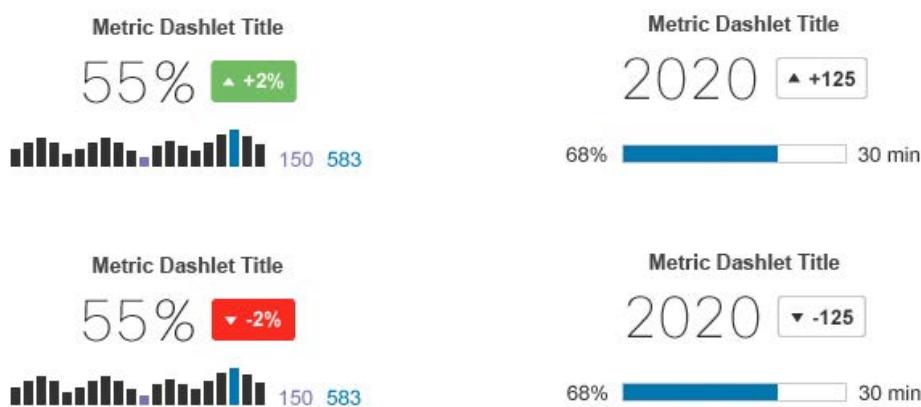


Figure 3. Change in Value

Font and Color Specifications

Element	Font	Size	Style	Color
Metric Dashlet Title - Non-editable	Arial	1.3 rem	Bold	#464646
Metric Dashlet Title as Link	Arial	1.3 rem	Bold	#28AAD7
Metric Dashlet Title as Link (Hover)	Arial	1.3 rem	Bold, Underline	#28AAD7
Current Value	CiscoSans	3.6 rem	Thin	#323232
Change Value - Neutral	Arial	1.3 rem	Bold	#323232
Change Value - Positive / Negative	Arial	1.3 rem	Bold	#FFFFFF
Time Period - Non-editable	Arial	1.3 rem	Normal	#323232
Time Period - Editable	Arial	1.3 rem	Normal	#28AAD7
Time Period - Editable (Hover)	Arial	1.3 rem	Normal, Underline	#28AAD7
Table 1. Specifications for Fonts and Colors				

* All Fonts and Colors specs for Sparkline Chart, see [Charts: Sparkline](#).

Size Specifications

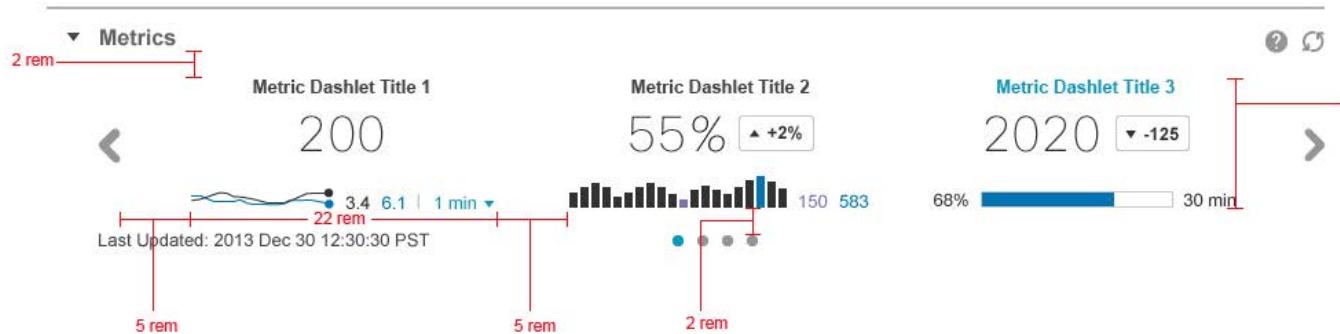


Figure 3. Metric Dashlet Strip Sizes

* All size specs for Sparkline Chart, see Charts: Sparkline.

** Left/Right Scroll Controls and Location Indicator specs, see Carousel

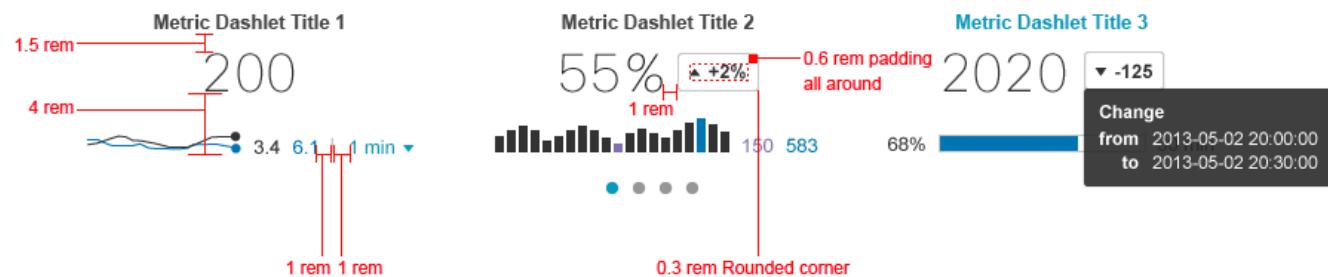


Figure 4. Metric Dashlet Sizes

Metric Dashlet With No Data Available

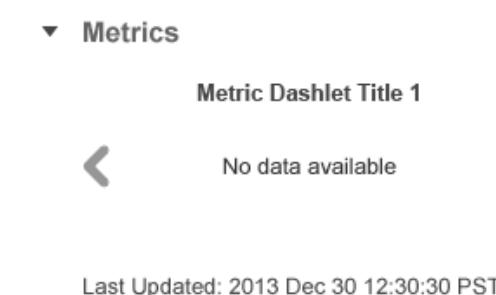


Figure 5. Elements of Metric Dashlet

Interaction Behavior

Transition Effect

The transition from one set of metric block to another should be animated. The effect is called a "slide" and it should use **in** and **out** quartic easing.

Timing

Transition timing (the exit of one set of blocks the entry of another) ranges from 250ms to 2000ms. Once again, the actual parameter is highly dependent on the size of the display and the number of content blocks per set. For small displays with few blocks, the transition can be quite fast. For large displays with more content blocks, the transition will take longer.

Auto Refresh

All Metric Dashlets are updated in near real-time. This time interval should be defined by application.

Auto Advance (optional)

In some circumstances it is a good idea to allow the featured content display to auto-advance one set of blocks at a time, in regular intervals. The actual interval is dependent on the size of the display and the number of content blocks shown. It takes individual testing and massaging to arrive at an appropriate transition interval

Rearrange/Reset Metric Dashlets within Strip

Metric Dashlet may be rearranged within the Dashlet using drag and drop. Using the handle area, a user can drag a dashlet to a new location within the Dashlet. Dragging the dashlet closer to an right or left edge would advance the strip display to next or previous set of blocks. This allows the user to move the dashlet anywhere within the strip.

Manage Metric Dashlets within Strip

Clicking on the edit Dashboard (gear icon) allows the user to add or remove dashlets. It also gives an option to Reset all the Metric Dashlets to the default state.

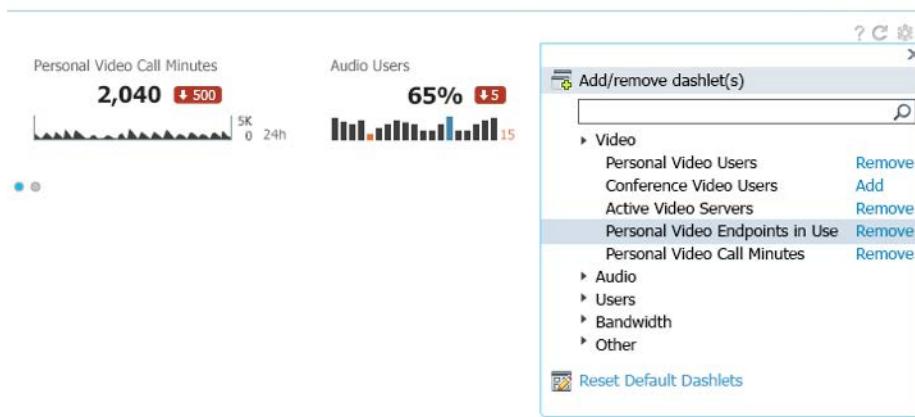


Figure 6. Manage Metric Dashlets drop down menu.

FORM COMPONENTS

CHECK BOX

Description

A checkbox is an on/off toggle for a single item. A checkbox can be selected or unselected. Checkboxes are independent of one another. Any number of checkboxes in a group of checkboxes can be selected at the same time.

- Checked
- Unchecked
- Checked Disabled
- Unchecked Disabled

Figure A. Checkbox

Usage Guidelines

Is This Component Right for the Job?

Problem Summary

The user needs to select from non-mutually-exclusive choices or toggle individual settings.

This Solution

Present each of the choices as separate labeled check boxes, in groups.

Usage Principles

Use Checkboxes when...

- The user needs to make a choice between non-mutually-exclusive options.
- The user needs to set attributes or properties.

Do not use Checkboxes when...

- Space is constrained (use a List Box).
- The user may need to select a single mutually exclusive choice within a group (use Radio Buttons).
- The user may need to enter a choice that is not pre-defined (use a Combo Box).
- The user needs to select from a range of values (use a Slider).

From a User's Perspective

Advantages

- All choices are immediately visible.

- Choices with long labels can be seen in their entirety.

Disadvantages

- Take up a lot of space.
- Cannot be used when there are a large number of options.
- Cannot be used to select from a large range of values.

Keyboard and Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

Layout and Visual Design

Checked	Disabled Checked	Checked Focus
<input checked="" type="checkbox"/> Checked	<input checked="" type="checkbox"/> Disabled Checked	<input checked="" type="checkbox"/> Checked Focus
Unchecked	Disabled Unchecked	Unchecked Focus
<input type="checkbox"/> Unchecked	<input type="checkbox"/> Disabled Unchecked	<input type="checkbox"/> Unchecked Focus
Partial Checked	Disabled Partial Checked	Partial Focus
<input checked="" type="checkbox"/> Partial Checked	<input checked="" type="checkbox"/> Disabled Partial Checked	<input checked="" type="checkbox"/> Partial Focus

Figure 1. Specifications for Checkbox

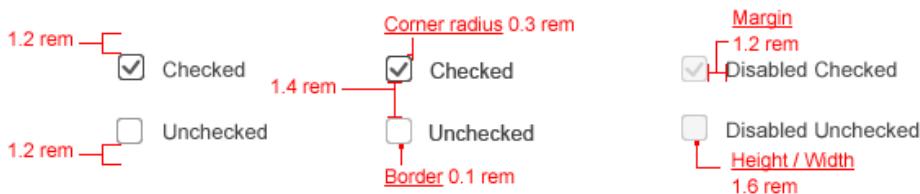


Figure 2. Specifications for Checkbox

Font and Color Specification

Element	Font	Size	Style	Color
Label	Tahoma	12 px	Normal	#222222

Table 1. Specifications for Fonts and Colors

Checkbox States	Background	Border	Icon	Unicode	Font Size
Unchecked	#FFFFFF	0.1rem solid #B4B4B4	None		
Checked	#FFFFFF	0.1rem solid #B4B4B4	✓ icon-check		1 rem
Disabled	#F5F5F5	0.1rem solid #969696	✓ icon-check		1 rem
Disabled Checked	#F5F5F5	0.1rem solid #969696	✓ icon-check		1 rem
Partial Checked	#FFFFFF	0.1rem solid #B4B4B4	■ icon-partialcheck		0.8 rem
Partial Disabled Checked	#F5F5F5	0.1rem solid #969696	■ icon-partialcheck		0.8 rem

Table 2. Specifications for backgrounds and borders

Interaction Behavior

- Checked
- Unchecked
- Checked Disabled
- Unchecked Disabled

Figure 2. Breadcrumb Placement

- If a choice is conditionally unavailable for selection, the checkbox is dimmed, and cannot be selected.

COMBOBOX

Description

A combo box is a combination of a drop-down list or list box and a single-line textbox, allowing the user either to enter a value directly into the text box or choose one item from a list of mutually-exclusive predefined values. A combo box differs from a drop-down list in that users can enter a value that does not exist in the list, while with a drop-down list users are limited to values in the list.

Usage Guidelines

Use a Combo Box when...

- You want to allow the user to select a single value from a list or to specify a new value that does not exist in the list.
- The list of available values is long (exceeds 30 items) and space is constrained.
- The auto-complete or auto-filter options would help the user to find the required values in a long list.

Do not use a Combo Box when...

- The user needs to select multiple values (use [checkboxes](#) or a [list box](#)).
- There are less than 7 options and the user needs to see them all at once (use [radio buttons](#)).
- The user cannot add a value to the list (use a [drop-down list](#)).

List Presentation

- Sort list items in a logical order, such as grouping highly related options together, placing most common options first, or using alphabetical order.
- Sort names in alphabetical order, numbers in numeric order, and dates in chronological order.
- Lists with 12 or more items should be sorted alphabetically to make items easier to find.
- Place options that represent All or None at the beginning of the list, regardless of the sort order of the remaining items.
- Limit the length of the input text whenever possible. For example, if the valid input is a number between 0 and 999, use a combo box that is limited to three characters.
- If there are many possible options, focus the list contents on the most likely options. Because users can enter values that do not appear in the list, combo boxes do not have to list all choices, only the likely choices or a representative sample.

Initiating the Action

- Sometimes dropdown lists are used to allow a user to select an action that should be initiated as a result of a selection. One of two events can initiate the action:
 - If the action is of minor consequence (revealing conditional fields on the same page or executing a filter, for example) then it can be initiated immediately when the mouse button is released or the user tabs away from the list after selecting a menu option.
 - If the action has more significant consequences (data is submitted, or submitting might cause a processing delay) then the action should be initiated only when a "Go" or "Submit" button is clicked.

Response Time

- No delay should occur for dropdown menu display. When the user clicks the drop down arrow button, the dropdown menu list should be displayed immediately. However, if application performance circumstances require some delay it should not take more than 250 milliseconds to display the list.
- No delay should occur on closing the dropdown menu display. When the user selects a dropdown menu item, or clicks away the drop down menu list should be closed immediately.

Blank Options

- If there is no default option, the topmost option in the menu should be blank. This option is selected by default. This is preferable to text that reads "Make a selection" (or something similar) because the blank row makes it visually apparent that a selection needs to be made.

Keyboard and Accessibility

Ensure that users can access the drop down arrow, as well as make and submit the choice using only the keyboard.

Typically, after entering a few characters, the list is scrolled to the correct selection and the user can press 'Enter' to select that selection. Tabbing would just leave the characters entered if it is a combo drop-down.

Follow [Cisco's Accessibility Design Requirements](#) to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

A combo box consists of a text box, a free form input field, and a drop-down arrow. When the drop-down arrow is clicked, a drop-down list of available values is opened.

The width of the combo box should be as wide as the longest possible string plus 5 pixels padding on the left and the right. As an example; if the combo box display years it should be 4 characters wide plus the 5 pixels padding.

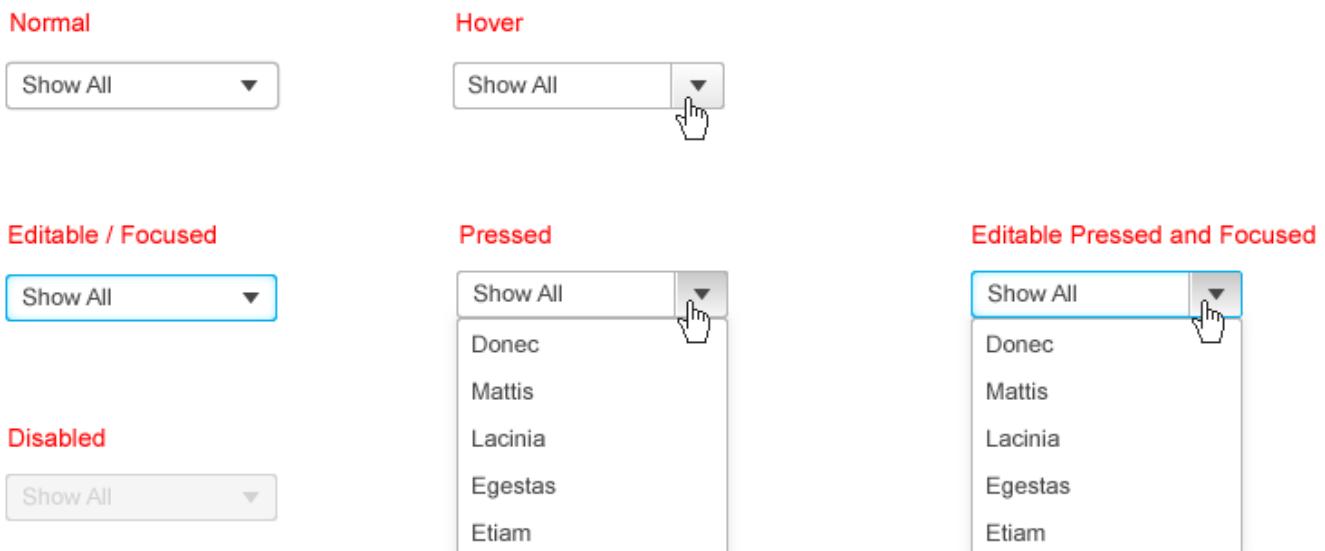


Figure 1. Combo Box

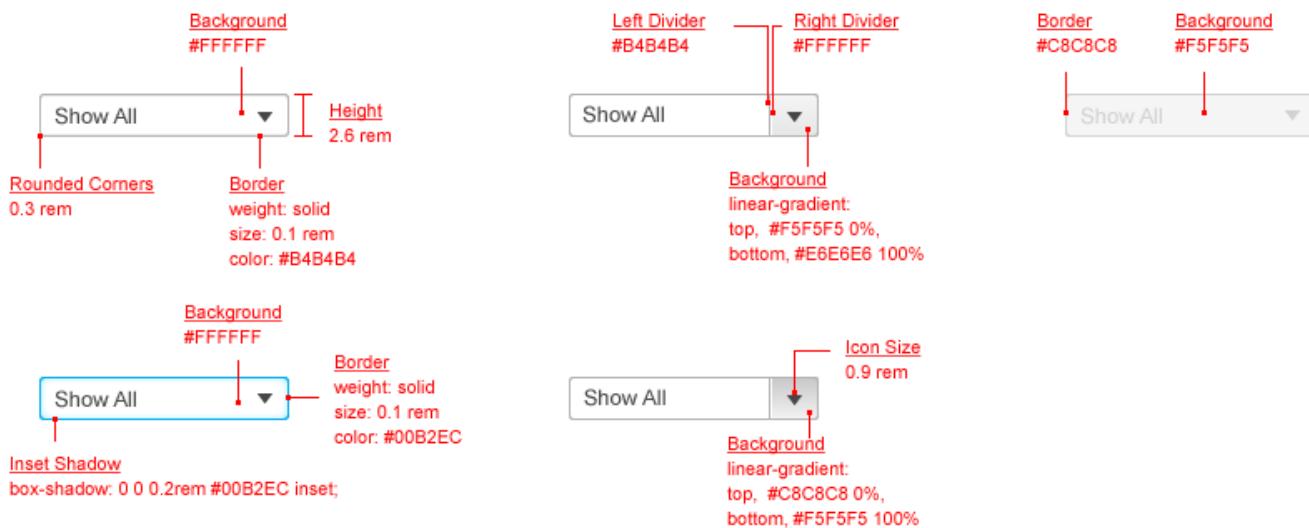


Figure 2. Combo Box specification.



Figure 3. Combo Box padding specification.

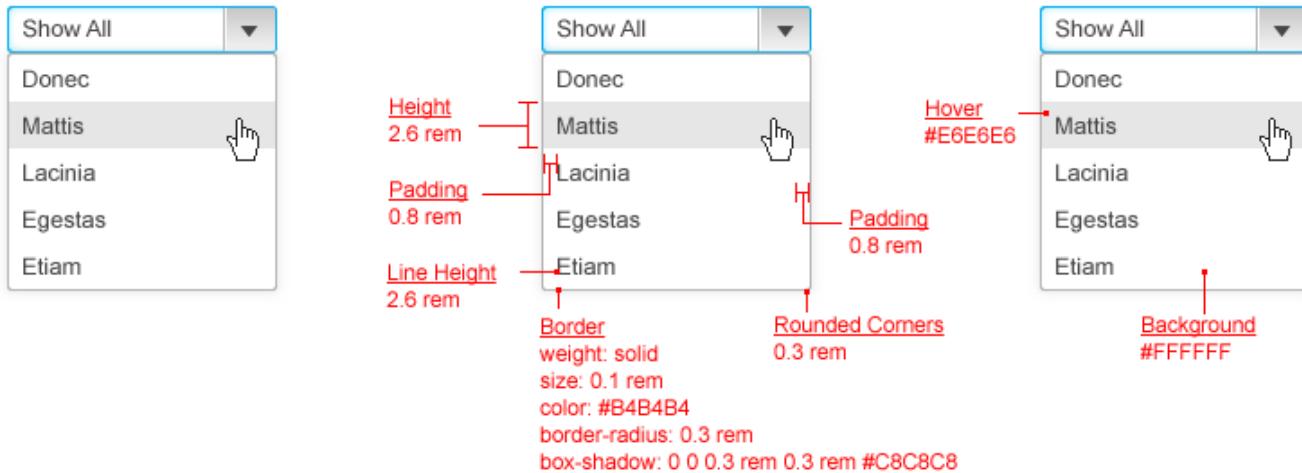


Figure 4. Combo Box with menu specification.

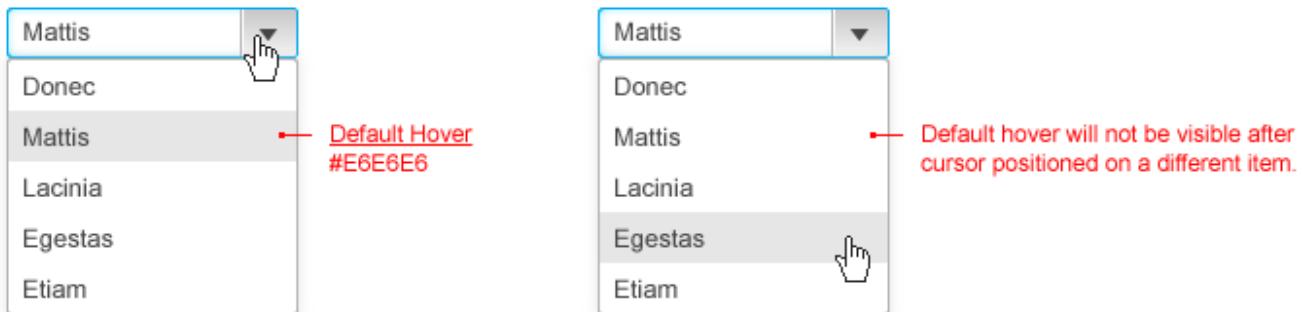


Figure 5. Combo Box with menu selected.

Font and Color Specification

Element	Font	Size	Style	Color	Border
Menu				Background: #FFFFFF	Border Color: #B4B4B4 Drop Shadow: box-shadow: 0 0 0.3 rem 0.3 rem #C8C8C8
Menu Item - Default State	Arial	1.3 rem	Normal	#FFFFFF	
Menu Item - Selected State	Arial	1.3 rem	Normal	#E6E6E6	
Menu Item - Disabled State	Arial	1.3 rem	Normal	#B9DCE6	
List Item Divider Line		1px		#B4B4B4	

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Arrow	▶		icon_rotate90 (for rotation)	0.9 rem	#464646		

Table 2. Icons Specifications

Interaction Behavior

A combo box consists of a text box and a drop-down arrow.

- Clicking the drop-down arrow opens a drop-down list of predefined values.
- Clicking a value in the list selects the value and populates the text box with that value.
- Typing text in the text box results in two possible behaviors:
 - Scrolling: The list automatically scrolls to the value that is the exact or nearest match to the typed text. The matched text in the list is indicated by a bold font face.
 - Filtering: The list is filtered to show all items that match the typed text. The matched text in the list is indicated by a bold font face. This option is useful for very long lists of values. Its disadvantage is that it requires the user to clear the text box to return to the full list.
- If the user only enters text and hits Enter or Tab, the typed text will remain.
- If the user uses the key board arrow keys, the highlight bar will move up and down the list.
 - Selection is made only after user hits Enter.
- If the user uses the mouse to hover over the list, the highlight bar will move up and down the list.
 - Selection is made only if user clicks to select.
 - If user moves away from the list without clicking the select, the typed in text remains.
- If the typed value does not exist in the drop-down list, the text box functions as a text entry field and allows the user to enter the new value.



Figure 6. Closed Combo Box

The screenshot shows a dashboard interface with the title "Dashlet Title". It includes a table with columns: Name, Total APs, a/n Radios, b/g/n Radios, and Clients. One row shows "System Campus" with values 0, 0, 0, 0. Below the table is a link "View All Maps" and a note "Total APs not yet assigned to Maps: 1". In the top right corner of the dashboard area, there is a red arrow pointing to the standard close button (an 'X'). Above the dashboard, the color code "#FFCD00" is displayed.

Figure 7. Option A: Combo Box - Scrolled to Nearest Match

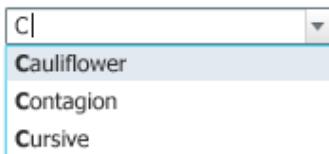


Figure 8. Option B: Combo Box - Filtered to All Matches

DATE & TIME

Description

This specification provides standards for the presentation and entry of Dates and Time.

Usage Guidelines

- Whenever possible use single-field entries because of its greater efficiency in copy-and-paste support .
- UI layout should help hint the correct format, but in cases where the user input is not constrained, the system should automatically correct for common format equivalences (e.g., 2008-May-18 is the same as 2008/May/18).
- If the required data format is not self-evident, it should be communicated with hint text next to a text field, or in certain circumstances as part of the control label or the table column header, if the entry involves a table.
- If the user input does not comply with system requirements, alert the user with a contextual error message , a page-level error message , or an alert / message Box . See more information on [error messages](#).
- It is not necessary to show a date picker legend (for blocked days) as long as you provide a tooltip to describe the different visual indicators in the calendar.

Visual Specifications

The width of the input field should be as wide as the longest string possible plus 5 pixels padding on the left and the right.

Date	<input type="text"/>
	<i>yyyy-mm-dd</i>
Time	<input type="text"/>
	<i>hh:mm:ss</i>

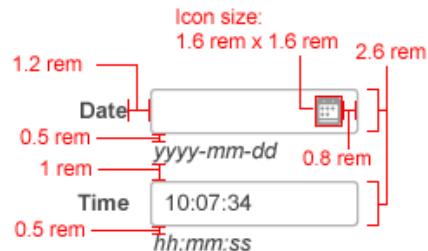


Figure 1. Visual Specifications for Date and Time Fields.

Figure 2. Visual Specifications for Date Picker.

Figure 3. Visual Specifications for Date Picker.

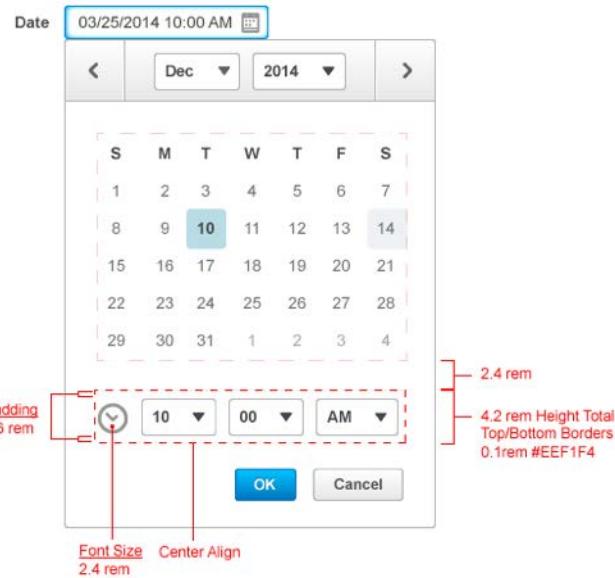
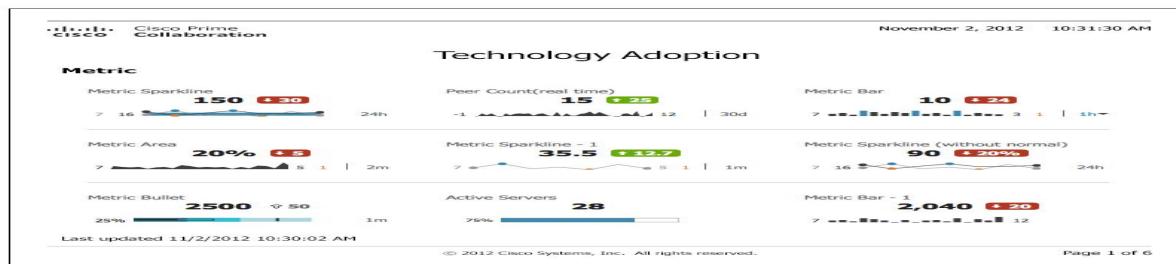


Figure 4. Visual Specifications for Date Picker with Date and Time Fields

Font and Color Specification

Element	Color	Border
Selected Date Background Color	#B9DCE6	
Hover Date Background Color	#EEF1F4	
Current Date Background Color	#FFFFFF	
Font Face	Arial	
Font Size	1.3 rem	
Font Color	#464646	

Icons



Interaction Behavior

Note! For error notifications specifications please see the notifications spec

Date and Time

Date 
(Mm/dd/yyyy)

Time
(hh:mm:ss ZZZ)

Figure 1. Date and Time Fields

Date JUN 30 2009
Time 10 00 AM

Figure 2. Date and Time Fields

Date and time are fundamental settings for applications. However, they can be tricky because the formats for date and time vary across different regions and countries of the world. Applications should support local formats through application preference settings (if available). If your application cannot support local preferences, use Cisco's standard date and time formats because they transfer reasonably well across locales. (NOTE: There is more information on the Cisco standard date and time formats below.)

Date and Time format hints are provided below the text box as illustrated in the image below.

Note: This approach will not work in table cell where the hint should be accessed from a help icon displayed to the right due to cell height constraints.

Date 
~~5px~~ (yyyy-Mmm-dd)

Time
(hh:mm:ss AM/PM ZZZ)

Figure 3. Input Date Picker with a Long Format Hint Below

Automatic Input Error Correction

Common input errors should be automatically converted to the desired format. Some common examples are provided below

- If the user enters a number to represent the month in Mm/dd/yyyy format, it should be converted to letters. For example, 5-18-2008 or 05-18-2008 is converted to May-18-2008 (in Mm/dd/yyyy format).
- If the user enters a one-digit number to represent a day or month in dd/mm format, it should be converted to a two-digit number. For example, 6/28/2008 is converted to 06/28/2008 (in mm/dd/yyyy format).
- If the user enters a slash (/), a dash (-), a period (.) or a space as a separator between date elements, it should be converted to the correct format, where relevant. For example, 06.28.2008 or 06-28-2008 is converted to 06/28/2008 (in Mm/dd/yyyy format).

Date

The preferred methods for entering a date are:

- Date picker (recommended)
- Individual fields for day, month, and year

Date Picker (recommended)

A date picker consists of a single text field with a calendar icon aligned to its right edge. Clicking on the calendar icon displays a calendar from which the user can select the date. The advantage of the date picker is that the days, weeks, and months are clearly laid out for the user, making it easy to select a specific date without having to type it into the text field. The user selects a date in the calendar and the text field is automatically populated with the selected date. The calendar includes two arrow icons in the top left and top right corners that can be used to navigate through the months of the year.

The user also has the option to enter the date directly into the text field, following the format provided in the static format hint to the right of the text field.

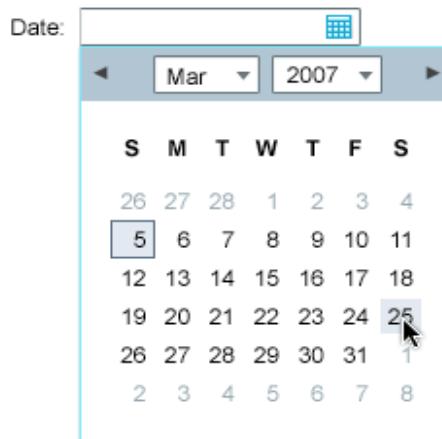


Figure 4. Date Picker with the Calendar Open

Individual Fields for Day, Month, and Year

If this method is used, dropdown lists are provided for the month and day entries, and a combo box is provided for the year.

Date

Figure 5. Date Entry with Individual Fields for Day, Month, and Year

Date Abbreviations:

- yyyy = year in 4-character numeric form
- Mmm = month in 3-character abbreviated alpha form, first letter uppercase
- Mm = month in 2-character numeric form
- dd = day in numeric form

Time

Preferred methods for entering time data are:

- Individual fields for hours, minutes, and seconds (recommended)
- Single text field for entering the time

Individual Fields for Hours, Minutes, and Seconds

With this approach, a separate dropdown lists are provided for the hours, minutes and seconds entries. This method helps ensure data entry is in the required format. There is no time zone indication and the time format is the 24-hours (i.e. hour range from 0 to 23). An alternative to that is a 12-hour format with AM/PM dropdown list instead of the seconds dropdown. For time zone inclusion, developers should use the single text field for entering time.

Time

Figure 6. Time Entry with Individual Fields for Hours, Minutes, and Seconds

Single Text Field for Entering the Time

The single text field approach is fast for the user, but requires a format hint.

Time
(hh:mm:ss ZZZ)

Figure 7. Time Entry with Single Text Field

DROPDOWN LIST

Description

A drop-down list allows users to select a single value from a list of predefined values. It differs from a combo box in that users must select a value from the list they cannot specify values that do not exist in the list. There are two types of drop-down lists: non-editable and editable.

- Non-editable drop-down list: Consists of a text box showing a default value or a selected value. The user cannot enter text in the text box.
- Editable drop-down list: Consists of a text entry field into which the user can type text in order to narrow down the drop-down list of options.

Usage Guidelines

Usage Principles

Use a Dropdown List when...

- You want to allow the user to select a single value from a list.
- The list of available values is long and space is constrained.
- The auto-complete or auto-filter options would help the user to find the required values in a long list.

Do not use a Dropdown List when...

- The user needs to select multiple values (use checkboxes or a list box).
- There are less than 7 options and the user needs to see them all at once (use radio buttons).
- The user must be able to add a value to the list (use a combo box).

List Presentation

- Sort list items in a logical order, such as grouping highly related options together, placing most common options first, or using alphabetical order.
- Sort names in alphabetical order, numbers in numeric order, and dates in chronological order.
- Lists with 12 or more items should be sorted alphabetically to make items easier to find.
- Place options that represent All or None at the beginning of the list, regardless of the sort order of the remaining items
- Only a list with over 15 items should show a scrollbar. Otherwise the list use of scrollbar should be dependant on how far the dropdown edge is from the browser bottom edge. In other words: if the display of the list is constrained by the browser edge a scrollbar should be shown automatically to allow the user to scroll the complete list.

Initiating the Action

- Sometimes drop down lists are used to allow a user to select an action that should be initiated as a result of the selection. One of two events can initiate the action:
 - If the action is of minor consequence (revealing conditional fields on the same page or executing a filter, for example) then it can be initiated immediately when the mouse button is released or the user tabs away from the list after selection a menu option.

- If the action has more significant consequences (data is submitted, or submitting might cause a processing delay) then the action should be initiated only when a "Go" or "Submit" button is clicked.

Response Time

- No delay should occur for dropdown menu display. When the user clicks the drop down arrow button, the dropdown menu list should be displayed immediately. However, if application performance circumstances require some delay it should not take more than 250 milliseconds to display the list.
- No delay should occur on closing the dropdown menu display. When the user selects a dropdown menu item, or clicks away the drop down menu list should be closed immediately.

Blank Options

- If there is no default option, the topmost option in the menu should be blank. This option is selected by default. This is preferable to text that reads "Make a selection" (or something similar) because the blank row makes it visually apparent that a selection needs to be made.

Visual Specifications

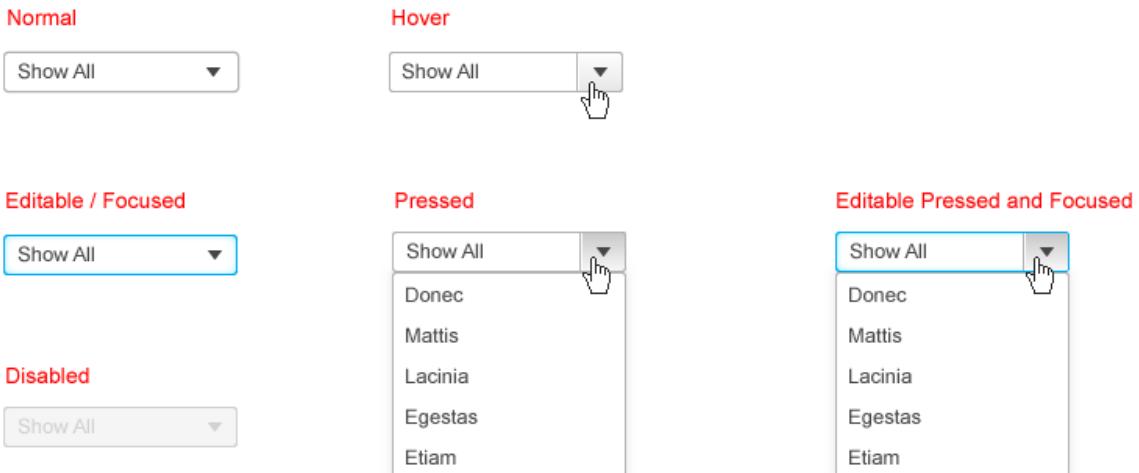


Figure 1. Drop Down List

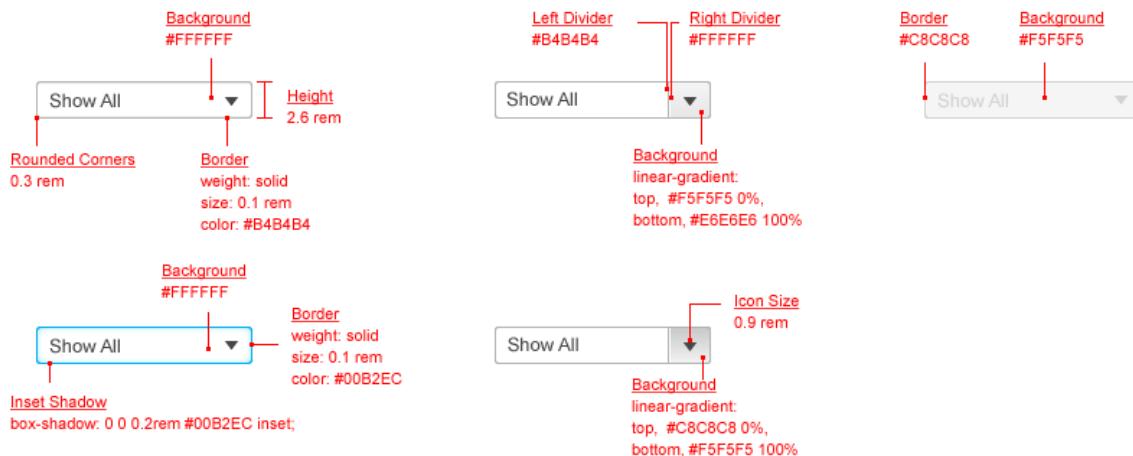


Figure 2. Drop Down List specification.



Figure 3. Drop Down List padding specification

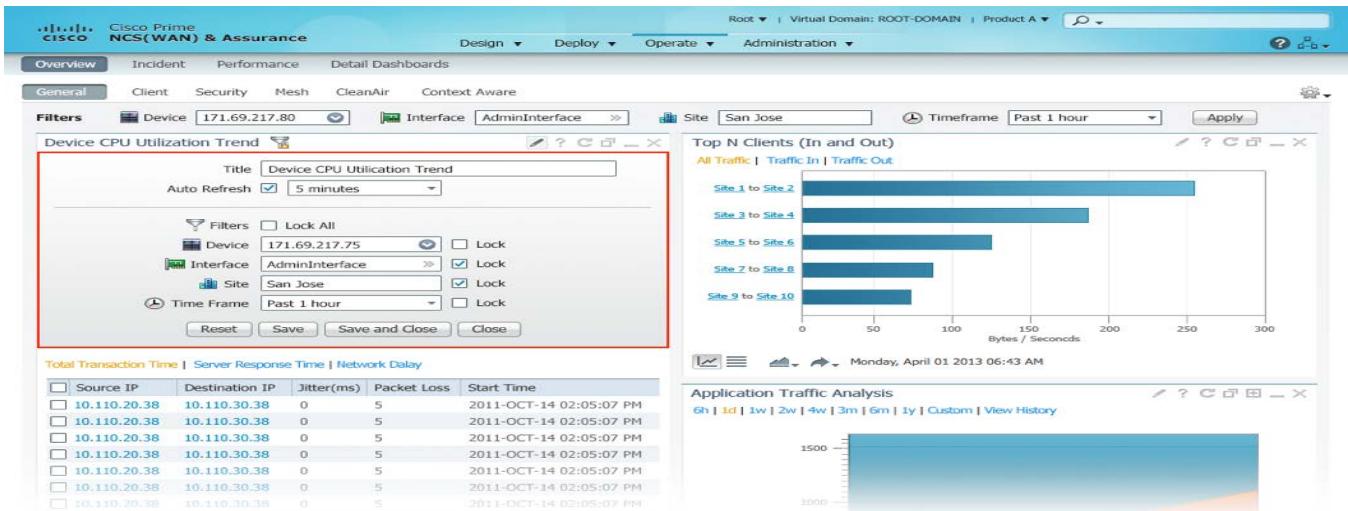


Figure 4. Drop Down List with menu specification.

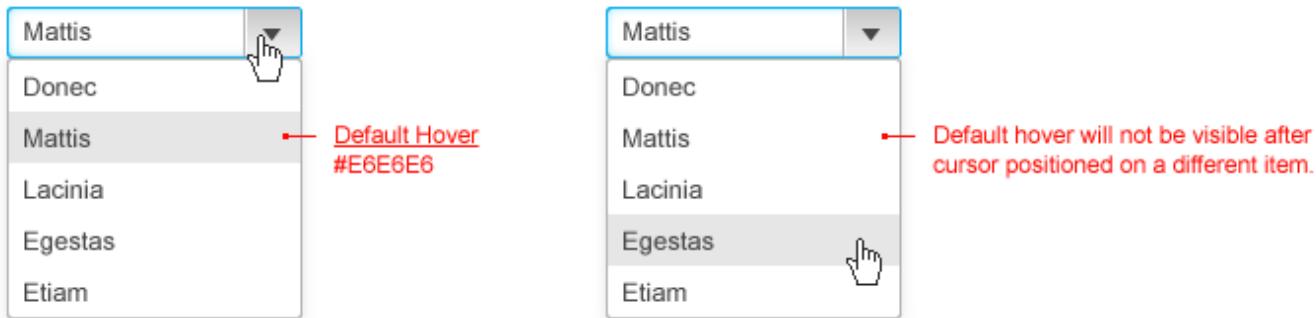


Figure 5. Drop Down List with menu selected.



Figure 6. Menu Drop Down List with divider line.

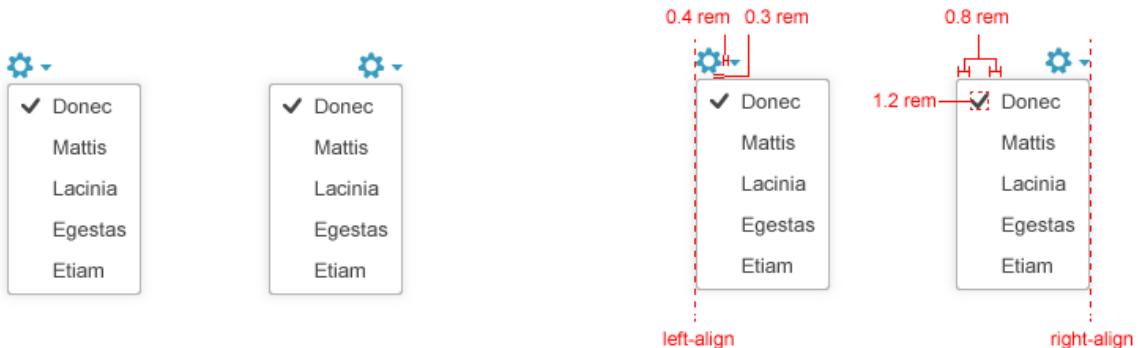


Figure 7. Menu Drop Down List specification.

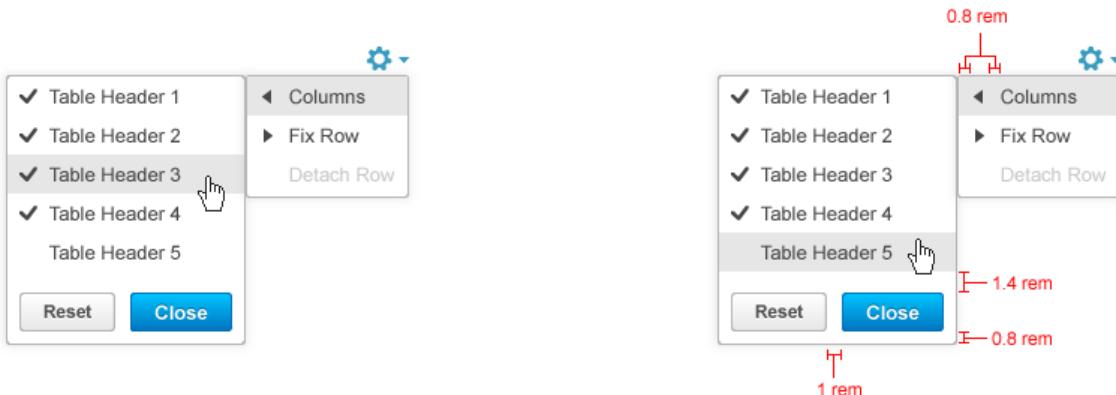


Figure 8. Table Setting Drop Down List specification.



Figure 9. Multi-column drop Down List specification.

Font and Color Specification

Element	Font	Size	Style	Color	Border
Menu				Background: #FFFFFF	Border Color: #B4B4B4 Drop Shadow: box-shadow: 0 0 0.3 rem 0.3 rem #C8C8C8
Menu Item - Default State	Arial	1.3 rem	Normal	#FFFFFF	
Menu Item - Selected State	Arial	1.3 rem	Normal	#E6E6E6	
Menu Item - Disabled State	Arial	1.3 rem	Normal	#B9DCE6	
List Item Divider Line		1px		#B4B4B4	

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Dropdown Arrow	▶		icon_rotate90 (for rotation)	0.9 rem	#464646		
List Arrow	▶			0.9 rem	#464646		
List Arrow	▶		icon_rotate180 (for rotation)	0.9 rem	#464646		
Tick	✓			1.2 rem	#464646		
Gear	⚙			1.6 rem	#969696	#74BAD1	#379BBE
Arrow next to the Gear	▶		icon_rotate90 (for rotation)	0.7 rem	#969696	#74BAD1	#379BBE

Table 2. Icons Specifications

Interaction Behavior

- A drop-down list consists of a text box and a down arrow in its closed state.
- The text box shows a single option - either a default value or the last selected value.
- Clicking the down arrow opens a drop-down list of predefined values.
- Clicking a value in the list selects the value and populates the text box with that value.
- The dropdown list is a keyboard aware component:
 - When it is in focus and the user hit a keyboard key the list would scroll and highlight the first list item that starts with the character corresponding to that keyboard key.
 - Hitting the key again would shift the highlight to the next list item starting with that keyboard key character.
 - Hitting a sequence of two or more keyboard keys would highlight a list item starting with these characters. E.g. Hitting the 'T' key and rapidly after hitting the 'E' key will yield highlighting 'Texas' in a listing of U.S. states.
- As soon as a value is selected, the list closes and the drop-down list returns to its closed state.
- With editable drop-down lists, typing text in the text box results in two possible behaviors:
 - Scrolling: The list automatically scrolls to the value that is the exact or nearest match to the typed text. The matched text in the list is indicated by a bold font face.
 - Filtering: The list is filtered to show all items that match the typed text. The matched text in the list is indicated by a bold font face. This option is useful for very long lists of values. Its disadvantage is that it requires the user to clear the text box to return to the full list.

FIELD HINTS

Description

This specification provides standards for the presentation and entry of Dates and Time.

Usage Guidelines

- Whenever possible use single-field entries rather than sub-divided fields to support copy-and-paste interactions.
- UI layout should hint at the correct format, but in cases where the user input is not constrained, the system should automatically correct for common format equivalences (e.g., 2008-May-18 is the same as 2008/May/18).
- If the required data format is not self-evident, it should be communicated with hint text under a text field, (only units of measure to the right of the field) or in certain circumstances as part of the control label or the table column header, if the entry involves a table.
- If the user input does not comply with system requirements, alert the user with a contextual error message , a page-level error message , or an alert / message Box . See more information on error messages.

Keyboard and Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Interaction Specifications

Interaction Behavior

Note: For error notification information, please see the notifications spec

Format Hint and Units of Measure

If a specific format or other hint is required to help the user know how to make entries into a field, a format hint can be provided. Units of Measure hints are usually very short in length (e.g. 3-6 characters) and should be located to the right of the text box:

Minimum RSSI (dBm)

Duration (seconds)

Figure 1. Input Field with a Short Units of Measure Format Hint

Lengthier format hints can be provided below the text box as illustrated in the image below.

Note: This approach will not work in table cells due to cell height constraints. In this case, the hint should be accessed from a help icon displayed to the right of the cell. See the hint design patterns for more information.

Date 
~~Spx~~ (yyyy-Mmm-dd)

Time (hh:mm:ss AM/PM ZZZ)

Figure 2. Input Date Picker with a Long Format Hint Below

Visual Specifications

The width of the input field should be as wide as the longest string possible plus 0.8 rem padding on the left and the right. For specifications please see [Textboxes](#).

Inventory - Overview			
Version	System	IsSellingName	Element Type
12.2(3)S9B2	SMITH	false	Cisco Catalyst 6506 IOS Switch
12.2(20080605-055316)	JOHNSON	false	Cisco Catalyst 6509-NE8-A IOS Switch
12.1(2)JA4	WILLIAMS	false	Cisco Catalyst 3550 48 Switch
3.5.0	JONES	false	Cisco 12416 Router
3.4.1	BROWN	false	Cisco 12010 Router
3.5.3	DAVIS	false	Cisco CRS1-16
3.4.2	MILLER	false	Cisco CRS1-8
3.6.1	WILSON	false	Cisco CRS1-8
3.4.1	MOORE	false	Cisco 12416 Router
12.0(3)ZSE	TAYLOR	false	Cisco 12404 Router
12.2(3)S9B5	ANDERSON	false	Cisco Catalyst 3550 48 Switch
12.1(14)JA1a	THOMAS	false	Cisco Catalyst 3550 48 Switch
12.1(13)JA1c	JACKSON	false	Cisco Catalyst 3550 48 Switch
12.2(4)S9B2	WHITE	false	Cisco Catalyst 3550 48 Switch
12.2(3)S9B2	SMITH	false	Cisco Catalyst 3550 48 Switch
12.2(20080605-055316)	JOHNSON	false	Cisco Catalyst 6509 IOS Switch
3.4.1	MOORE	false	Cisco Catalyst 6509 IOS Switch

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Figure 1. Visual Specifications for Hints (using Date and Time Fields example)

Font and Color Specification

Element	Font	Size	Style	Color	Border
Selected Date Background Color				#B9DCE6	
Hover Date Background Color				#EEF1F4	
Current Date Background Color				#FFFFFF	#B9DCE6
Font Face	Arial				
Font Size		1.3 rem			
Font Color				#464646	
Table 1. Specifications for Fonts and Colors					

FORM LAYOUT

Description

Forms group multiple static, data entry and/or selection widgets into a logical unit to help users complete tasks quickly and easily. They can consist of many different types of widgets, such as textboxes, pickers and dropdown lists.

Usage Guidelines

Alignment Options

Forms can be in one column or two column layouts with a flow that matches the reading order used in the language the system is currently in.

It is not recommended to lay out an entire form with a horizontal flow but it is permissible if screen real estate is limited and the number of entry fields is minimal.

If there is a large number of fields and a horizontal flow is desirable, it is permissible as long as the intent is to allow the user compare the data easily (such as comparing a shipping address & billing address). If the intent is just to save space, it is not encouraged to lay out the form horizontally. It may be required to think of an alternative way of presenting the information (such as using an accordion).

Which layout is ideal for the design depends on:

- the number of entry fields in the form
- extent to which the fields can be grouped effectively (see the Group Box specification for more information about grouping)

Form Entry Fields

It is recommended to:

- group fields that are tightly related to one another (for example, the fields that comprise a billing address in a checkout form)
- place required fields above the fold of the form as long as it makes sense with the grouping and the flow of the form
- mark required fields with a red asterisk (see the “Specification” tab of the Form Layout specification for more information)
- consider using a Combo Box or Dropdown List in place of a textbox. This is especially helpful when there are a limited number of options a user can enter
- follow the Font & Type guidelines for label and value text styling
- utilize the Field Hint guidelines to help the user know what information to enter in a field

Form Formatting

It is recommended to:

- use a two column layout when the form is forcing the user to page down unnecessarily

- consider placing the form in an accordion when a form is particularly long and the form can be easily broken down into sections
- align checkboxes and radio buttons vertically
- set the control tab order to proceed column by column
- use REMs instead of pixels when formatting a form

A more detailed breakdown of form alignment recommendations and permutations is forthcoming.

Button Placement

Button placement in forms is critical. Please see the Action/Command Button specification for more details.

Form Submission

Once a user has submitted the form, provide a notification of the submission's success or failure. Please see the Notifications specification for more information including which type of notification to use.

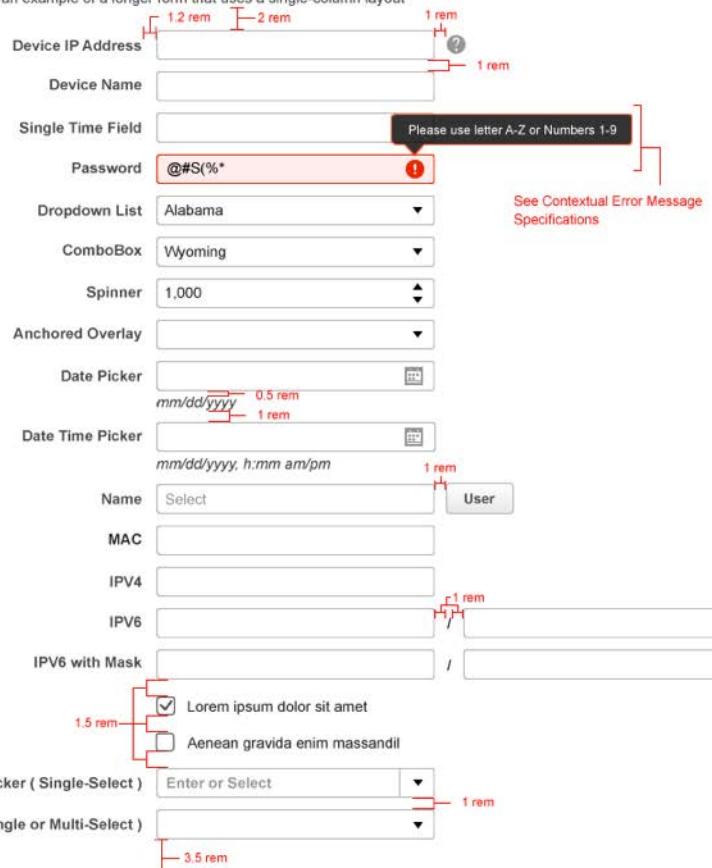
Visual Specifications

Single Col Vertical Flow (Left - Aligned)

Left-Aligned

Single Col Group Box One (Vertical Flow)

Instructional text. Here's an example of a longer form that uses a single-column layout

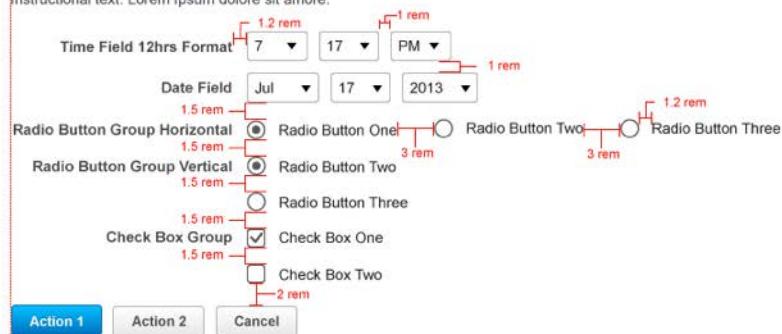


The screenshot shows a vertical form layout with the following fields and styling:

- Device IP Address:** Input field with a placeholder and a question mark icon.
- Device Name:** Input field with a question mark icon and a red border.
- Single Time Field:** Input field with a placeholder and a red border.
- Password:** Input field with a placeholder (@#S(%*) and a red border. A tooltip message "Please use letter A-Z or Numbers 1-9" is shown above it.
- Dropdown List:** Input field with a dropdown arrow containing "Alabama". A red border surrounds the entire field.
- ComboBox:** Input field with a dropdown arrow containing "Wyoming". A red border surrounds the entire field.
- Spinner:** Input field with a dropdown arrow containing "1,000". A red border surrounds the entire field.
- Anchored Overlay:** Input field with a dropdown arrow.
- Date Picker:** Input field with a date input and a calendar icon. A red border surrounds the entire field.
- Date Time Picker:** Input field with a date and time input and a calendar icon. A red border surrounds the entire field.
- Name:** Input field with a placeholder "Select" and a "User" button to its right.
- MAC:** Input field.
- IPV4:** Input field.
- IPV6:** Input field with a red border.
- IPV6 with Mask:** Input field with a red border.
- Checkboxes:** Two checkboxes labeled "Lorem ipsum dolor sit amet" and "Aenean gravida enim massandil". The first is checked and has a red border.
- Editable Picker (Single-Select):** Input field with a dropdown arrow and a placeholder "Enter or Select". A red border surrounds the entire field.
- Select Only Picker (Single or Multi-Select):** Input field with a dropdown arrow. A red border surrounds the entire field.

Single Col Group Box Two

Instructional text. Lorem ipsum dolor sit amet;



The screenshot shows a vertical form layout with the following fields and styling:

- Time Field 12hrs Format:** Three dropdown menus for hour (7), minute (17), and AM/PM (PM). A red border surrounds the entire group.
- Date Field:** Three dropdown menus for month (Jul), day (17), and year (2013). A red border surrounds the entire group.
- Radio Button Group Horizontal:** Three radio buttons labeled "Radio Button One", "Radio Button Two", and "Radio Button Three". A red border surrounds the entire group.
- Radio Button Group Vertical:** Three radio buttons labeled "Radio Button One", "Radio Button Two", and "Radio Button Three". A red border surrounds the entire group.
- Check Box Group:** Two checkboxes labeled "Check Box One" and "Check Box Two". The first is checked and has a red border.
- Action Buttons:** Three buttons labeled "Action 1", "Action 2", and "Cancel".

Figure 1. One Col Form Layout.

Two Col Vertical Flow (Left - Aligned)



The diagram illustrates a two-column vertical flow layout for a configuration form. The left column, labeled 'Col 1' at the top, contains the following fields:

- Group Box Title 1 - Two Col**
- Name: Input field with a label 'Name' and a width of 1.2 rem.
- Administrative State: Input field with a label 'Administrative State' and a dropdown menu showing 'Offline'.
- MAC Address: Input field with a label 'MAC Address' and a width of 1 rem.
- IP Address: Input field with a label 'IP Address' and a width of 1 rem.
- Subnet Mask: Input field with a label 'Subnet Mask' and a width of 1 rem.
- Model Type: Input field with a label 'Model Type' and a dropdown menu showing 'Netcrypt'.
- Default Gateway: Input field with a label 'Default Gateway' and a width of 1 rem.
- Headend: Input field with a label 'Headend' and a dropdown menu showing '1,000'.
- Configuration File: Input field with a label 'Configuration File' and a width of 1 rem.

The right column, labeled 'Col 2' at the top, contains the following fields:

- Group Box Title 2 - Two Col**
- Max. Session Count: Input field with a label 'Max. Session Count' and a width of 1.2 rem.
- Session Capacity: Input field with a label 'Session Capacity' and a width of 1.2 rem.
- Alarm Threshold: Input field with a label 'Alarm Threshold' and a width of 1.2 rem.
- Severity Level: Input field with a label 'Severity Level' and a dropdown menu showing 'Warning'.
- Msg Timeout: Input field with a label 'Msg Timeout' and a width of 3.5 rem.

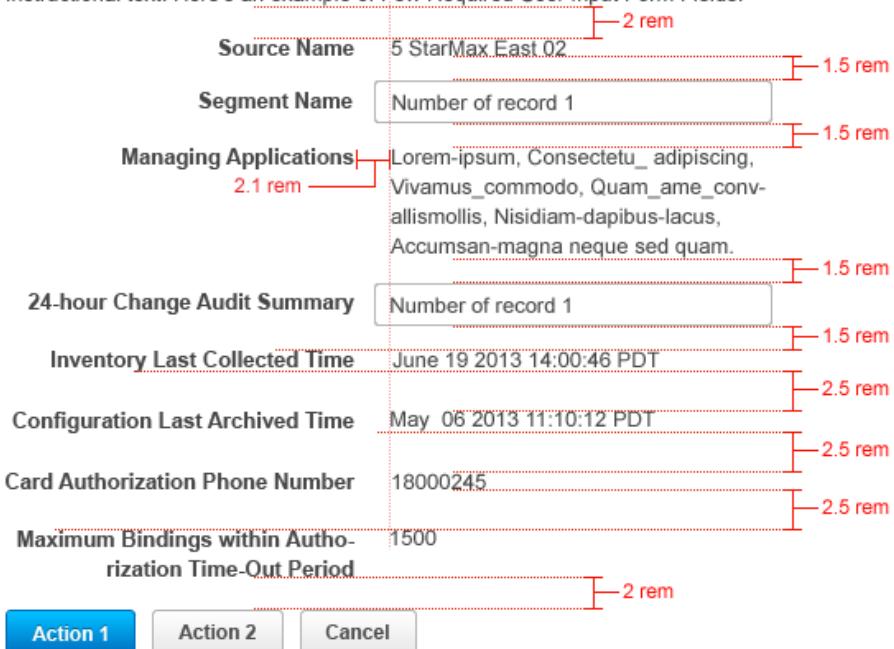
Below the columns, there is a note: "Minimum 10 rem between Group Boxes". At the bottom are three buttons: 'Action 1' (blue), 'Action 2' (grey), and 'Cancel'.

Figure 2. Two Col Form Layout.

Wrapping Labels

Group Box Title

Instructional text. Here's an example of Few Required User Input Form Fields.



The diagram shows a series of input fields with their corresponding labels positioned to the left, demonstrating how labels wrap around the input fields. The fields are:

- Source Name: Input field with a label 'Source Name' and a value '5 StarMax_East_02'.
- Segment Name: Input field with a label 'Segment Name' and a value 'Number of record 1'.
- Managing Applications: Input field with a label 'Managing Applications' and a value 'Lorem ipsum, Consectetu_ adipiscing, Vivamus_commodo, Quam_ame_convallis,mollis, Nisidiam-dapibus-lacus, Accumsan-magna neque sed quam.' A note indicates a width of 2.1 rem for the label.
- 24-hour Change Audit Summary: Input field with a label '24-hour Change Audit Summary' and a value 'Number of record 1'.
- Inventory Last Collected Time: Input field with a label 'Inventory Last Collected Time' and a value 'June 19 2013 14:00:46 PDT'.
- Configuration Last Archived Time: Input field with a label 'Configuration Last Archived Time' and a value 'May 06 2013 11:10:12 PDT'.
- Card Authorization Phone Number: Input field with a label 'Card Authorization Phone Number' and a value '18000245'.
- Maximum Bindings within Authorization Time-Out Period: Input field with a label 'Maximum Bindings within Authorization Time-Out Period' and a value '1500'.

At the bottom are three buttons: 'Action 1' (blue), 'Action 2' (grey), and 'Cancel'.

Figure 3. Wrapping Labels.

Required Fields

Group Box Title

Instructional text. Here's an example of Few Required User Input Form Fields.

* *Required Fields.*

* Text Box One Title	<input type="text"/>	* Text Box Two Title	<input type="text"/>
Text Box Three Title	<input type="text"/>	Text Box Four Four	<input type="text"/>
Text Box Five Title	<input type="text"/>	Text Box Six Title	<input type="text"/>
Dropdown Box Title	Netcrypt <input type="button" value="▼"/>		
Radio Button Group	<input checked="" type="radio"/> Radio Button One <input type="radio"/> Radio Button Two		
<input type="button" value="Action 1"/> <input type="button" value="Action 2"/> <input type="button" value="Cancel"/>			

Figure 4. An example of how we recommend positioning mandatory field indicators.

Font and Color Specification

Element	Font	Size	Style	Color
Group Box Title	Arial	1.6 rem	Bold	#646464
Instructional Text	Arial	1.3 rem	Italic	#464646
Label	Arial	1.3 rem	Bold	#464646
Value	Arial	1.3 rem / 1.8 rem	Normal	#464646
Required Field Asterisk	Arial	1.8 rem	Bold	#EC2300
Group Box Separator (Optional)		0.1 rem		#B4B4B4
Hint Text	Arial	1.3 rem	Italic	#464646

Table 1. Specifications for Fonts and Colors

GROUP BOX

Description

A Group Box is a visual grouping of related components under a common title. Group Box Separators can be used to separate multiple Group Boxes.

Usage Guidelines

Restrictions

- All elements within a Group Box should be related to the Group Box Title. If an element does not directly relate to the Group Box Title, it should not be included in the Group Box.
- Should not be used for a single element.

From a User's Perspective

- Advantages
 - Organizes the screen into visual groupings.
- Disadvantages
 - Requires additional space on the screen.

Visual Specifications

Group Box One Col Vertical Flow (Left - Aligned)

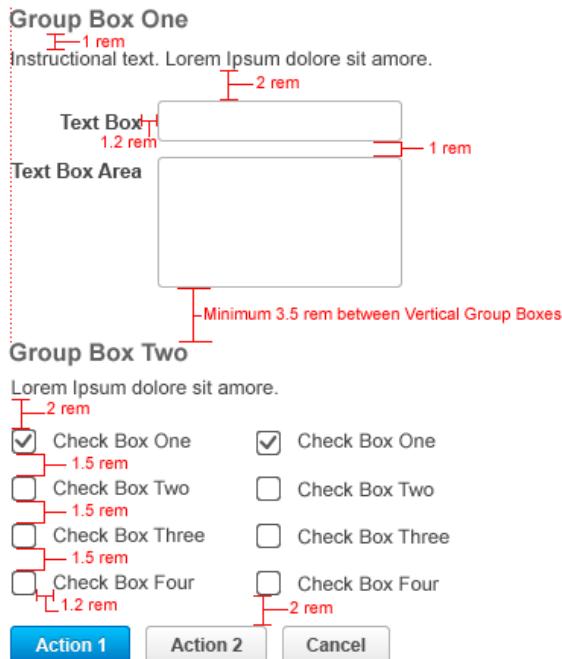


Figure 1. One Col Group Box.

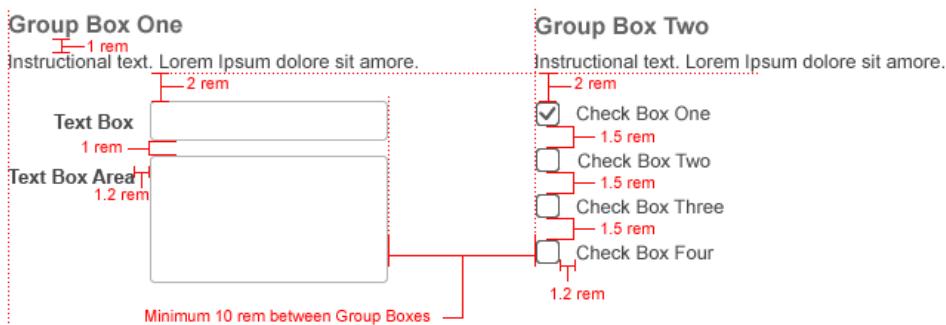


Figure 2. Two Col Group Box.

Group Box 1

Segment Name

Segment ID

Group Box 2

Duration Unlimited Limited

Start Date & Time e.g. mm/dd/yyyy, h:mm am/pm

Length Minutes

Group Box 3

Spotlight Control

Centroid X

Centroid Y

Radius

Group Box 4

Fingerprint

Digital Copy Rights

Macrovision

Action 1 Action 2 Cancel

Minimum 3.5 rem between Vertical Group Boxes

2 rem

Figure 3. Group Box without Title.

Font and Color Specification

Element	Font	Size	Style	Weight	Color
Group Box Title	Arial	1.6 rem	Bold		#646464
Instructional Text	Arial	1.3 rem	Normal		#464646
Label	Arial	1.3 rem	Bold		#464646
Value	Arial	1.3 rem/1.8 rem	Normal		#464646
Required Field Asterisk	Arial	1.8 rem			#EC2300
Group Box Separator (Optional)				0.1 rem	#B4B4B4
Table 1. Specifications for Fonts and Colors					

Interaction Behavior

It is important that all elements included in a Group Box are related to the Group Box Title. If the title does not apply to an element, then that element should not be included in the Group Box.

Group Box Titles are always in title case (each word is capitalized).



Group Box Two

Check Boxes:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Check box one | <input type="checkbox"/> Check box one |
| <input type="checkbox"/> Check box two | <input type="checkbox"/> Check box two |
| <input type="checkbox"/> Check box three | <input type="checkbox"/> Check box three |
| <input type="checkbox"/> Check box Four | <input type="checkbox"/> Check box Four |

Figure 4. Group Box Elements

Group Box Separators should be used to separate multiple Group Boxes in a content area. Group Box Separators are not necessary above the first Group Box on a page, or after the last Group Box on a page.

Group Box One

Instructional text. Lorem Ipsum dolore sit amore.



Group Box Two

Check Boxes:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Check box one | <input type="checkbox"/> Check box one |
| <input type="checkbox"/> Check box two | <input type="checkbox"/> Check box two |
| <input type="checkbox"/> Check box three | <input type="checkbox"/> Check box three |
| <input type="checkbox"/> Check box Four | <input type="checkbox"/> Check box Four |

Figure 5. Horizontal Group Box Separator

Vertical Group Box Separators are not necessary.

Group Box One

Instructional text. Lorem Ipsum dolore sit amore.

Text Box One

Text Box Area

Group Box Two

Check Boxes

- Check box one
- Check box two
- Check box three
- Check box Four

Figure 6. Multi-Column Layout

Group Boxes that requires action/command buttons (i.e. forms) will use left alignment of the buttons row to avoid scrolling the buttons out of view when the browser window is resized.

Group Box One

Instructional text. Lorem Ipsum dolore sit amore.

Text Box One

Text Box Area

Group Box Two

Check Boxes:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Check box one | <input type="checkbox"/> Check box one |
| <input type="checkbox"/> Check box two | <input type="checkbox"/> Check box two |
| <input type="checkbox"/> Check box three | <input type="checkbox"/> Check box three |
| <input type="checkbox"/> Check box Four | <input type="checkbox"/> Check box Four |

15px

Action 1 Action 2 Cancel

Figure 87. Group Box with Command/Action Buttons

IP & MAC ADDRESS

Description

This specification provides standards for the presentation and entry of Dates and Time.

Usage Guidelines

- Whenever possible use single-field entries because of its greater efficiency in copy-and-paste support .
- UI layout should help hint the correct format, but in cases where the user input is not constrained, the system should automatically correct for common format equivalences (e.g., 2008-May-18 is the same as 2008/May/18).
- If the required data format is not self-evident, it should be communicated with hint text next to a text field, or in certain circumstances as part of the control label or the table column header, if the entry involves a table.
- If the user input does not comply with system requirements, alert the user with a contextual error message , a page-level error message , or an alert / message Box . See more information on [error messages](#).
- It is not necessary to show a date picker legend (for blocked days) as long as you provide a tooltip to describe the different visual indicators in the calendar.

Interaction Specifications

Interaction Behavior

Note!

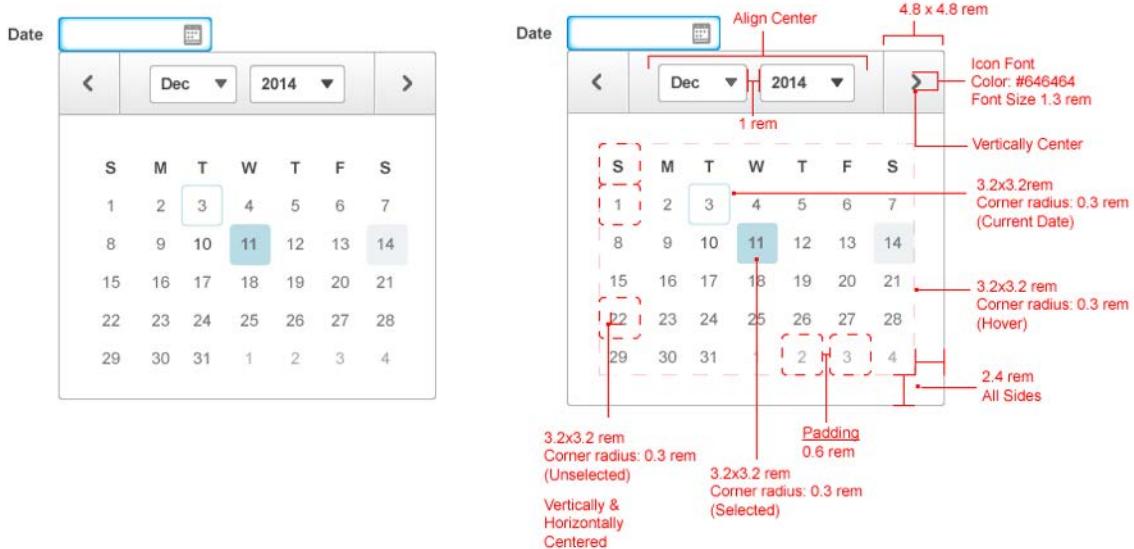
- For error notifications information, please see the notifications spec
- For format hint and units of measure, see the field hint specifications

Overview

Unified IPv4/v6 widget is to allow input and display for different IP address type with one widget.



Usage



This widget is used for IP address input and display across the application.

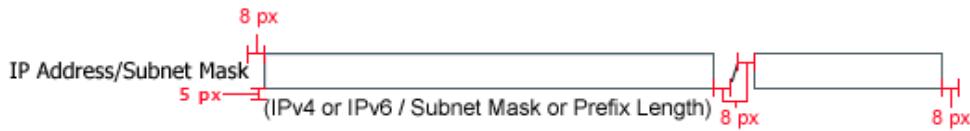


Figure 1. IP address input for IPv4 or IPv6 with subnet mask visual specifications

If user input is , converts to

Figure 2. Convert user's input into compressed format with double colons and upper case letters

Table Title		
Device Name	Type	IP Address
Device 2	Router	120.37.58.210
Device 3	Switch	120.46.98.25
Device 1	Switch	...88FF:FEBF:A09E
Device 4	Router	...88FF:FEBF:A0A0
Device 7	Switch	2001:DB8::8
Device 5	Router	2001:DB8:1234::8
Device 6	Router	2001:ADB8::8

Figure 3. IP address display with truncation (in a table with the addresses being sorted in an ascending order)

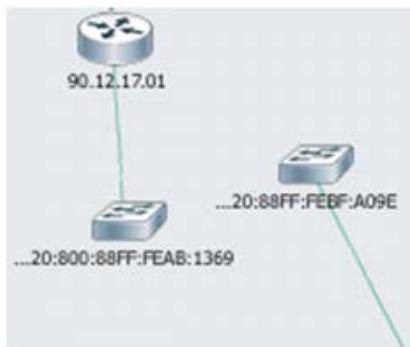


Figure 4. Ip address display with truncation (in a topology map)

Functional Design - Input

This widget is used for IP address input and display across the application.

IP address input for IPv4 or IPv6 with Subnet Mask

- It allows IPv4 or IPv6 format IP address input in the same textbox.
- Subnet mask input is separated from IP address input for a good visibility and easy customization by the application.
- Display a precise error message for an invalid input to be specific and clear user interaction on the error.

IP Address

- Allow both IPv4 and IPv6 input.
- Provide input hint for both IP address format allowance. Application and component detects the support on IPv6 to customize the hint based upon. I.e. if the component detects the input area doesn't have IPv6 support, it shouldn't show the hint for both IPv4 and IPv6.
- The default length of the textbox for IPv6 input should be able to contain the address in a canonical format with all capital letters.
- Display a generic error message when it is uncertain on user's input type. E.g. 257., 3427., etc.
- Display a IPv4 or IPv6 specific message only when it is sure on the input type. E.g. 128.262., A019:392., etc.
- Recognize IPv4 and IPv6 coexist format by the first dot input after an IPv6 address format or a double colons.
 - a. IP addressing format for IPv6/IPv4 devices that communicate with IPv6 over an IPv4 infrastructure use IPv4-compatible addresses, e.g. 0:0:0:0:0:105.37.120.19 or ::105.37.120.19.
 - b. There are other addressing formats that support address compatibility, e.g. 6over4 address 6to4 address, etc. Application follows the same input and validation rules for IPv4 and IPv6 to identify the UI behavior.
- For IPv4 input,
 - a. Only takes dotted decimal notation.
 - b. Only 0-9 digits are valid input.
 - c. The only valid IPv4 address starting with 0 is 0.0.0.0.
 - d. The max value is 255. If an attempting input value is greater than 255, display an appropriate error message.
- For IPv6 input,
 - a. It can be input in a user-preferred format for IPv6. Allow three different formats input:
 - Canonical 2001:0DB8:0000:0000:0800:88FF:FEBF:A09A
 - Compressed format with omitted leading zeros 2001:DB8:0:0:800:88FF:FEBF:A09A
 - Compressed format with double colons for successive hexadecimal fields of zeros 2001:DB8::800:88FF:FEBF:A09A
 - b. Any non-hexadecimal character is invalid.
 - c. The input shouldn't be over the valid bit length of the IPv6 according to the conventions. For instance, when an input already has 7 16-bit hexadecimal fields and a double-colon or 8 16-bit hexadecimal fields separated by single colon, display an error message accordingly.
 - d. Two colons (::) can be used only once in an IPv6 address to represent the longest consecutive hexadecimal fields of zeros.
 - e. Double colons (:) MUST NOT be used to shorten just one 16-bit 0 field. For example, the representation 2001:db8:0:1:1:1:1 is correct, but 2001:db8::1:1:1:1 is not correct.
 - f. When the length of the consecutive 16-bit 0 fields are equal (i.e., 2001:db8:0:0:1:0:0:1), the first sequence of zero bits MUST be shortened. For example, 2001:db8::1:0:0:1 is correct representation.
- For IPv4 and IPv6 compatible format input,
 - a. Validate the IPv6 address for any non-hexadecimal character.
 - b. Follow the input validation rules and behaviors above in #7, except the number of valid 16-bit hexadecimal fields since it allows 6 16-bit hexadecimal fields input for the IPv6 portion. For instance, if there are 7 16-bit hexadecimal fields, display an error message on a dot input.
 - c. Validate IPv4 input based on the rules in #6 above.

Subnet Mask/Prefix

- For IPv4, the input can be the dotted decimal notation subnet mask format or a decimal number of the prefix length, which indicates the length of network part of the address.
 - a. The dotted decimal notation subnet mask input for IPv4 follows the validation for IPv4 address except the system needs to convert the input into binary for the standard subnet mask validation.
 - b. The range of prefix length for IPv4 is 0-32. Disallow any out range input. E.g. display error message when input of 5 after 3.
 - c. Disallow any letter input for prefix length.
- For IPv6, the input can only be the prefix length.
 - a. If an IP address input is IPv6, when the focus moves to the subnet mask/prefix input area, dynamically change the display to prefix length only input area along with the notation changes (see Figure 16).
 - b. IPv6 prefix length range is 0-128. If an attempting input value is greater than 128, display an appropriate error message, e.g. when type 9 after 12 or type 4 after 23.
 - c. The maximum input digits are 3 for prefix length.
 - d. Disallow any letter input on prefix length.

Functional Design - Display

- For IPv6, the compressed format with double colons for successive hexadecimal fields of zeros is used for the display in the user interface. E.g. 2001:DB8::800:88FF:FEBF:A09A.
- For IPv4, it displays the format with omitted leading zeros regardless of user's input. For instance, if user's input is 172.024.001.170, it will be displayed as 172.24.1.170.
- No octal interpretation for IPv4. I.e. 120.037.001.109 = 120.37.1.109, but not 120.25.1.109.
- All letters in IPv6 addresses display will be in upper cases regardless user's input.
- Minimum default area length for IP Address display is adjusted according to the longest IPv6 address for the display. When the allowed length is smaller than any of the IP address, apply the front truncation of the address to keep the device part of the address being displayed. That is to display the digits from the back to the front as many as possible and use "..." to represent the digits that cannot be displayed within the scope. Apply tooltip to display the entire address.
- Widget need to provide the numerical content of the IP address to the application in order to implement functions accurately, e.g. sorting, searching, and filtering. For example, if a display of IPv6 address is 2001:DB8::800:0:FEBF:A09A, application will use the numerical content of the address provided by the widget, which is 2001:DB8:0000:0000:0800:0000:FEBF:A09A to sort, search, and filter.
 - For sorting function in a table that contains IP address column
 - Group the IPv4 and IPv6 addresses separately first.
 - If ascending, IPv4 addresses will be above IPv6 ones and visa versa.
 - Within the group, ascending and descending follows the sorting rules for numerical based on the numerical content of the IP address, but not the text label of the display to make sure the sorting result is accurate.
 - For searching and filtering in a table as well as in the global search function, it is based on the numerical content of the IP address rather than the text label to make sure the searching and filtering result is accurate. Search and filter are not case sensitive for IPv6 hexadecimal letters.

Design note:

- Sorting, searching, and filtering are handled by the components that consume the IPv4/IPv6 unified widget per application. It is not part of the widget specification.
- If user puts both IPv4 and IPv6 addresses for one device, two addresses will flip-flop in the topology among the discovery cycle if the product label is selected to IP Address.

Design Note:

- This display is handled by the components that consume the IPv4/IPv6 unified widget per application. It is not part of the widget specification.
- Help and User Menu should document the behavior and recommend not adding both addresses of one switch in the discovery list.

Extended Usage of IPv4/IPv6 Unified Widget

The extended usage of unified IPv4/IPv6 widget refers to cases on the IP address along with port input and display. The IP address input and display follows what is defined for the widget in the above section. The extension part of the widget needs to be defined by the component and application that utilizes the widget.

To provide the visual and functional design of the widget extension is to provide an example on how it should follow the industry standard as well the user experience defined in the spec.



Figure 5. Display both subnet mask and prefix length input fields when the input IP address is IPv4



Figure 6. IP address input for both Ipv4 and Ipv6 with port

[2001:DB8::800:88FF:FEBF:A09A]:8080

Figure 7. IPv6 display with port

Functional Design -

IPv4 address with both Subnet mask and prefix length

Some applications request both subnet mask and prefix length for IPv4 address display and input. As an extended usage of unified IPv4/v6 widget, applications need to follow the design and interaction below for such use case.

- If an IP address input is IPv4, when the focus moves to the subnet mask/prefix input area, dynamically change the display to both dotted notation as well as prefix length input areas along with the notation changes on the right side of the input fields (see Figure 7).
- When a dotted-notation format is entered, dynamically display the corresponding digit in the prefix length input area. When the digit is modified, change the display for the dotted-notation format accordingly. Vice versa.

IP Address Input and Display Along with Port

Another extended usage of unified IPv4/IPv6 widget is the IP address along with port input and display. The IP address input and display follows what is defined for the widget in the above section. The extension part of the widget needs to be defined by the component and application that utilizes the widget.

To provide the visual and functional design of the widget extension is to provide an example on how it should follow the industry standard as well the user experience defined in the spec.

- It allows IPv4 or IPv6 format IP address input in the same textbox along with port number.
- When input both IPv6 and Port, use the http standard format, i.e. "[<IPv6>]:Port". For IPv4, still use "<IPv4 address>:Port". (See RFC 2732 Format for Literal IPv6 Addresses in URL's)
- Follow the validation rules for IPv4 and IPv6 input described above.
- Display error message below the textbox for any invalid input.

MAC Addresses

MAC

Figure 8. IP and MAC Addresses with visual specifications.

The standard IEEE 802 format for printing MAC-48 addresses in human-friendly form is six groups of two hexadecimal digits, separated by hyphens (-) or colons (:), in transmission order, e.g. 01-23-45-67-89-ab, 01:23:45:67:89:ab. This form is also commonly used for EUI-64.

MAC address fields need to accept any format entered (or pasted) by the user, as long as they contain 12 alphanumeric characters, but should be parsed and redisplayed in the standard IEEE format: "01-23-45-67-89-ab" or "de-ad-be-ef-ca-fe".

Visual Specifications

The width of the input field should be as wide as the longest string possible plus 0.8 rem padding on the left and the right. For specifications please see Textboxes.

Unified IP Address /

Figure 1. IP address input for IPv4 or IPv6 with subnet mask

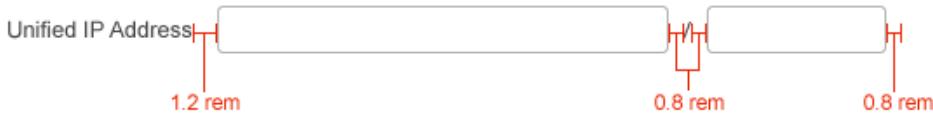


Figure 2. IP address input for IPv4 or IPv6 with subnet mask visual specifications

Font and Color Specification

Element	Font Face	Font Size	Color	Border
Label	Arial	1.3 rem	Arial	

Table 1. Specifications for Fonts and Colors

LIST BOX

Description

A list box enables users to select one or more items from a list. A fixed number of list items are always visible, and a scrollbar allows the user to scroll through the entire list.

Usage Guidelines

Use this component when...

- A large number of items are available for selection.
- Screen space is available for permanent display of the list.
- Multiple selection is required.

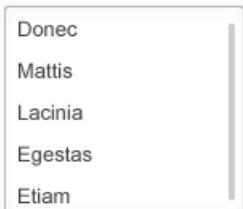
Do not use this component when...

- Screen space is limited.

Visual Specifications

Single Column List Box

Normal



Hover



Selected/Focused



Figure 1. Single Column List Box

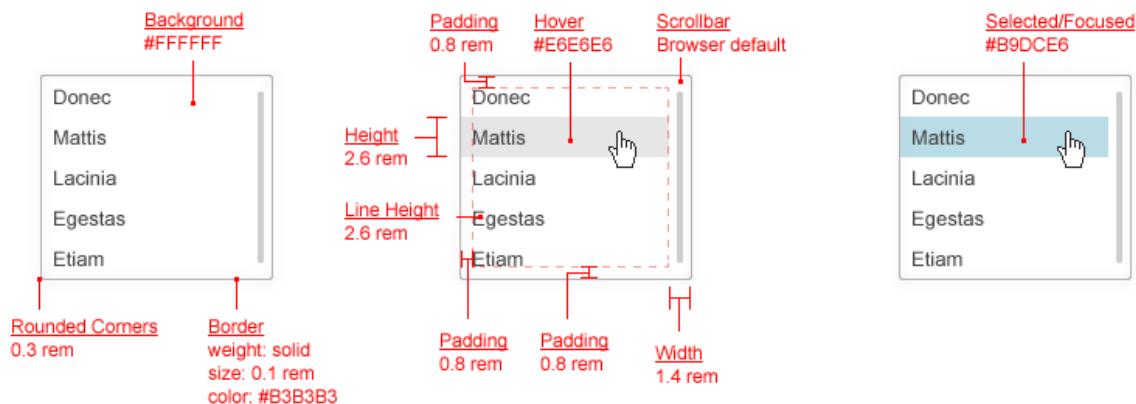


Figure 2. Specification for single Column List Box



Figure 3. Truncated list item



Figure 4. List box with multiple selections

Recommended Sizing and Spacing

The width of the list box should be as wide as the longest item in the list since there are no horizontal scroll bars in list boxes. If this is not possible due to screen space constraints, provide a tooltip with the full text of the item that is partially cut off.

The height of the list box should be enough to contain a useful number of visible items without requiring scrolling. The recommended number of visible items is 8, but if there is enough screen space, up to 20 items could be shown. A minimum of 3-5 items should always be shown.

Font and Color Specification

Element	Font	Size	Style	Color	Behavior
Node - Default State	Arial	1.3 rem	Normal	#464646	
Node - Hover State	Arial	1.3 rem	Normal	#E6E6E6 #C3E1E8	Returns to default state on mouseout
Node - Selected State	Arial	1.3 rem	Normal	the OS controls the background color for selected/highlighted node	

Table 1. Specifications for Fonts and Colors

Interaction Behavior

User selects a single item from the list. The background color of the item changes to indicate that it is selected.

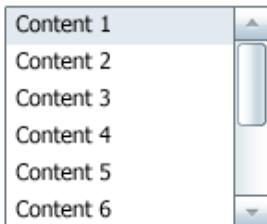


Figure 1. List BoxFigure

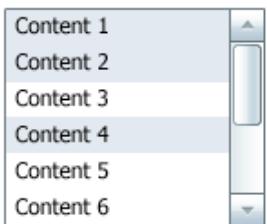


Figure 2. List Box with Multiple Selections

- The list box should be tall enough to show a useful number of visible items without requiring scrolling.
- Recommended: 8 visible items. This creates a good balance between conserving space and showing enough choices to help the user make a decision.
Minimum: 3-5 visible items.
- The visible list items should be shown in full and should not be partially cut off. If this is impossible due to space constraints, use tooltips to show the full text of each list item. The tooltips should be keyboard accessible.
- Items that are not available for selection should either be excluded from the list box (recommended) or dimmed (grayed out).

NUMBER SPINNER / COUNTER

Description

The Spinner is used to adjust a textbox value to a preset menu and reduces the need to type into a text field. Spinner consist of 3 main parts : text box, up and down arrows typically oriented vertically and are aligned right in the textbox. A value hint is optional.

Usage Guidelines

Use this component when...

User is expected to select a single value from a pre-set values and known increments range.

Do not use a Combo Box when...

You can use an alternative component such as a combo box or date picker.

Restrictions...

A user can only see one line at a time, and sequentially cycle through the available choices.

Visual Specifications

A multiple choice selector, with one line shown.

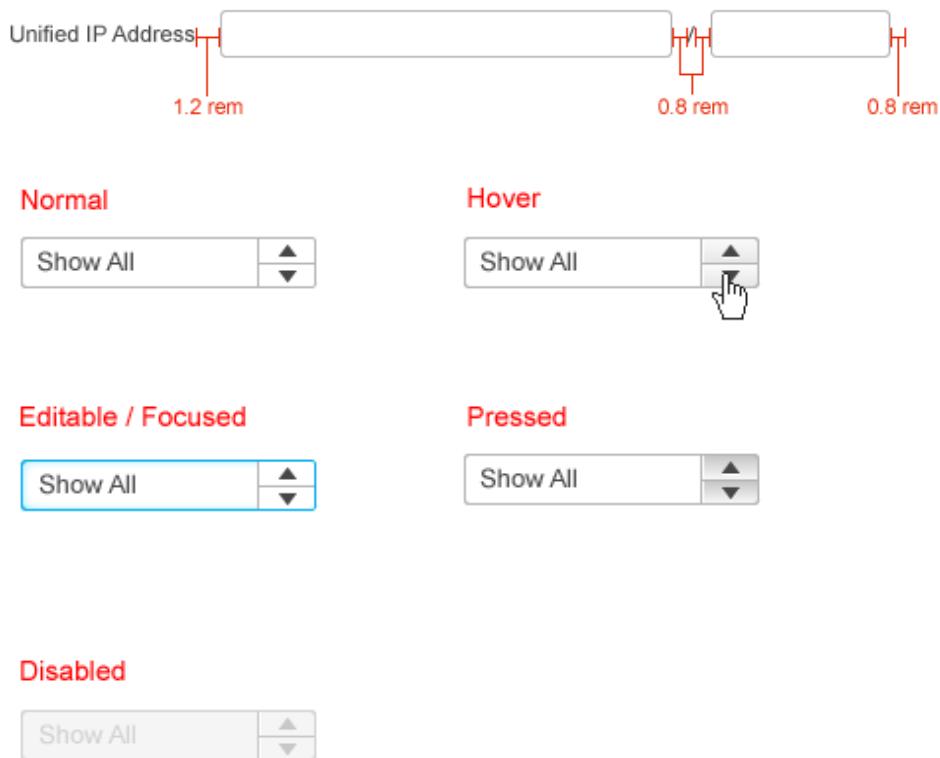


Figure 1. Spinner

This component allows a user to change a selection, within a pre-defined range of sequential values. It is best used when the user manipulation is in small values.

Please consider using a different control before implementing this one

Inventory - Overview				
Records 1-17 of 200				
Version	SysName	IsSendingAlarms	Element Type	
12.2(3)SRB2	SMITH	false	Cisco Catalyst 6506 IOS Switch	
12.2(20080605:055316)	JOHNSON	false	Cisco Catalyst 6509-NEB-A IOS Switch	
12.1(22)EA4	WILLIAMS	false	Cisco Catalyst 3550 48 Switch	
3.5.0	JONES	false	Cisco 12416 Router	
3.4.1	BROWN	false	Cisco 12010 Router	
3.5.3	DAVIS	false	Cisco CRS1-16	
3.4.2	MILLER	false	Cisco CRS1-8	
3.6.1	WILSON	false	Cisco CRS1-8	
3.4.1	MOORE	false	Cisco 12416 Router	
12.0(32)S6	TAYLOR	false	Cisco 12404 Router	
12.2(35)SE5	ANDERSON	false	Cisco Catalyst 3550 48 Switch	
12.1(14)EA1a	THOMAS	false	Cisco Catalyst 3550 48 Switch	
12.1(13)EA1c	JACKSON	false	Cisco Catalyst 3550 48 Switch	
12.2(44)SE2	WHITE	false	Cisco Catalyst 3550 48 Switch	
12.2(33)SRB2	SMITH	false	Cisco Catalyst 3550 48 Switch	
12.2(20080605:055316)	JOHNSON	false	Cisco Catalyst 6509 IOS Switch	
3.4.1	MOORE	false	Cisco Catalyst 6509 IOS Switch	

Last updated 11/2/2012 9:30:02 AM

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Figure 2. Visual specification for Spinner

The above illustration shows an example spinner which allows the user to change the year up or down within a pre-defined range of years.

A user can change these values:

- One value at a time, using the up and down arrows.
- By directly typing a new value into the component, that is within an allowable range, as defined by a format mask.

Format Masks

A common reason for using this control is that it enforces an allowable, pre-defined range of values. For example: a selection of calendar years ranging from 2005 thru 2012. In this case, a format mask would be applied to the field, only allowing numbers to be entered.

With spinners and format masking, there is still the chance of errors when allowing direct text entry. For example, in the use case above, if 2002 was entered manually, a contextual error would be displayed as soon as possible. This contextual error would be prompted to the user after the cursor focus leaves the invalid field, or after attempting to "submit" the overall form which is a part of.

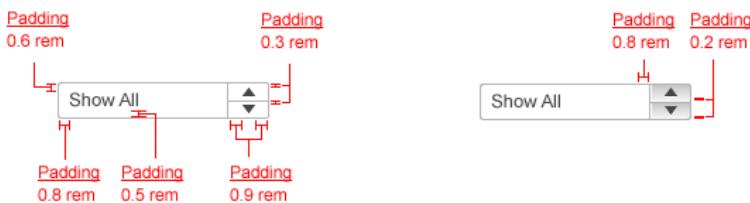


Figure 3. Visual specification for Spinner

Font and Color Specification

Element	Font	Size	Style	Font Color
Text Box	Arial	1.3 rem	Normal	#464646

Table 1. Specifications for Fonts and Colors

Interaction Behavior

User may adjust a value in an adjoining text box by one of the following ways

- Click on an up or down arrow, when the arrows part of the spinner in clicked or held ,the value of the spinner is displayed in the text box next to the spinner.
- Hold an arrow down, speed changing the value in the text box.
- Type directly into the textbox .



Figure 4. With hint text

Actions

- On click - change value of text box by a "one measure" of a preset value (increase if up arrow is clicked/decrease if down arrow is clicked).
- On Click and hold - fast change the text box value as long as the user keep a "press and hold" (increase/decrease as above).
- On Hover and on Click - highlight one arrow.
- Text box:
 - When cursor is clicked in, frame color is highlighted.
 - Error - show notification error when entered value is outside of permitted range.
 - When spinner is disabled text box including its content (arrows and text) are grayed out.

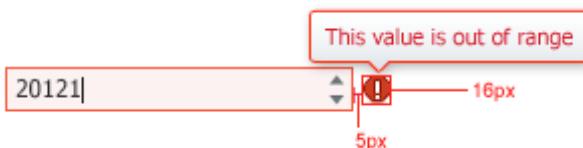


Figure 5.Invalid Value (out of range number)



Figure 6. Disabled

QUICK PICKER

Description

The main purpose of the quick picker widget is to allow the user to select a single item or multiple items from a set in the context of his current task.

Usage Guidelines

Use this component when...

- To allow the user to select item(s) from a set of available items without leaving the context of his task
- To allow the user to easily manage that subset of selected items
- In place of a transfer box where it may have previously been used (with the retention of prior selections in the multi-select quick picker)

Do not use this component...

- In place of a dropdown list for simple, flat, single-select lists that do not require additional information to be available for each item (e.g. a short list containing a selection of pre-set time ranges)
- In place of a multi-column dropdown list for simple, flat, single-select lists that have additional information available for each item.
 - Exception: The single select quick picker containing table should only be used in place of a multi-column dropdown list when advanced functionality like sorting/filtering the list (not covered by dropdown list type-ahead) is needed.

Configurations of the Quick Picker - Usage

The “Single Select Quick Picker” configuration should only be used in cases where the user is only ever selecting a single object from the (most often, hierarchical) set to populate into his current context. The “Multi Select Quick Picker - Text Box” configuration of the quick picker widget is ideal for when the user can select multiple items from the set, yet there is only space on the page for a text box. If there is vertical real estate for a larger list box, that configuration (“Multi Select Quick Picker - List Box”) should be used instead, as it provides the user with more immediate visibility into his specific selections and allows him to remove selections without needing to open the overlay. The “Multi Select Quick Picker - List Box” configuration can only be used when the vertical real estate is available for the larger list box and when a table is not needed on the underlying page (e.g. in form layout). For cases in which a table is needed on the underlying page, the “Multi Select Quick Picker - Button” configuration is recommended.

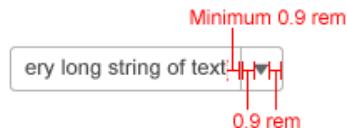
Within the quick picker, the choice of which component to use as the selection widget is determined by how complex the data is to represent. In most cases, an object selector should be used as the selection widget. An object selector should always be used in the case of large data sets. Not only can it support displaying hierarchy, filtering, and providing on-demand details in a quickview on objects, but it also supports “Show All / Show Selected / Show Unselected” functionality, which is necessary for large data sets. It is strongly recommended to enable the “Show All / Show Selected / Show Unselected” dropdown when a multi-select object selector is used. A basic table is only acceptable in the case of flat, short lists where additional functionality like sorting/filtering or multi-select is needed (otherwise, a simpler dropdown list or multi-column dropdown list should be used in this scenario).

Blank Options

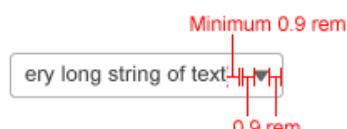
Similar to the guideline for the dropdown list widget, if there is no default selection made for the quick picker, the field should be blank on the page. This blank field is preferable to text that reads "Make a selection" (or something similar) because the blank field makes it visually apparent that a selection needs to be made.

Visual Specifications

Editable Quick Picker



Non-editable Quick Picker



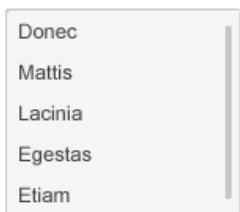
Disabled Quick Picker



Figure 1. Quick Picker Overview

Listbox Quick Picker

Read Only



Disabled



Read/Write



Figure 2. Listbox Quick Picker

With Required Notification



With Popover



With Object Selector

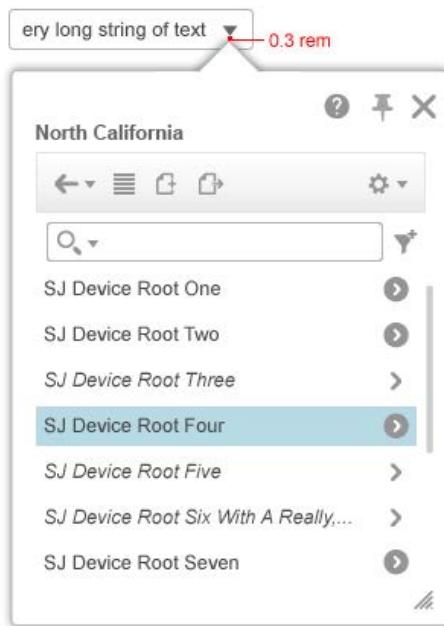
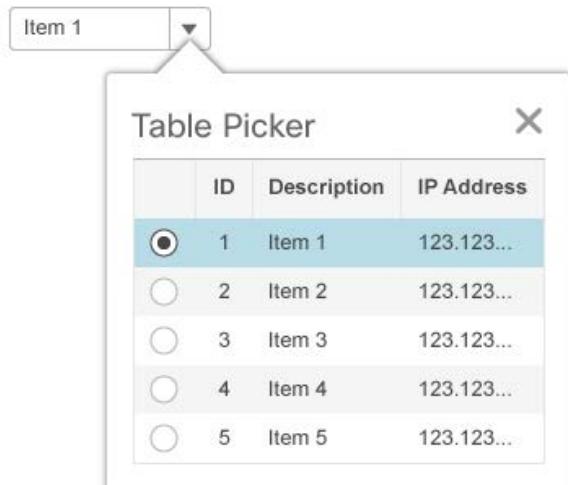


Figure 3. Quick Picker in Popover

With Table Single-Picker



With Table Multi-Picker

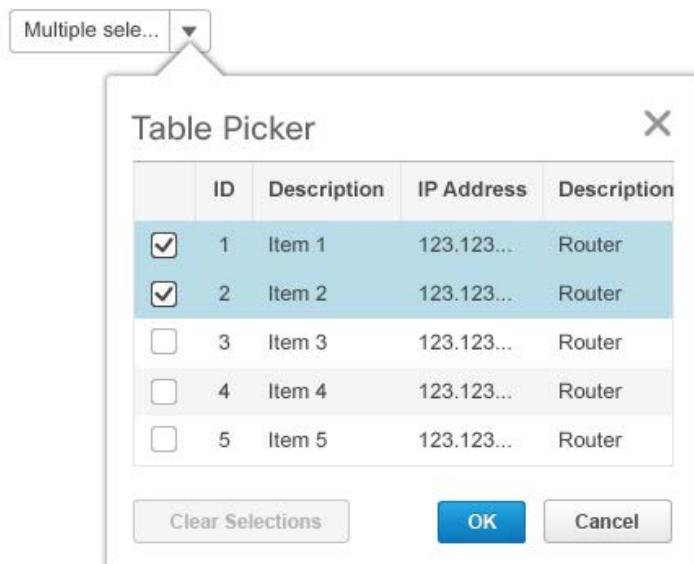
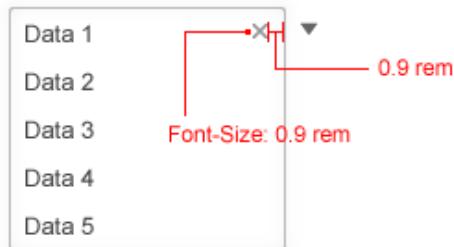


Figure 4. Quick Picker with Table Single-Picker and Multi-Picker

Multi-Select Listbox



Single-Select Textbox Non-editable



Single-Select Textbox Non-editable (Disabled)

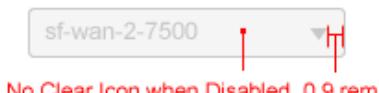


Figure 5. Quick Picker in Listbox and Textbox Specifications

Table Title

		Acknowledge
1	<input type="checkbox"/>	Data Src 1
2	<input type="checkbox"/>	Table Data 2
3	<input type="checkbox"/>	Table Data 3
4	<input type="checkbox"/>	Table Data 4
5	<input type="checkbox"/>	Table Data 5
6	<input checked="" type="checkbox"/>	Table Data 6
7	<input type="checkbox"/>	Table Data 7
8	<input type="checkbox"/>	Table Data 8

Selected xx / Total xx ⚙️

Table Data 1

Table Data 2

Table Data 3

Table Data 4

Table Data 5

Table Data 6

Table Data 7

Table Data 8

SJ Device Root One >
 SJ Device Root Two >
 SJ Device Root Three >
 SJ Device Root Four >
 SJ Device Root Five >

Figure 6. Quick Picker in Table Specifications

Font and Color Specification

State	Color
Read Only Font Color	#464646
Read Only Font Color (Table)	#686868
Read Only Font Color (Disabled)	#C8C8C8
Editable Field Font Color	#464646
Editable Field Background Color	#FFFFFF
Editable Field Outline Color	#B4B4B4
Disabled Field Font Color	#C8C8C8
Disabled Field Background Color	#F5F5F5
Disabled Field Outline Color	#C8C8C8
Non-editable Field Font Color	#464646
Non-editable Field Background Color	#FFFFFF
Non-editable Field Outline Color	#B4B4B4

Table 1. Quick Picker Textbox Specifications

Icons

Name	Icon	Size	Color
Quick Picker Icon (Normal State)	▶	0.9 rem	#464646
Quick Picker Icon (Disabled State)	▶	0.9 rem	#C8C8C8
Close Icon (Normal State)	✗	1.6 rem	#969696
Close Icon (Hover State)	✗	1.6 rem	#74BAD1
Close Icon (Pressed State)	✗	1.6 rem	#379BBE
Close Icon (Disabled State)	✗	1.6 rem	#C8C8C8

Table 2. Quick Picker Icons

Interaction Behavior

The quick picker widget consists of four basic elements:

- Field element - either single item (e.g. text box) or multi item (e.g. enhanced list box, repeater for future consideration) [optional]
- Icon to launch overlay containing selection widget
- Overlay (such as popover) containing selection widget and any associated buttons if necessary
- Selection widget (such as table, list, or object selector)

Currently, the field element containing the multi-select results (if applicable) is non-editable, as the widget would not be responsible for converting any manual user input (string names, typically) into the object IDs that the selection widget would need in order to synchronize selection state. If a use case arises in which the user needs to manually input entries in a multi-select scenario - outside of the context of object creation provided by the object selector - this would have to be configured by an app team using the quick picker widget in a composite scenario. However, the widget is responsible for providing the necessary hooks to set selection based on context established elsewhere. In this way, an app team could create a composite widget involving a text area accepting user input, which could make calls to the quick picker in order to manage synchronization of state. The widget is also responsible for providing the appropriate events to signal when an object that is intended to be programmatically checked/unchecked is not found in the selection widget.

See usage guidelines for additional information on how and when to use the various configurations of the quick picker widget, including the selection widget.

Single Select Quick Picker

The single select quick picker is the simplest of the configurations. In this case, there is a single field that the user is able to populate via the quick picker. The quick picker icon is contained outside a text box in the case where a user can manually enter a value.

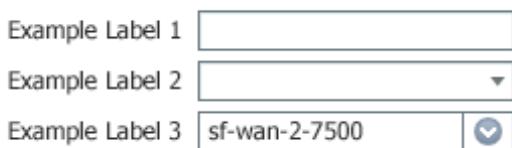


Figure 4. Single select quick picker with editable textbox.

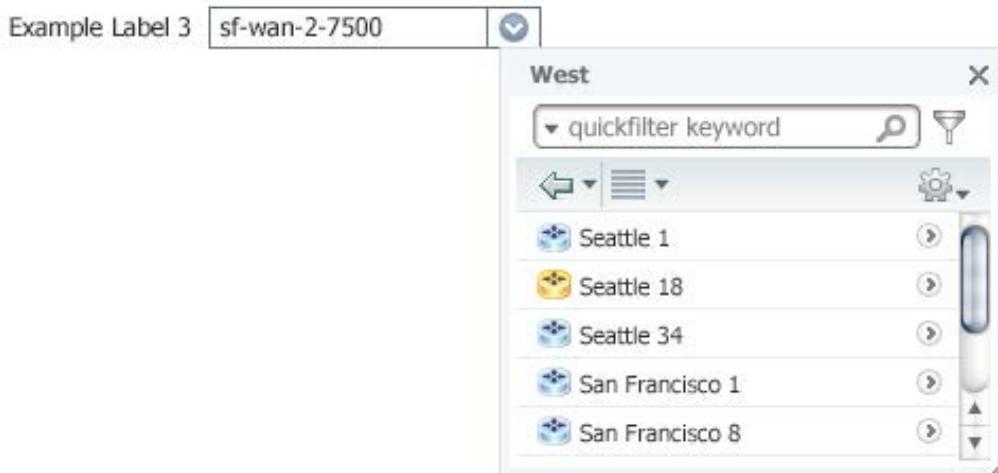


Figure 5. Single select quick picker with editable textbox. Selection widget launched (object selector as an overlay).

In the case where the user cannot manually enter a value (non-editable), the visual style should be as follows. In either case of editable or non-editable quick picker, an app team may choose to have a default selection populated when it is necessary for the context.



Figure 6. Single select quick picker with non-editable textbox. No selection made.

The selection interaction is as follows: the user invokes the selection widget in an overlay via the quick picker icon associated with the field. As soon as the user selects an object from the selection widget, the overlay containing the selection widget closes and the selection is displayed in the underlying field.

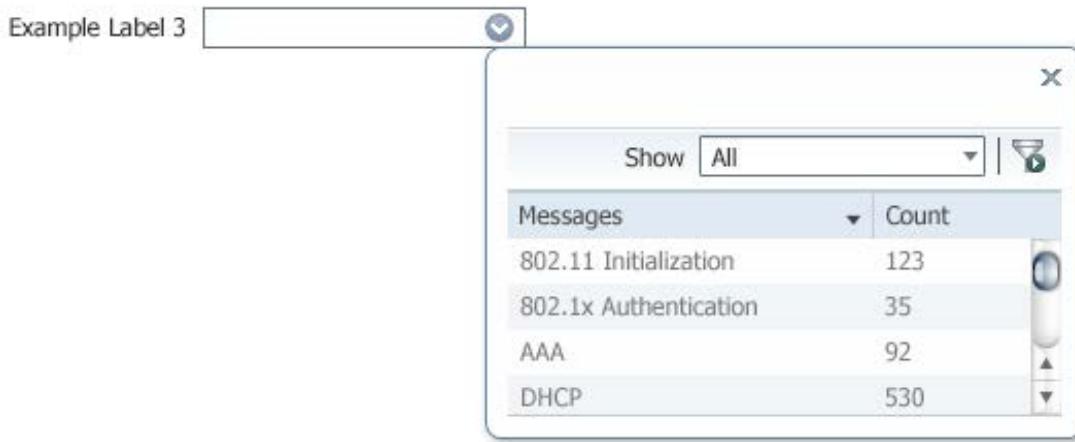


Figure 7. Single select quick picker with non-editable textbox. Selection populated in text box. Selection widget launched (table contained within a popover).

For the single select quick picker with non-editable textbox, the user can clear the text box by hovering over the quick picker widget (text box or icon portion) to reveal an “X” icon adjacent to the text. Clicking on this “X” clears the selection and reverts



the text box to its state of showing instructional text. If the user has the overlay open and hovers on the text box or icon to reveal the close “X”, and clicks the “X” to clear the selection, the overlay would close as well. The “X” would not appear if an object selection is not populated in the text box.

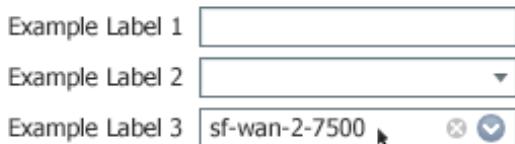


Figure 8. Showing "X" icon on hover to clear selection in single select non-editable textbox configuration.

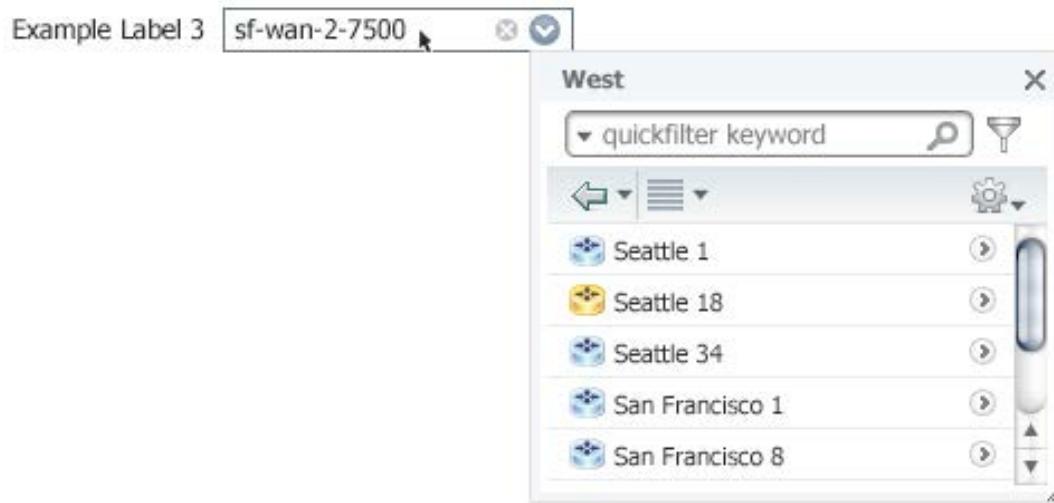


Figure 9. User has ability to clear selection on hover of text box or launching icon, even when overlay is open.

The single select quick picker also supports clearing a selection by allowing the user to click the selected item in the selection widget, which would deselect it. For instance, the user could click the selected row in the object selector or table to clear the selection, which would automatically close the overlay (as occurs when the user selects an object in this configuration).

Multi Select Quick Picker - Text Box

This configuration is similar to the single select quick picker, in that the field containing the result of the selection is a single line text box. It differs in that the user is able to select multiple objects from the selection widget. Because the underlying field is non-editable, it will match the style presented in the non-editable single select case. However, an "X" icon would not be shown on hover of the text box or icon, as the user has an affordance for clearing selections in the selection widget, which is more suitable for bulk removal. See "'Clear' vs. 'Clear Selections' in Multi Select Quick Picker" section for more details on this interaction.

In this configuration, the overlay that the user launches to populate the field contains not only the selection widget, but also associated form elements (such as "Select" / "Cancel" buttons). These buttons are necessary for the user to submit his selection, as selecting a single item does not automatically close the overlay, as it did in the single select quick picker configuration. An app team should be able to customize the number of buttons and their text, as well as add any additional form elements to the popover that are necessary.

If only a single object is checked when the user submits his selections, the popover should close and the field should display the name of the selected object (as in the single select quick picker configuration). If multiple objects are checked when the user submits his selections, the popover should close and the field should display 'Multiple Selections' string to denote multiple selections were made.

In either case, the selection widget must be able to retain the selected values so they can be viewed, deselected / selected. In order to view and modify his selections, the user can open the overlay and view the selections made in the selection widget (in the case of a large set of items, the object selector supports toggles between "Show All / Show Selected / Show Unselected" - this feature should be enabled in the object selector).

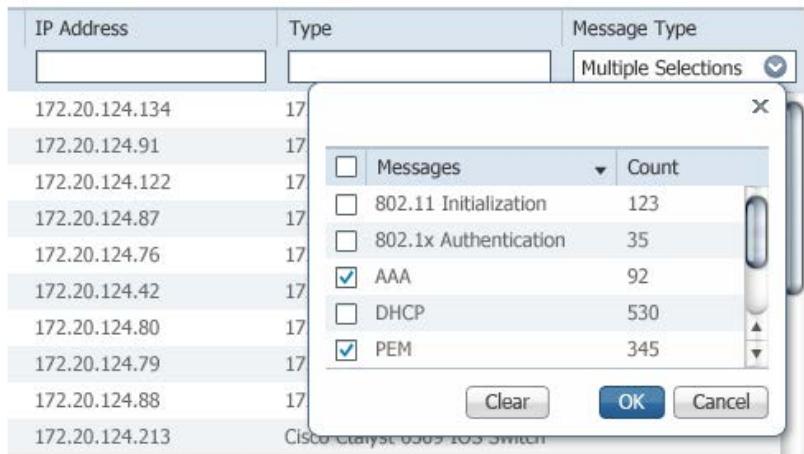


Figure 10. Multi select quick picker (text box) integrated with table quick filter. Selection widget launched (table contained within a popover) and changes made to selection state.

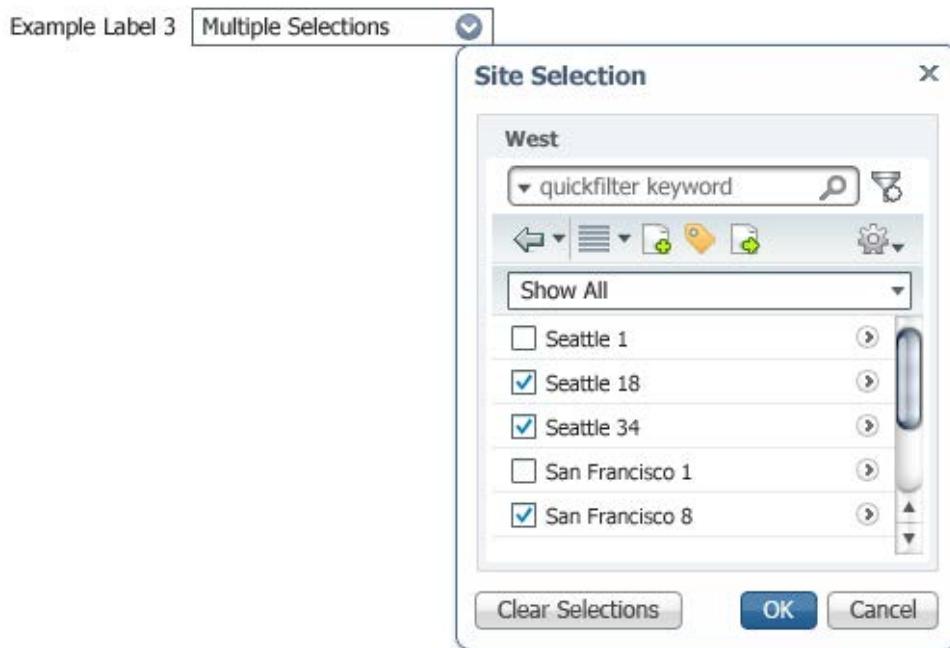


Figure 11. Multi select quick picker (text box). Selection widget launched (object selector contained within a popover) and changes made to selection state.

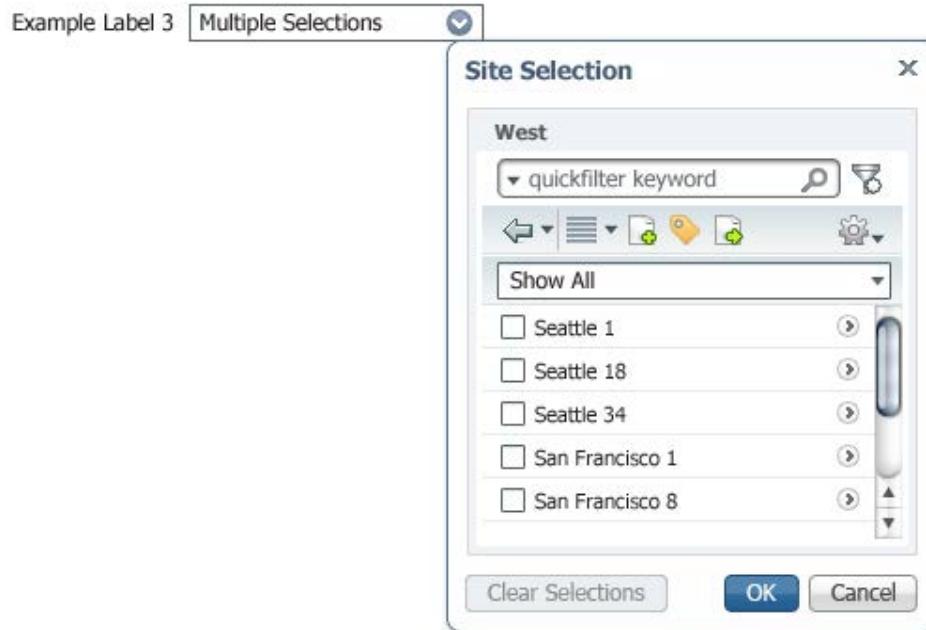


Figure 12. User has cleared selections within the object selector.

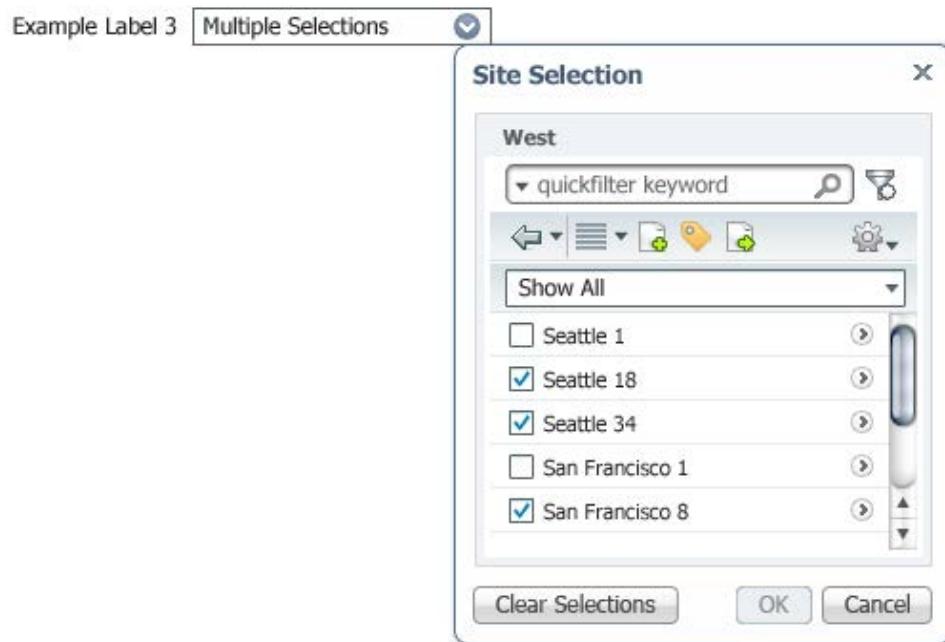


Figure 13. "OK" button is disabled when overlay is launched until the user makes a change to the selection state.

Multi Select Quick Picker - List Box

This configuration is similar to “Multi Select Quick Picker - Text Box” - the distinction is that the underlying field element is an enhanced list box that can show all the selections, with a vertical scrollbar if necessary. Again, the selection widget must be able to retain the selected values so they can be viewed, deselected / selected. The user should also be able to quickly remove selections (without the need for opening the overlay) by hovering over a list box row and clicking on the “X” that appears adjacent to the item - this “X” only shows while hovering on the row in the list box. Clicking on this “X” immediately removes the item from the list box and unchecks it in the selection widget. If the overlay containing the selection widget is open, these “X” icons do not appear when hovering over the line items of the list box.

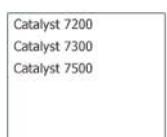
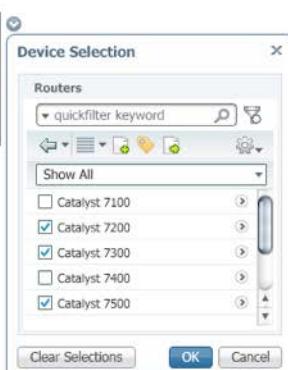


Figure 14. Multi select quick picker (list box) workflow.

Multi Select Quick Picker - Button

Note: for the time being, this configuration is presented as a design pattern, rather than being supported as an out-of-the-box widget configuration.

In this configuration, the optional field element is not used. Instead, the quick picker is launched from a button in order to add objects to a repeater or table. In this case, it is generally not necessary for the selection widget to maintain selections (although this should be configurable) - the table provides a mechanism for removing an item added via the quick picker. If selections are not maintained in the selection widget, when an object is added via the quick picker, it is not included in the selection widget on future launches of the overlay. Only items not already included in the table set are displayed in the selection widget to be added to the table. The widget should have hooks available that the table can call into to indicate if the user has removed objects from the table (therefore making them available again for display and selection in the selection widget). Otherwise, if the selection widget is configured to maintain selections, the selection widget must be able to retain the selected values so they can be viewed, deselected / selected, and, as before, should have the hooks in place to manage synchronization of state.

Additional interactions with the table, such as behavior when the table is filtered or in edit mode, to be covered in the table spec.

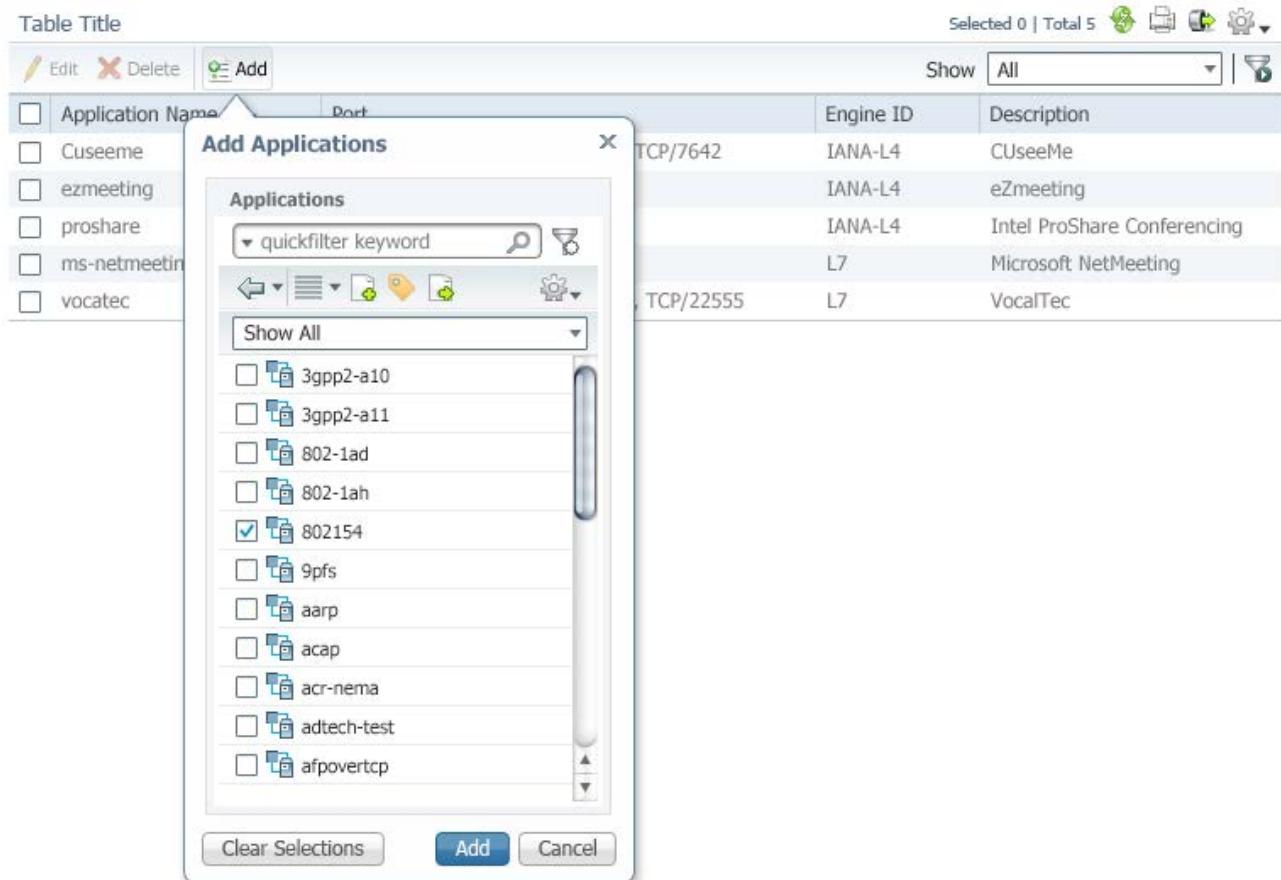


Figure 15. Multi select quick picker launched from button in table toolbar.

State of Selection Widget on Launch

The following is the behavior regarding state to show upon subsequent launches of the quick picker overlay and selection widget (e.g. object selector). Because the quick picker is used primarily for selection, the widget should show selection (rather than navigation) upon subsequent launches of the overlay, as described below.

- Single Select Quick Picker
 - If the user selects an object, the quick picker overlay would automatically close in this configuration. If the user were to then re-open the overlay, the selection widget would show the selection which was just made.
 - Without a prior selection, if the user opens the overlay (root would be shown) and navigates within the selection widget, and then closes the overlay without making a selection, on subsequent launch the root would be shown.
 - With a prior selection, if the user opens the overlay (selection would be shown) and navigates within the selection widget, and then closes the overlay without making a new selection, on subsequent launch the existing selection would be shown.

Note: If the user has arrived at a new page to see that a selection has already been populated within the quick picker field element, the same paradigm as above (show selection) would be followed when the overlay containing the selection widget is launched. It is the app team's responsibility to confirm the default value has a valid path and item ID when programmatically setting this default selection.

- Multi Select Quick Picker
 - When the user opens the overlay containing the selection widget, the root would be shown, displaying partially checked and checked nodes representing the previous selections, if any.

'Clear' vs. 'Clear Selections' in Multi Select Quick Picker

The multi select quick picker is generally used in two scenarios: as a means for selecting queries for a search/filter, or to make selections which modify a business object (e.g. selecting the devices to which to apply a configuration change). Within the overlay containing the selection widget, there should be a mechanism for quickly clearing the selections in the multi select quick picker. The label and interaction behavior for this button should be context-specific, depending on the purpose of the quick picker instance:

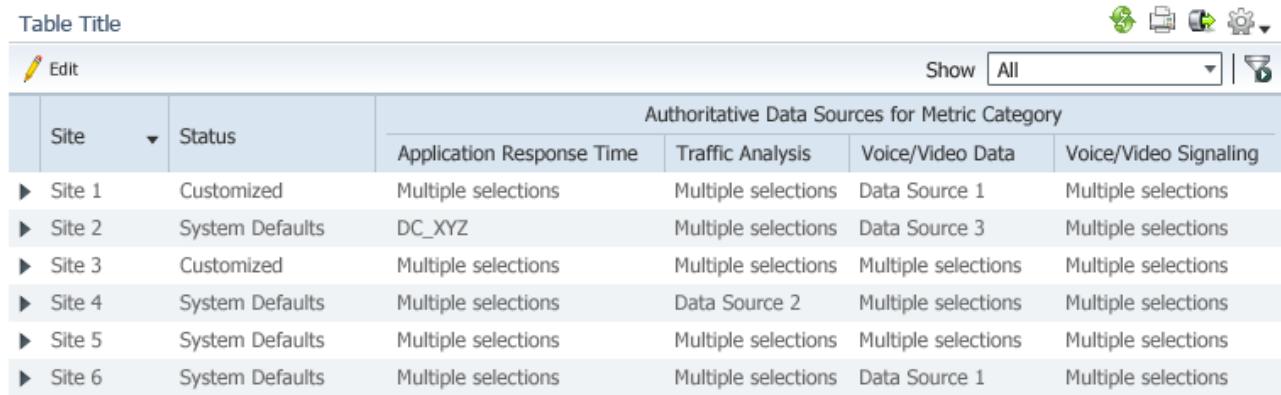
- Modifying Business Object (Selections Saved to a Record)
 - Popover contains button labeled "Clear Selections". "Clear Selections" unchecks all objects in the selection widget, but does not apply the changes. User can click "OK" to submit the changes or "Cancel" to cancel the changes. In this scenario, the ability to undo is more important and expected.
- Selecting Queries for Search/Filter
 - Popover contains button labeled "Clear." When clicked, the button clears and applies - no separate "OK" is required. In the search/filter scenario, the concept of undoing a "clear" is not expected, nor is it standard within the paradigm. For instance, in the example of Figure 9, clicking "Clear" in the popover would clear and apply, removing the filter query in the "Message Type" column.

Integration of Quick Picker into Table

The quick picker can be embedded in an inline edit row or expandable inlay panel within the table. A text box based quick picker configuration would be included in the inline edit row scenario. A list box based multi-select quick picker would be included in the expanded inlay panel scenario.

The following examples show what this integration with the table would look like, using both the inline edit row and inlay panel.

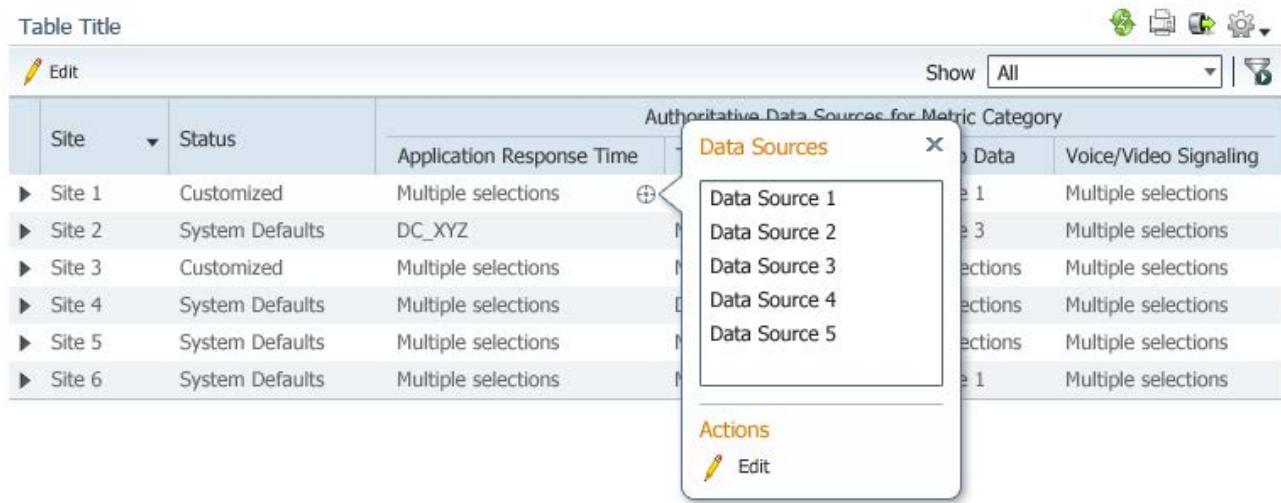
Table Title



Site	Status	Authoritative Data Sources for Metric Category			
		Application Response Time	Traffic Analysis	Voice/Video Data	Voice/Video Signaling
▶ Site 1	Customized	Multiple selections	Multiple selections	Data Source 1	Multiple selections
▶ Site 2	System Defaults	DC_XYZ	Multiple selections	Data Source 3	Multiple selections
▶ Site 3	Customized	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 4	System Defaults	Multiple selections	Data Source 2	Multiple selections	Multiple selections
▶ Site 5	System Defaults	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 6	System Defaults	Multiple selections	Multiple selections	Data Source 1	Multiple selections

Figure 16. Table in collapsed state, read-mode.

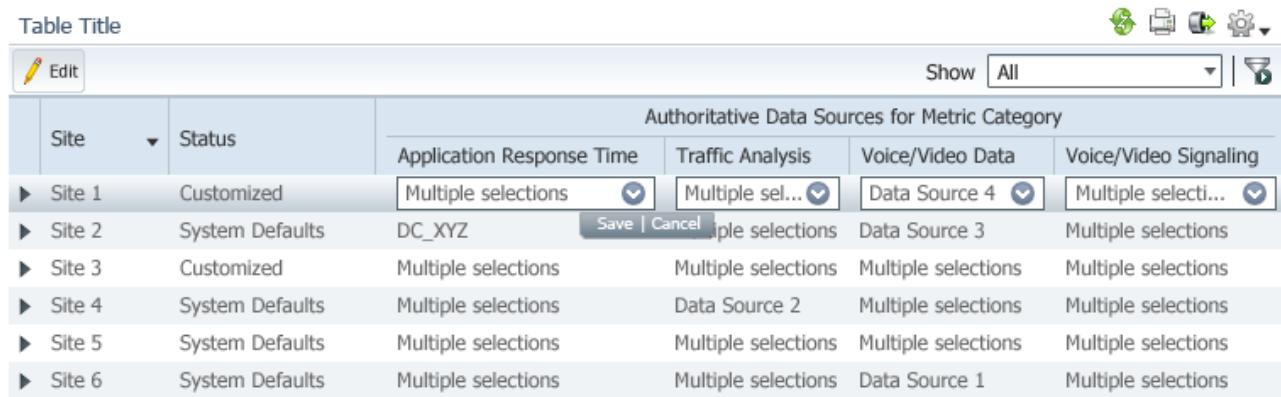
Table Title



Site	Status	Authoritative Data Sources for Metric Category			
		Application Response Time	Traffic Analysis	Voice/Video Data	Voice/Video Signaling
▶ Site 1	Customized	Multiple selections	Multiple selections	Data Source 1	Multiple selections
▶ Site 2	System Defaults	DC_XYZ	Multiple selections	Data Source 3	Multiple selections
▶ Site 3	Customized	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 4	System Defaults	Multiple selections	Data Source 2	Multiple selections	Multiple selections
▶ Site 5	System Defaults	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 6	System Defaults	Multiple selections	Multiple selections	Data Source 1	Multiple selections

Figure 17. Quickview to show selections when table is in read-mode.

Table Title

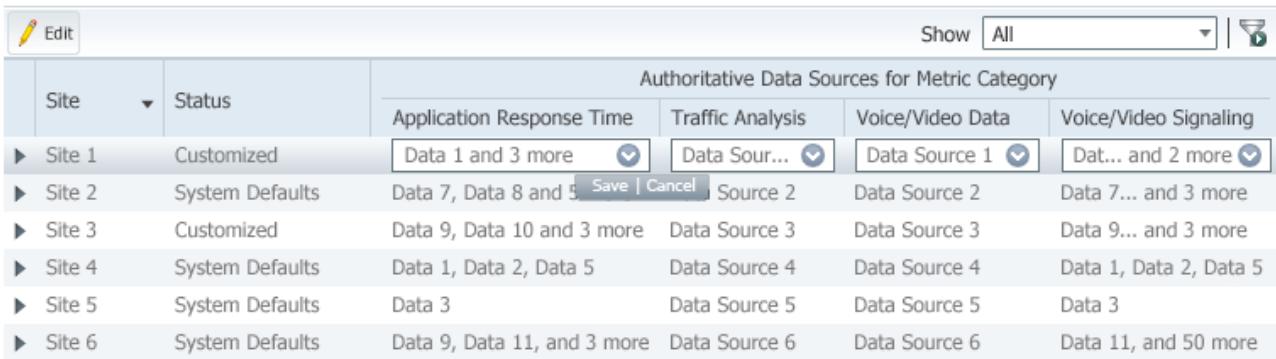


Site	Status	Authoritative Data Sources for Metric Category			
		Application Response Time	Traffic Analysis	Voice/Video Data	Voice/Video Signaling
▶ Site 1	Customized	Multiple selections	Multiple sel... <input checked="" type="button"/>	Data Source 4 <input checked="" type="button"/>	Multiple select... <input checked="" type="button"/>
▶ Site 2	System Defaults	DC_XYZ	Save Cancel	Multiple selections	Data Source 3
▶ Site 3	Customized	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 4	System Defaults	Multiple selections	Data Source 2	Multiple selections	Multiple selections
▶ Site 5	System Defaults	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 6	System Defaults	Multiple selections	Multiple selections	Data Source 1	Multiple selections

Figure 18. Table with inline edit row containing multi select quick pickers (text box configuration).

In the above scenario, the user is able to quickly make and modify selections using the quick picker. If the inlay panel is also used in tandem within the table instance, these selections are synchronized with the quick pickers (list box) in the inlay panel.

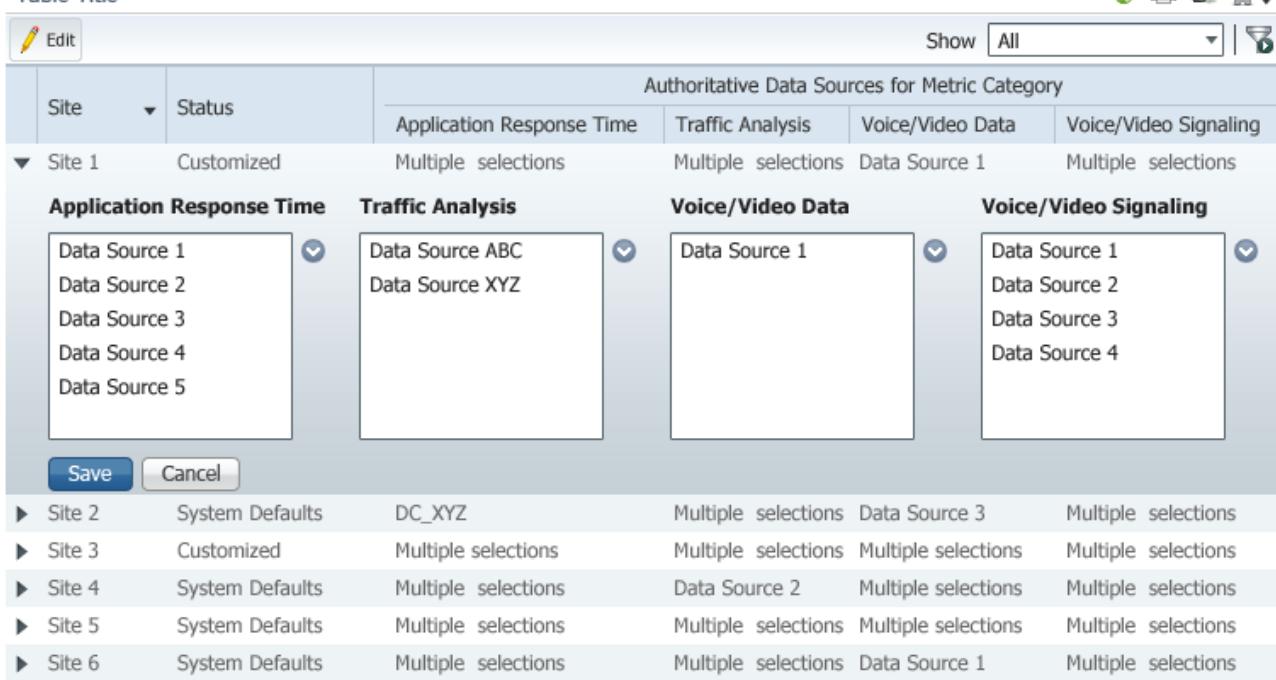
Table Title



Site		Status	Authoritative Data Sources for Metric Category			
			Application Response Time	Traffic Analysis	Voice/Video Data	Voice/Video Signaling
▶ Site 1	Customized	Data 1 and 3 more	<input checked="" type="checkbox"/>	Data Sour...	<input checked="" type="checkbox"/>	Data Source 1
▶ Site 2	System Defaults	Data 7, Data 8 and 5	<input type="button" value="Save"/>	<input type="button" value="Cancel"/>	Source 2	Data Source 2
▶ Site 3	Customized	Data 9, Data 10 and 3 more		Data Source 3		Data 9... and 3 more
▶ Site 4	System Defaults	Data 1, Data 2, Data 5		Data Source 4		Data 1, Data 2, Data 5
▶ Site 5	System Defaults	Data 3		Data Source 5		Data 3
▶ Site 6	System Defaults	Data 9, Data 11, and 3 more		Data Source 6		Data 11, and 50 more

Figure 19.Table in collapsed state, inline edit mode: showing potential for stretch goal of smart truncation to show first few items “and N more” in the case of availability of greater column width.

Table Title



Site		Status	Authoritative Data Sources for Metric Category			
			Application Response Time	Traffic Analysis	Voice/Video Data	Voice/Video Signaling
▼ Site 1	Customized	Multiple selections	Multiple selections	Multiple selections	Data Source 1	Multiple selections
		Application Response Time	Traffic Analysis	Voice/Video Data	Voice/Video Signaling	
		<div style="border: 1px solid #ccc; padding: 5px;"> Data Source 1 Data Source 2 Data Source 3 Data Source 4 Data Source 5 </div>	<div style="border: 1px solid #ccc; padding: 5px;"> Data Source ABC Data Source XYZ </div>	<div style="border: 1px solid #ccc; padding: 5px;"> Data Source 1 </div>	<div style="border: 1px solid #ccc; padding: 5px;"> Data Source 1 Data Source 2 Data Source 3 Data Source 4 </div>	
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
▶ Site 2	System Defaults	DC_XYZ	Multiple selections	Multiple selections	Data Source 3	Multiple selections
▶ Site 3	Customized	Multiple selections	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 4	System Defaults	Multiple selections	Data Source 2	Multiple selections	Multiple selections	Multiple selections
▶ Site 5	System Defaults	Multiple selections	Multiple selections	Multiple selections	Multiple selections	Multiple selections
▶ Site 6	System Defaults	Multiple selections	Multiple selections	Data Source 1	Multiple selections	Multiple selections

Figure 20. Table row with inlay panel expanded, revealing multi-select quick pickers (list box configuration).

In the above scenario, the user is able to expand the inlay panel to view more of the context of his selections. He is able to edit the selections via interaction directly with the list box, or with the quick picker selection widget launched from the icon. This configuration also allows the user to easily review lists of selections for each column without confusing any association between the columns.

RADIO BUTTON

Description

A radio button represents an exclusive choice within a set of related options. In any set of radio buttons, only one button can be in the selected state at any given time.

Usage Guidelines

Is This Component Right for the Job?

Problem Summary

The user needs to select from several mutually exclusive choices.

This Solution

Present each of the choices as separate labeled radio buttons, in groups.

Usage Principles

Use Radio Buttons when...

- The user needs to make a choice between mutually exclusive options.
- The user needs to set attributes or properties.
- It is beneficial to have all options visible.

Do not use Radio Buttons when...

- Space is constrained (use a [Drop Down List](#)).
- The user may need to select multiple choices within a group (use [Checkboxes](#)).
- The user may need to enter a choice that is not pre-defined (use a [Combo Box](#)).
- The user needs to select from a range of values (use a [Slider](#)).

Restrictions

- Only one radio button may be selected at a time.
- Each group should have a default selection.
- At least 2, and no more than 7 radio buttons should be included in a group.

From a User's Perspective

Advantages

- All choices are immediately visible.
- Choices with long labels can be seen in their entirety.

Disadvantages

- Take up a lot of space.
- Cannot be used when there are a large number of options.
- Cannot be used to select from a large range of values.

Visual Specifications

Layout and Visual Design

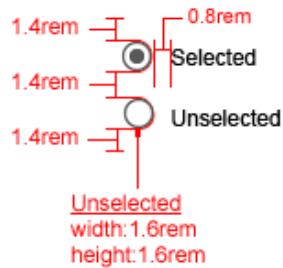


Figure 1. Specification for Radio Buttons

Font and Color Specification

Element	Font	Size	Style	Color
Label	Arial	1.3 rem	Normal	#464646

Table 1. Specifications for Fonts and Colors

Background and Border Specification

Radio Button State	Background	Border	Icon	Icon Color	Unicode
Selected	#FFFFFF	0.1rem solid #464646	● icon-radio	#464646	
Unselected	#FFFFFF	0.1rem solid #969696	None		
Selected Disabled	#F5F5F5	0.1rem solid #C8C8C8	● icon-radio	#C8C8C8	
Unselected Disabled	#F5F5F5	0.1rem solid #C8C8C8	None		
Focused	#FFFFFF	0.1rem solid #00BFEF	None		
Focused Selected	#FFFFFF	0.1rem solid #00BFEF	● icon-radio	#464646	

Table 2. Specifications for Backgrounds and Borders

Interaction Behavior

- Selected
- Unselected
- Selected disabled
- Unselected disabled

Figure 2. Radio Buttons

- If a choice is conditionally unavailable for selection, the radio button is dimmed, and cannot be selected.
- Only one radio button in a group can be selected at a time.
- Each group should have a default selection.
- If a choice is conditionally unavailable for selection, the button is dimmed, and cannot be selected.

SLIDER

Description

Single-Handled Slider

A slider allows the user to choose a value within a limited range. The user drags a handle along one dimension to set a value. Optionally, two handles on the same slider can allow the user to choose a start and end point for a range of values.

Two-Handled Slider

A two-handled slider provides a user the ability to define a smaller value range within a larger value range through direct manipulation rather than text field data-entry.

Selecting one handle at a time, a user drags each handle along one dimension to select the desired values. When each handle is released the system will refresh the view to correspond to the newly selected value range. Once a value range has been set a grip handle appears between the two value selection handles can be grabbed by a handle and dragged along the larger value range, giving the user a method for drilling in to another set of values within the same range.

Usage Guidelines

Quick Tips

Single-Handled Slider

- Sliders can allow for continuous adjustment, or "fine tuning" of values.
- Sliders can also be used to choose between discrete values, "snapping" from one value to the next.

Two-Handled Slider

- Two-handled sliders allow users to easily drill into a smaller value set without losing context of the greater set.
- Two-handled sliders allow user to easily toggle between the same set of value ranges within a greater value set.

Is This Component Right for the Job?

Single-Handled Slider

Problem Summary The user needs to specify a value within a range.

This Solution Present the range as a slider with a drag handle. The user drags the handle to set the value within the range.

Rationale By allowing the user to drag a handle to choose a value they can quickly and easily make a selection within a range with minimal interaction and no possibility of selecting an invalid value.

Two-Handled Slider

Problem Summary The user needs to specify a smaller value set within a greater value set.

This Solution Present the range as a slider with two drag handles at either end of the dataset. The user selects one handle at a time to set one value within the range. If the user chooses to do so the user can select the second handle and drag that to another value within the range to further limit the data set.

Rationale By allowing the user to drag the handles to choose a value range they can quickly and easily make a smaller selection within a larger range with minimal interaction and without losing the context of the greater value set.

Usage Principles

Single-Handled Slider

Use a Slider when...

- The user needs to select a value within a limited range.

Do not use a Slider when...

- Each value contains a large amount of text, instead use a drop down list (for constrained spaces) or radio buttons.
- The chosen value cannot be constrained to a specific range.

Two-Handled Slider

Use a Slider when...

- The user needs to select a smaller value set within a limited range.

Do not use a Slider when...

- The user does not need to refine a set of values within a great value set.

From a User's Perspective

Single-Handled Slider

Advantages

- Sliders allow the user to easily see the entire range of valid values as well as the currently selected value.
- Sliders provide a quick way to directly manipulate a value within a range. By comparison, drop down lists do not show all valid values at once, and radio buttons provide a small click target.
- Sliders can enable the user to select fractional "fine tuning" values within the allowable range.

Disadvantages

- Sliders are not native HTML controls, and can therefore have varying implementations in other applications. This can reduce the user's immediate sense of familiarity with the control.
- Sliders are not appropriate for values that require a large amount of text to be understood.

Two-Handled Slider

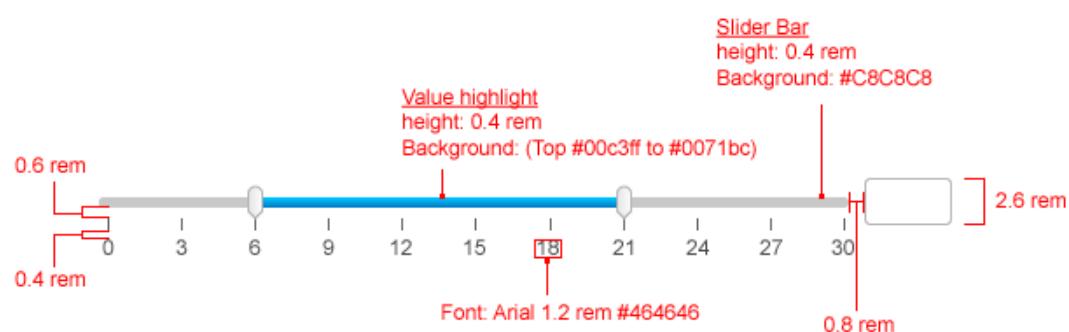
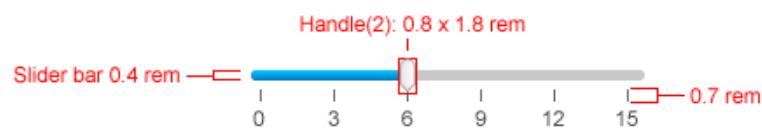
Advantages

- Sliders allow the user to easily see the entire range of valid values as well as the currently selected smaller range of values.
- Sliders provide a quick way to directly manipulate a smaller value set within a range. By comparison, coupled date pickers, drop downs, or text fields provide a smaller click target and require the user to know specific values.
- Sliders can enable the user to select fractional "fine tuning" values within the allowable range.

Disadvantages

- Two-handled sliders are not native HTML controls, and can therefore have varying implementations in other applications. This can reduce the user's immediate sense of familiarity with the control.
- Two-handled sliders are not appropriate for values that require a large amount of text to be understood.

Visual Specifications



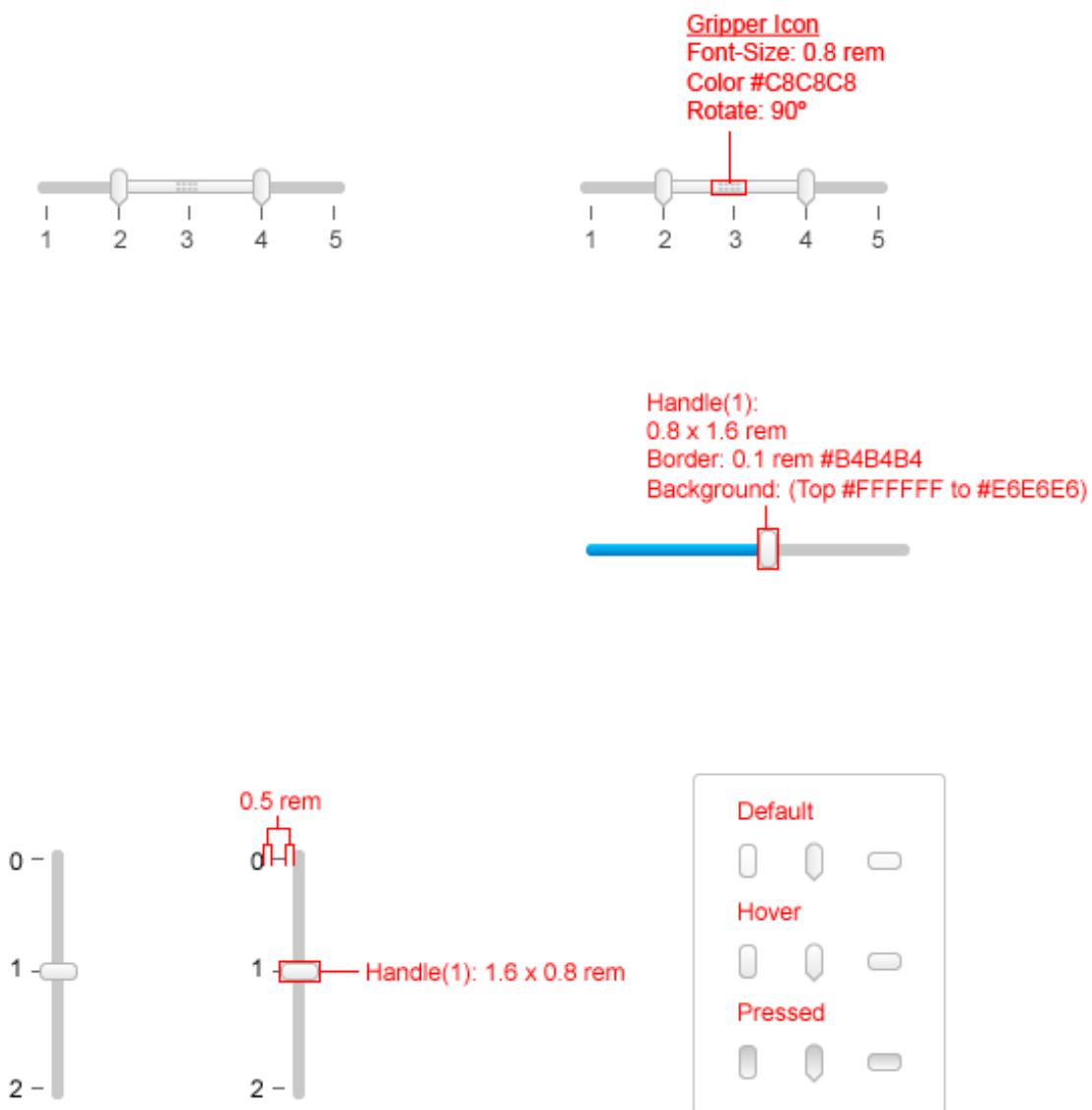


Figure 1. Specification for Slider

Font and Color Specification

Element	Font	Size	Style	Color	Border
Tick Mark Labels	Arial	1.2 rem	Normal	#464646	
Tick Mark Labels Hyperlinks	Arial	1.2 rem	Normal	#28AAD7	
Tick Marks				#464646	
Handle - Default State				Gradient: Top #FFFFFF to Bottom #F5F5F5	#B4B4B4
Handle - Hover State				Gradient: Top #FFFFFF to Bottom #E6E6E6	#B4B4B4
Handle - Pressed State				Gradient: Top #C8C8C8 to Bottom #FFFFFF	#B4B4B4
Value Highlight (Blue)				Gradient: Top: #00C3FF to Bottom: #0071BC	
Table 1. Specifications for Fonts and Colors					

Icons

Element	Icon	Unicode	Class	Color	Size
Gripper Icon			icon_rotate90	#C8C8C8	0.8 rem
Table 1. Specifications for Fonts and Colors					

Interaction Behavior

Single-Handled Slider

Elements and Behaviors

Drag Handles

There are four types of pointers for use with a slider:

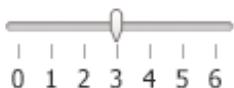


Figure 2. Slider with Tick Marks.

Handle with Pointer: used for allowing the user to choose a precise value within the slider range. The handle with pointer should always be used with labeled tick marks. Tick marks are below the slider in the horizontal orientation and to the left of the slider in the vertical orientation.



Figure 3. Continuous Slider.

Handle without Pointer: used when precision is not important, or with "fine tuning" controls that allow for continuous variation of the slider's value. The handle without the pointer should not be used with tick marks.



Figure 4. Slider with Two Handles (Range Selector).

Range Selector: consists of two drag handles on the same slider that are used to choose the begin and end point of a selected range of values.



Figure 5. Slider with Draggable Range Selector.

Draggable Range Selector: in addition to two drag handles that can be moved independently to select start and end points for a selected range, the area between the two drag handles can also be dragged. This allows the user to move the entire range up and down the slider without disturbing the distance between the start and end point drag handles.

Some other behaviors related to the drag handles:

- Clicking to either side of the drag handle moves the handle in that direction.
- When the slider has keyboard focus, the arrow keys (depending on the slider orientation) move the handle in the corresponding direction.

Orientation



Figure 6. Vertical Slider.

A slider can be oriented vertically or horizontally. Some considerations for slider orientation include:

- **Data Type:** some types of data feel more natural in a horizontal or vertical orientation. In the example of a zoom feature for a map application, a vertical slider contributes to the feeling of raising or lowering your perspective.
- **Layout:** wise use of space and creating a balanced and harmonious layout are important aesthetic considerations.
- **Comparison:** sliders can be placed in groups, parallel with one another, and will therefore share a common orientation.

Slider Values

There are two models for setting values using a slider:

- **Discrete:** only specific values within a range are allowed, and each value is marked with a tick mark. Enough of the tick marks are labeled (at regular intervals) to clearly indicate how large of a difference there is between each tick mark. The interval between tick marks should be consistent throughout the range. The drag handle(s) can only be placed at a tick mark, and will "snap" to a tick mark if moved to a position in between marks.
- **Continuous:** the drag handle can be placed anywhere along the range, including between tick marks. In some cases it is not important for the user to know the precise value the slider is set to, in which case the tick marks and their labels can be omitted, or labels can be provided at the beginning and end of the entire range. When no tick marks are displayed, the drag handle without a pointer should be used.



Figure 7. Slider with Text Box for Value.

Two-Handled Slider -Enhancement

The two-handled slider consists of two drag handles on the same slider that are used to choose the Begin and End Point of a selected range of values.

The two-handled slider should use the handle with a pointer to allow the user to choose a precise value within the slider range.

The handle with pointer should always be used with labeled tick marks. Tick marks are below the slider in the horizontal orientation and to the left of the slider in the vertical orientation.

In addition to two drag handles that can be moved independently to select start and end points for a selected range, the area between the two drag handles can also be dragged. This allows the user to move the entire range up and down the slider without disturbing the distance between the start and end point drag handles.

Some other behaviors related to the drag handles:

- Clicking to either side of the drag handle moves the handle in that direction.
- When the slider has keyboard focus, the arrow keys (depending on the slider orientation) move the handle in the corresponding direction.

Value Set Display

Value set for the slider should be configurable to show values for all tick marks or to show values for only some tick marks (for example: "1/1/2012," "2/1/2012," and "3/1/2012" are labeled but the days between are not).

Slider Selection

There are two models for setting values using a slider:

- Discrete: only specific values within a range are allowed, and each value is marked with a tick mark. Enough of the tick marks are labeled (at regular intervals) to clearly indicate how large of a difference there is between each tick mark. The interval between tick marks should be consistent throughout the range. The drag handle(s) can only be placed at a tick mark, and will "snap" to a tick mark if moved to a position in between marks.
- Continuous: the drag handle can be placed anywhere along the range, including between tick marks. In some cases it is not important for the user to know the precise value the slider is set to, in which case the tick marks and their labels can be omitted, or labels can be provided at the beginning and end of the entire range. When no tick marks are displayed, the drag handle without a pointer should be used.

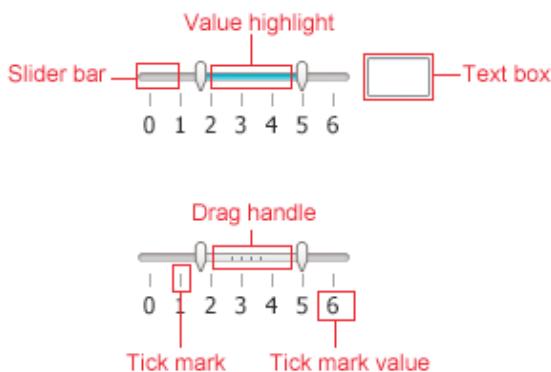


Figure 8. Slider Elements.

Primary User Flow - All Component Defaults Untouched

Component Defaults:

- Drag Handle: On
- Ticks Below: On
- Complete Value String Display: On
- Truncated Tick Mark Labels: On
- Tick Snap: Off

- Major Tick Snap Only: Off
- Minor Ticks: On
- Specific Value Range: On
- Autofit: On
-
- 1. System presents value range.



Figure 9. Insert Text.

Keyboard Access: User tabs once to get control of left slider control. If in use, screen reader reads value corresponding to the slider control.

2. User clicks slider control - complete value is displayed.



Figure 10. Insert Text.

Keyboard Access: User either clicks the forward key on keyboard to move slider to right or types a value on keyboard to required value.

3. User drags slider control- complete value is updated accordingly.

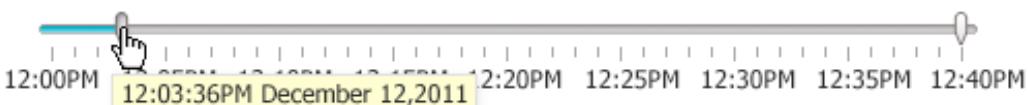


Figure 11. Insert Text.

Keyboard Access: When user clicks keyboard forward key the values update accordingly in complete value string.

4. User releases slider control- complete value closes and range locker drag handle cues are displayed in shortened range. Associated dataset is updated.



Figure 12. Insert Text.

Keyboard Access: User tabs once to select locked range drag handle, user tabs twice to control right slider.

5. User drags slider control - complete value is displayed.



Figure 13. Insert Text.

Keyboard Access: User either clicks the back key on keyboard to move slider to left or types a value on keyboard to required value.

6. User drags slider control - complete value updates accordingly.



Figure 14. Insert Text.

Keyboard Access: When user clicks keyboard back key the values update accordingly in complete value string.

7. User releases slider control - complete value is hidden and range locker drag handle cues are displayed in shortened range. Associated dataset is updated.

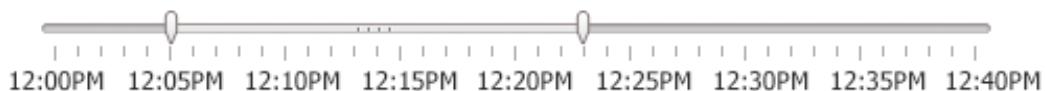


Figure 15. Insert Text.

Keyboard Access: When user clicks keyboard back key the values update accordingly in complete value string.

8. User clicks range locker handle and drags it

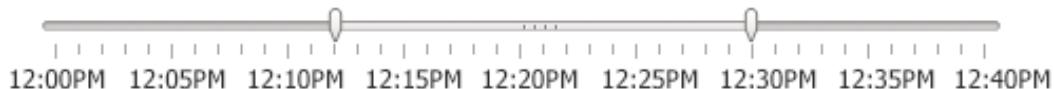


Figure 16. Insert Text.

Keyboard Access: User clicks the back or forward keyboard keys to move the locked range drag handle to left or right.

9. User releases range handle - Associated dataset is updated.

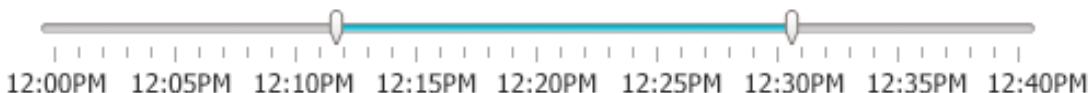


Figure 17. Insert Text.

Keyboard Access: User tabs once to control left slider control, user tabs twice control drag handle, user tabs three times to control right slider control.

Alternate Default Settings

Value Range Drag Handle Default: On

Turning off the Value Range Drag Handle default means the user cannot grab the newly defined range and move it along the value axis. Instead the user can only select the left and right slider controls.



Figure 18. Insert Text.

Tick Marks Below Default: On

Turning Off the Tick Marks Below default means the tick marks displays above the slider and the slider control arrows are flipped vertically as well. No other changes to interactions involved.

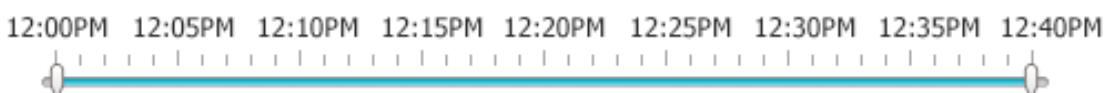


Figure 19. Insert Text.

Complete Value Display Default: On

Turning Off the Complete Value Display default results in the movement of the slider control without a display of the values as the slider is moved. This impacts users most significantly when the ticks mark labels are truncated.

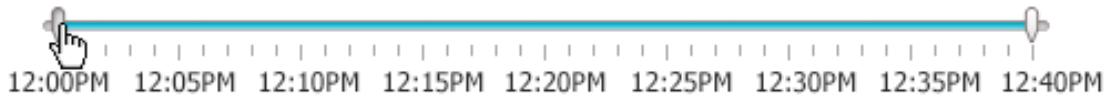


Figure 20. Insert Text.

Truncated Tick Mark Label Default: On

Turning Off the Truncated Tick Mark Label default means the user will be presented with the full value string at each tick mark. It is suggested that this default be turned for value strings that are less than 10 characters long.



Figure 21. Insert Text.

Tick Snap Default: Off

Turning on the Tick Snap default will result in the slider control snapping to the closest tick mark, minor or major - whichever is numerically closer. The user cannot select a value between tick marks. When using a keyboard or screen reader values entered will be rounded up or down to the closest minor or major value.



Figure 22. Insert Text.

Minor Ticks Default: On

Turning off minor ticks results in the slider only displaying the major value intervals defined when configuring the component. When Tick Snap is on the user can only select these intervals and no intervals between.

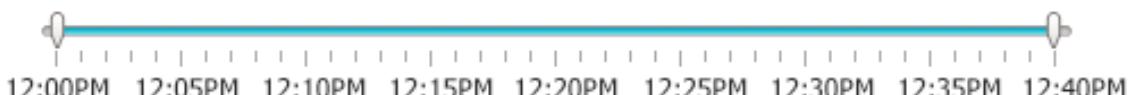


Figure 23. Insert Text.

Specific Value Range: Off

Turning off the Specific Value Range results in a generic value set slider. As the user moves the sliders between the two values set slider. As the user moves the sliders between the two values the set adjusts accordingly.

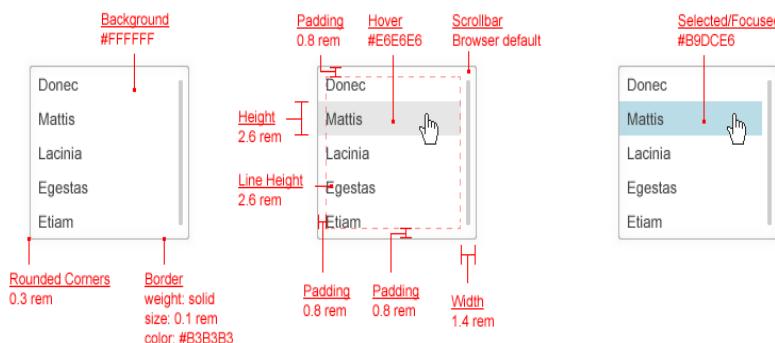


Figure 24. Insert Text.

Autofit: On

Turning off the Autofit default allows the engineer to specify the pixel width of the slider control. When left on the control will fit 100% to the space of the parent component.

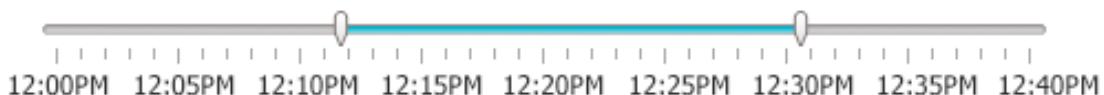


Figure 25. Insert Text.

STAR RATING

Description

Star ratings allow a community of users to rate content and quickly see how others have rated content.



Figure A. Overview Illustration

Usage Guidelines

- Zero ratings are not allowed. Since clicking a star is what confirms a rating, there is no way to select "zero stars".
- Interactive ratings are permitted in full-star increments.
- Static rating displays are permitted in half-star increments.
- Only use star ratings where a visual representation of user opinions is valuable.

Use this component when...

- A quick visual representation of perceived content quality is valuable.
- User feedback on content quality is valuable.

Do not use this component when...

- It would overly clutter the visual layout of a page.
- Perceived user quality of content is unimportant.

Visual Specifications



Figure 1. Star Rating Overview



Figure 2. Star rating color specifications



Figure 3. Star rating specifications

Font and Color Specification

Element	Font	Size	Style	Color
Hint Text	Arial	1.3 rem	Italic	#464646

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Star - Fill	★			1.6 rem	#FFCD00	#74BAD1	#FFCD00
Star - No Fill	☆			1.6 rem	#FFCD00	#74BAD1	#FFCD00
Star - Half Fill	★☆			1.6 rem	#FFCD00	-	#FFCD00

Table 2. Icons Specifications

Interaction Behavior

Elements

Star ratings provide an interactive and visual method for viewing and rating content or products on a website. While the primary purpose of star ratings is to help users assess the quality of content, they also facilitate user interaction with the web application.

Users can express their perceived quality of content by giving the content a star rating, with one star indicating low quality, and five stars indicating excellent quality.

Elements consist of:

- Star rating display (required)
- Number of reviews (optional)
- "Rate it" label (if user has permission to rate)

Behavior and Interaction

For an element with existing ratings, display a static star rating. Ratings are presented in 1/2 star increments and can display from zero (un rated) to five stars.

Provide a ratings count display next to the star rating when possible. Displaying the number of ratings helps users determine the significance of the ave rate rating.

Step 1. Static Rating Display



Figure 2. Star rating display

The default view of a star rating widget on page load is a static view, using orange stars. If the user has permission to rate content, a "Rate it" label is shown to the left of the stars.

Step 2. Invitation to Rate

If a user has permissions to rate content, they can rate content inline. The invitation to rate is nothing more than the hover behavior the widget exhibits when a user hovers over the existing star rating display.



Figure 3. Star rating hover

Upon hover, the following occur:

- The existing red/orange rating stars are cleared.
- Blue stars fill in from left to right, up to the point of the user's cursor (in full-star increments).
- Stars to the right of the cursor are white.

User rating is restricted to full-star increments. The static "average" display can show half-star increments, but "casting a new vote" must be in full-star increments

Non-interactive Star Rating



Figure 4. Star rating: non-interactive

If a user doesn't have permission to rate content, they are presented with a non-interactive (static) star-rating. The non-interactive star-rating display should follow these guidelines:

- No "Rate it" label to the left.
- No hover state or cursor change on hover.
- No action on click.

Step 3. Casting a Vote

A user casts their vote by clicking on the star rating widget. If they click on the fourth star, they've rated the content as four stars.

Rate it:  Thanks for rating

Figure 5. Star rating: Just clicked

Upon clicking, the blue stars become fixed and the text to the right switches to "Thanks for rating". This is displayed for a few seconds, then transitions back to a static display (orange stars reflecting average rating) updated with the user's rating as seen below.

Rate it:  (26 Ratings / You rated 4 stars)

Figure 6. Star rating: User rated

At this point the user has successfully rated the content, and their vote is reflected in the text display to the right of the content.

Additionally, a user may rate the same content again at a later time (i.e., if their opinion on the content changes).

Leaving (mouse-out) Without Voting

If the user mouses out of the star rating widget, the static red/orange display is restored and no vote is recorded.

TEXT BOXES AND AREAS

Description

A text box (also known as a text field) is a rectangular area that displays a single line of text. A text area is a rectangular space that displays multiple lines of text. An editable text box with some text in the field selected is shown in Figure 1.

Usage Guidelines

Quick Tips

- Use text fields for single-line user input.
- Use text areas for multiple-line user input
- When reasonable, automatically set focus to the primary text field.
- Use a limit for the length of the input text when you can. As the length of the text box may vary from one use case to another the length should be limited to the maximum number of characters required. For example, if the valid input is a number between 0 and 999, use a numeric text box that is limited to three characters.

Visual Specifications

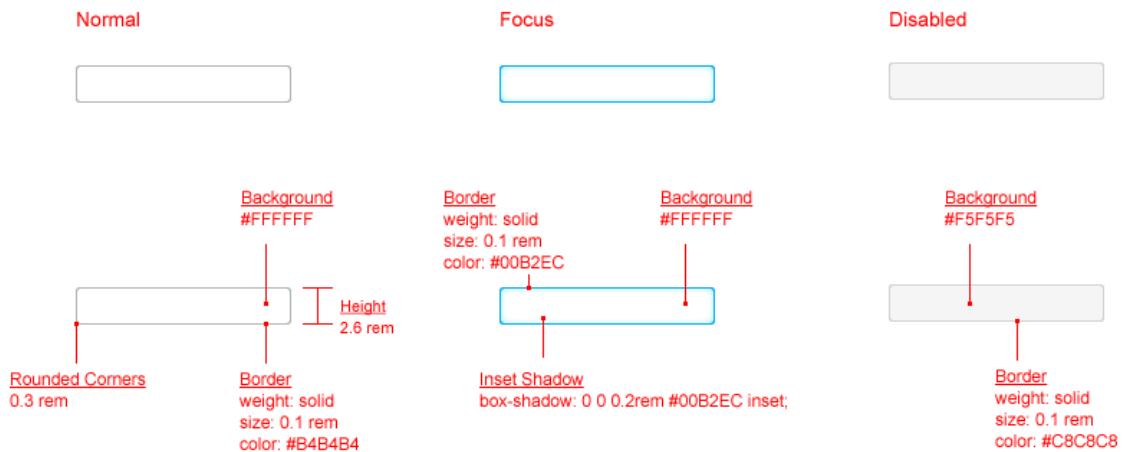


Figure 1. Text Boxes and Areas Specification.

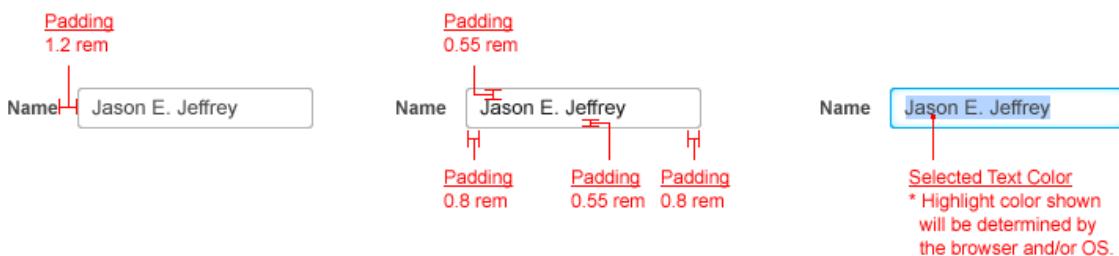


Figure 2. Disabled Text box.

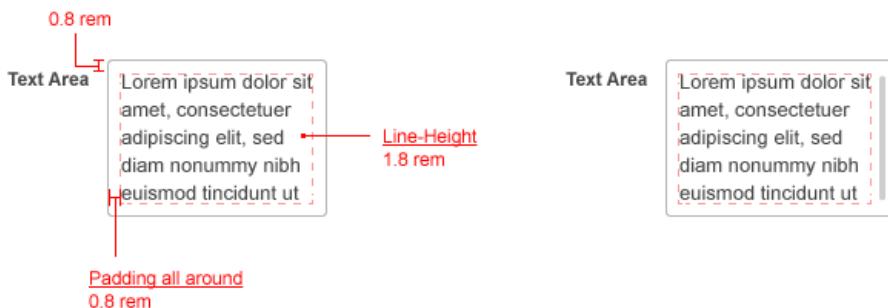
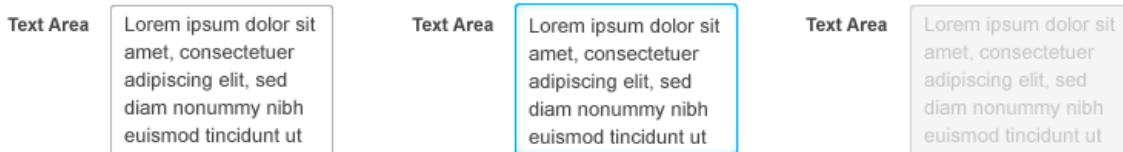


Figure 3. Text area specification.

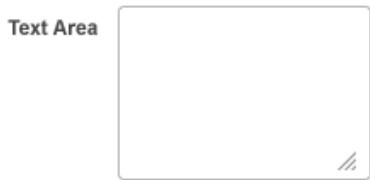


Figure 4. Native browser resizable textarea.



Figure 5. Read only example.

Font and Color Specification

Element	Font	Size	Style	Color
Text Field	Arial	1.3 rem	Normal	#464646
Label, Field and Hint Font	Arial	1.3 rem	Bold	#464646
Disabled	Arial	1.3 rem	Normal	#C8C8C8
Display Only Label	Arial	1.3 rem	Bold	#464646
Display Only Field	Arial	1.3 rem	Normal	#464646
Table 1: Fonts and Colors Specifications				

Interaction Behavior

A text box or text area can be either editable or non-editable. For text fields, keep in mind that Cisco has certain data types with specific data formats. These data types include:

- Time
- Date
- IP address
- MAC address
- Password

Editable Text Boxes (single-line)

When a text box has keyboard focus, it displays a blinking bar that indicates the insertion point. When users enter text that is too long to fit in the box, and the maximum number of characters has not been entered, the text scrolls horizontally.



Figure 3. Editable Text box with Blinking Bar at Insertion Point.

In an editable text box, users can edit, cut, copy, or paste text.

Default text is rarely provided in text fields because providing default object names often causes errors. Use default text only when it is well justified and when user failure to overwrite the text would not cause destructive or adverse results.

Hint Text



Figure 4. Text field with hint text.

A format hint is text that tells the user the format that should be used when entering data into a text box.

Most format hints are short in length and should be located inside parentheses and to the right of the text box. Lengthier format hints can be provided below the text box and without using parentheses.

In rare cases, a format hint may be provided as a default value inside of a text box, but using hint text or instructional text is preferred.

These hints should be provided in cases where the user might not know what format is expected. In some cases, it is appropriate to use a drop-down box, rather than a text field with a hint. With a drop-down box, it is not possible for a user to enter data in an invalid format.

When deciding whether to provide a format hint, consider the knowledge of the targeted user. For example, a home user might not know the correct IP address format, whereas a network engineer would be quite familiar with this format.

Formatting Masks

As a backup to formatting hints, format masks can be applied to text boxes. For example, a text box could accept only alphanumeric characters and reject special characters or punctuation. Common places to use a format mask when accepting input from users include: IP address, phone number, email address.

Editable Text Boxes (multi-line)

Users can type and replace text in a text box. Use the same text-editing features as with the editable text field. Set word wrap so that the text wraps to the next line when it reaches the edge of the text area, as shown in the figure. When user entered text exceeds the capacity of the text area, the scroll bar becomes active.

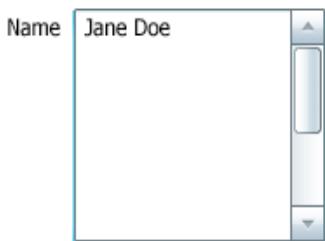


Figure 5. Text area.

Non-Editable (Disabled) Text Fields and Areas

In a non-editable text field or area, users cannot directly edit the content by using the keyboard. In most cases, a non-editable field is "fully disabled" and the user cannot edit the content of a disabled field and the text field's label is also displayed as disabled. In other cases, users can change the value by using a nearby control.

Dependent Text Field

A text box may be nested under a check box or radio button. The text field may contain text, but the field is disabled until the parent control is checked/selected.

- In the case of a checkbox, the field is disabled until the user checks the checkbox. The field remains enabled until the user unchecks the checkbox.
- In this situation, when the field is disabled, it is "fully disabled", including the field label (see the [Font & Type Guide](#) section for specific color values). When the field is enabled, it is simply a regular enabled text field.

Display-Only Text Field

A non-editable text box may be a "display-only" text field and not have an enable/disable dependency as described above.

- A non-editable text box may display a value that was selected from a list of values in another control. The user can use a lookup control to the right of the field to open the list of values and then select a value to insert into the non-editable text box.
- A non-editable text box may display information about the items in another control. For example, as the user moves the mouse cursor over items in a list, information about each item is displayed in the non-editable text box.
- The labels of "display-only" text fields are typically enabled and do not change with user actions in other areas of the UI.

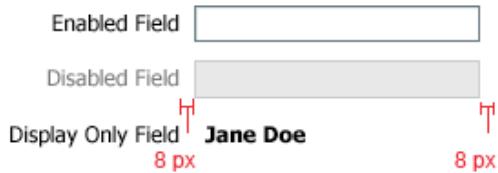


Figure 6. Enabled, Disabled, and Display-Only Text Fields

Read - Only / RBAC

Use Cases

The user has permission to read and edit some fields in the current form and not others.

Interaction Sequence

- Text field interactions
 - Text fields that the user doesn't have permission to view either for the current object instance or for all object instances are hidden.
 - Text fields that the user never has permission to edit are displayed as read-only.
 - Text fields that the user doesn't have permission to edit for the current record are disabled.
 - Text fields that the user has permission to edit for the current record are open. (available)

HEADER

Usage Guideline

Description

The "Global Header" provides persistent, primary access to navigation, search, critical alerting functions, and the ability to view/change username and domain throughout the application. It also provides access to preview recent information and critical global actions through the use of sliding "Header Panels".

Section 1 - Main Components

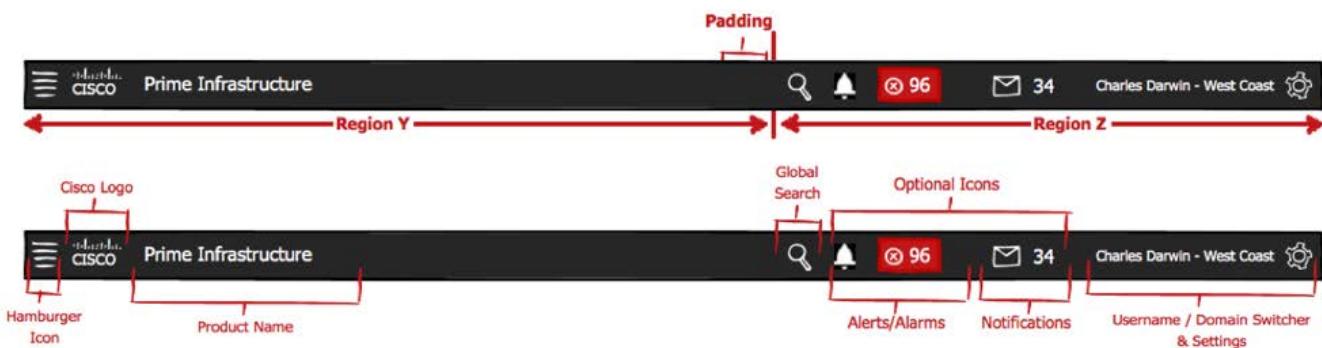


Figure 1. Header legend

- Header
 - Region Y
 - Hamburger Icon (Navigation Toggle)
 - Cisco Logo
 - Product Name
 - Region Y
 - Space
 - Region Z
 - Global Search
 - Optional icons
 - Alarm Panel
 - Notification Panel
 - Custom Panels
 - Username / Domain Switcher / Settings
 - Logged in User
 - Log Out
 - Virtual Domain
 - Help Content
 - Submit Feedback
 - Additional Settings Options

Section 2 - Required/Recommended/Optional/Not Permitted

Component	Description	"Regular" Shell Status	Abridged Shell Status
Header	Main bar at the top of the application that houses the product name, and links to critical functionality	Required	Required
- Region Y	The area of space that contains the hamburger icon, Cisco logo and Product Name. This region is fluid and has a mandatory minimum width.	Required	Required
-- Hamburger Icon	Icon that provides access to toggle the Global Navigation	Required	Hidden
-- Cisco Logo	Cisco Logo branding, allowing quick access to application home	Required	Required
-- Product Name	The title of the product or application, allowing quick access to application home. This field is required to have "Prime" followed by the Application Name. "Cisco" is not required in the title as the Cisco logo provides sufficient company identity.	Required	Required
- Region Y	The space between Region X and Region Z. This space is fluid and will have a mandatory minimum width.	Required	Required
- Region Z	The area containing all of the left hand functionality in the header.	Required	Required
-- Global Search	An icon that slides open an overlay that allows users to perform a search across all pages, objects and data in a given application	Optional	Hidden
-- Optional Icons	Area contained in Region Z that displays high-level critical information using icons and badging, paired with sliding panels to reveal additional details and information. A maximum of 3 icons can be used.	Optional	Hidden
--- Alarm Panel	Display of highest severity alarm and summary	Optional	Hidden
--- Notification Panel	Display of most recent notifications	Optional	Hidden
--- Username / Domain Switcher / Settings	Displays the currently logged in username and selected domain to the user at all times. Clicking this section reveals the user panel.	Required	Required
--- Logged in User	Display of currently logged in user	Required	Required
--- Log Out	Function to allow users to log out of an application	Required	Required
--- Virtual Domain	Allows users to switch domain context inside the application	Optional	Optional
--- Help Content	Provides users with access to additional help resources	Optional	Hidden
--- Submit Feedback	Option to allow users to send feedback regarding the application	Optional	Hidden
--- Additional Settings & Options	Customized options per application that reside inside the settings menu	Optional	Hidden

Section 3 - Other Widgets Incorporated/Referenced

- Global Navigation (Example | Engineering Notes | Specification)
- Global Search (Example | Engineering Notes | Specification)
- Sliding Menu (Example | Engineering Notes | Specification)

Section 4 - Use Cases

Use When

- Use to provide persistent primary access to navigation, search, critical alerting functions and viewing/changing usernames and domains.
- Use to provide access to content that must be quickly reachable across an entire application.

Do Not Use When

- Do not use when content is "torn off" from the page into a new tab. This newly created tab should use the Abridged Shell.
- Do not use when quick access to navigation, search, alerting and other critical information is not needed.
- Do not place content inside the header that:

- Pertains to a small subset of an application.
- Is not required to be accessed from anywhere in the application.

Searching Across an Application

- View the Global Search specifications for more information.

Region Y

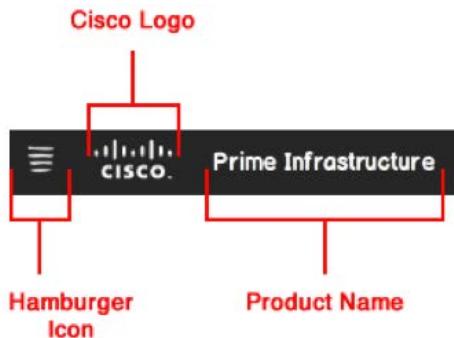


Figure 2. Region Y

- Provides access to toggling the visibility of the Global Navigation.
- Provides branding.
- Provides access to the application home page by clicking on the Cisco Logo and/or Product Name.

Region Z

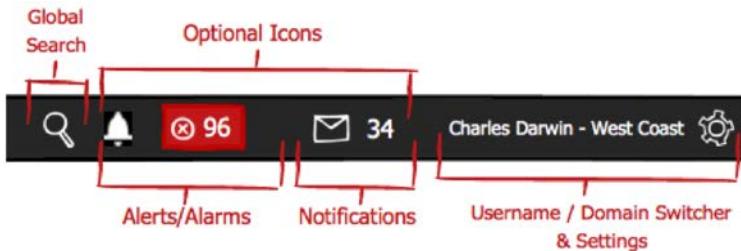


Figure 3. Region Z with Optional Icons

- Region Z's Primary Navigation Items perform one or more of the following functions throughout the application:
- Allow access to required critical content/data.
- Alert the user to new information.
- Allow access to critical security settings.
- Remind user of current username and virtual domain.
- Allow user to switch virtual domains and log out.

Adding Additional Icons

- A Maximum of 4 Optional Icons can be visible per application.
- Application teams may add their own icons in Region Z with a maximum of 4 items.
- A list of approved items will be provided to designers. So far this list contains:
 - Search
 - Alerts/Alarms
 - Notifications
- This leaves room for 1 additional icon.
- Additional icons would require disabling one of the provided options.
- New requests must go through a governance review and approval process.
- Badge counts will never exceed 999.
- Should more than 999 exist, this will be indicated by "999+" without quotes.
- When hovering over this value, the true value will be displayed in a tooltip.
- Examples:
 - 1,254 alarms exist
 - Badge displays 999+
 - Hovering badge displays tooltip showing "1,254 total"
- When adding an optional icon, there are several variants that can be selected.
 - Simple Icon (e.g. Settings)
 - Icon plus Badge (e.g. Alarms & Notifications)
 - Icon plus Control (e.g. Search)
 - Text (e.g. Username / Virtual Domain)
- There is a maximum of 1 colored badge to avoid visual conflicts.

Searching Across the Application



Figure 4. Global Search Expanded

- Upon pressing the global search icon in the header bar, the search overlay is slid to the left, ready for user input.
- Transition will occur over 200 ms using an ease-out transition.
- For more information: See the Global Search Specifications

Customizing Header Panel Layout & Content

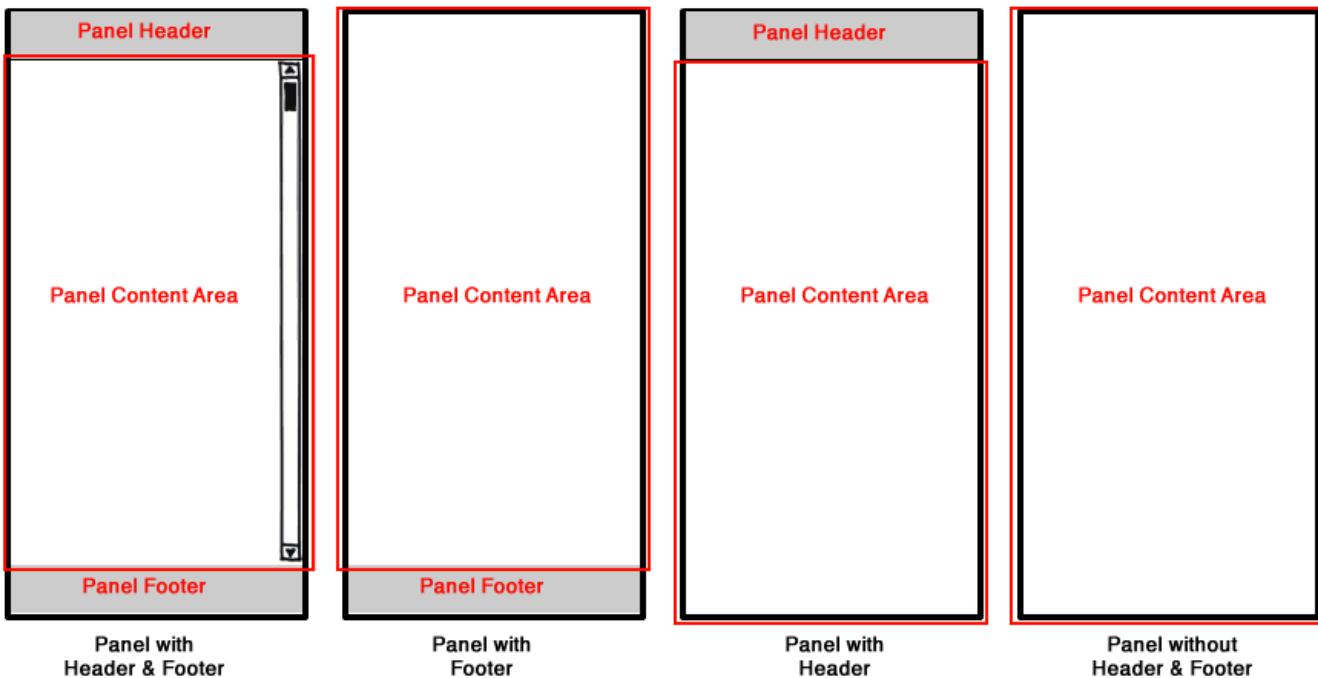


Figure 5. Header Panel Options

- Header Panels are hidden from view by default.
- Users must first interact with an item in Region Z, in order to view the panel.
- Panels may contain the following structure:
 - Header & Footer
 - Footer Only
 - Header Only
 - No Header & Footer.
- All panels will have a content area.
- Application teams can provide their own content for these sections.
- Complex datagrids should not be included inside header panels.
 - A lightweight alternative can be used to display recent/critical information.
 - Users can then select a "View All" button which brings them to a separate page, containing robust interactive elements like datagrids.

Scaling and Scrolling of Header Panels

- Header Panels:
 - Horizontally expand as necessary to avoid horizontal scrolling and/or extensive wrapping.
 - Never are wider than the available width of the browser viewport.
 - Vertically shrink to fit the height of the internal content at the top level.
 - Have a maximum height equal to the available real estate below the application header.
 - ◆ Not all panels are required to use the full height of the browser.

- In some cases, have a Panel Content Area that vertically scrolls.
- Has a Panel Content Area that never horizontally scrolls.
- Is in a non-scrolling region that never scrolls off the page.
- Panel Size Constraints
 - When drilling into nested menus, the size vertical height of the navigation panel should remain the same.
 - If necessary, a scroll bar will appear that allows the user to vertically scroll the Panel Content Area.
 - The horizontal width of the panel can expand, however care should be taken to keep this at a minimum.
 - Ideally the panel will not resize when drilling into information, thereby keeping the height and width of the panel the same.

Customizing Virtual Domains

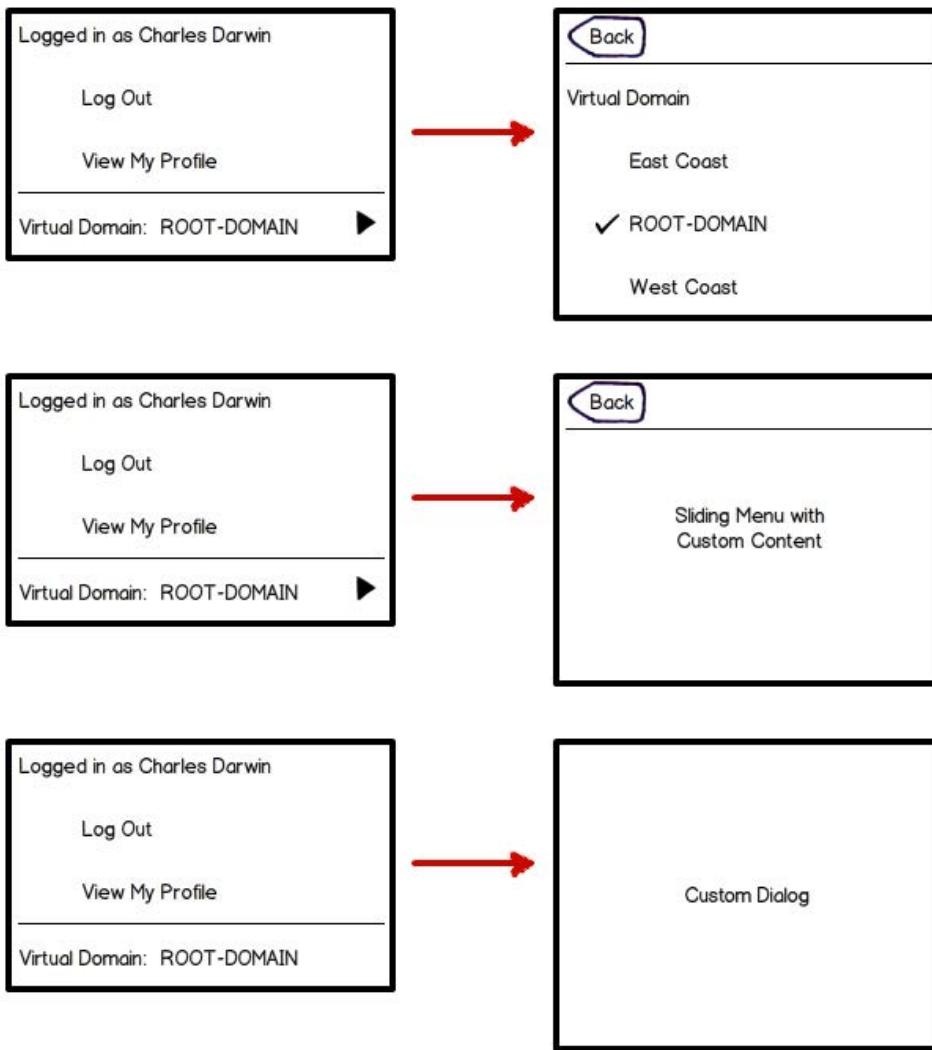


Figure 6. Customizing Virtual Domains

- For applications that have few Virtual Domains (20 max)
 - Use the built-in Header Panel Navigation for nested lists.
 - An arrow will automatically be displayed to the right of the selected Virtual Domain.
 - Clicking this option will transition the top level menu out of view and the nested menu into view.
 - This nested menu will contain a list of Virtual Domains that a user can choose from.
 - The currently selected Virtual Domain is indicated.
- For applications that have a large number for Virtual Domains and/or would like to show additional information/settings:
 - Use a dialog.
 - The selected Virtual Domain in the header panel will not have an arrow indicator to the right.
 - Clicking this option will close the header panel and launch a modal dialog.
 - The layout and configuration of this dialog can be controlled by application teams.
- Some application teams may use "Customer" rather than "Virtual Domain".
- In these instances, the items are interchangeable and will behave similarly.
- The label in the header panel must reflect the proper value.

Customizing Settings

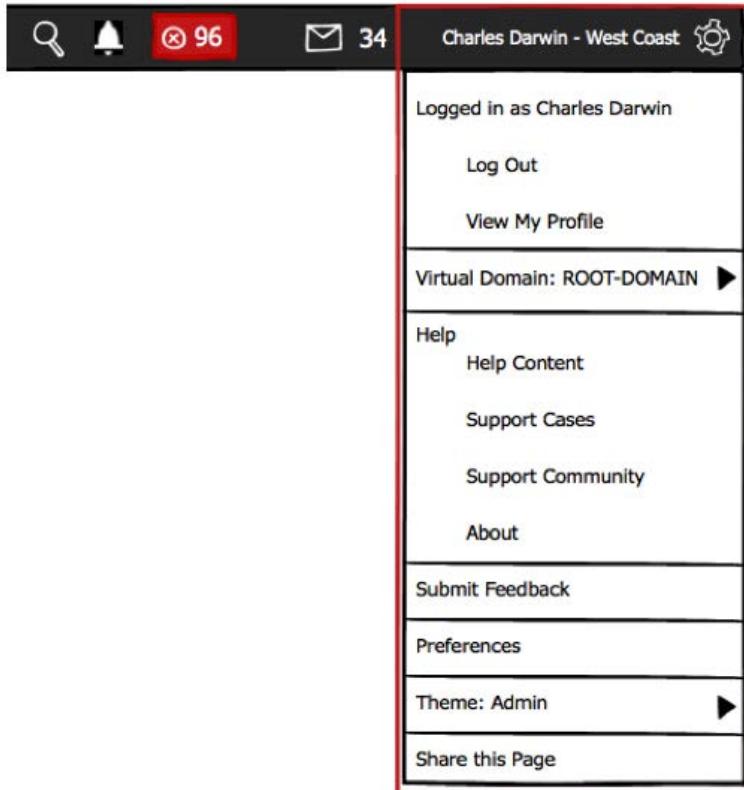


Figure 7. Customizing Settings

- The header panel for this section grants users access to the help content for an application.
- Allows users to submit feedback.

- Allows users to access their preferences.
- Allows users to view and change their selected theme.
- Allows users to receive a link to directly access the currently viewed page.
- Application teams can enable/disable any of these options based upon the Required/Optional status listed above.
- Application teams can add their own items as needed at the bottom of the list.
- Application teams that have a large number of categories and/or hierarchical categories can:
 - Display the highest category in the table with a roll-up of alarms for all nested categories.
 - Allow the category to toggle open/closed to reveal the nested categories.
 - Display the alarm counts for each nested category (totaling the value displayed for the parent category).

Customizing Alerts / Alarms

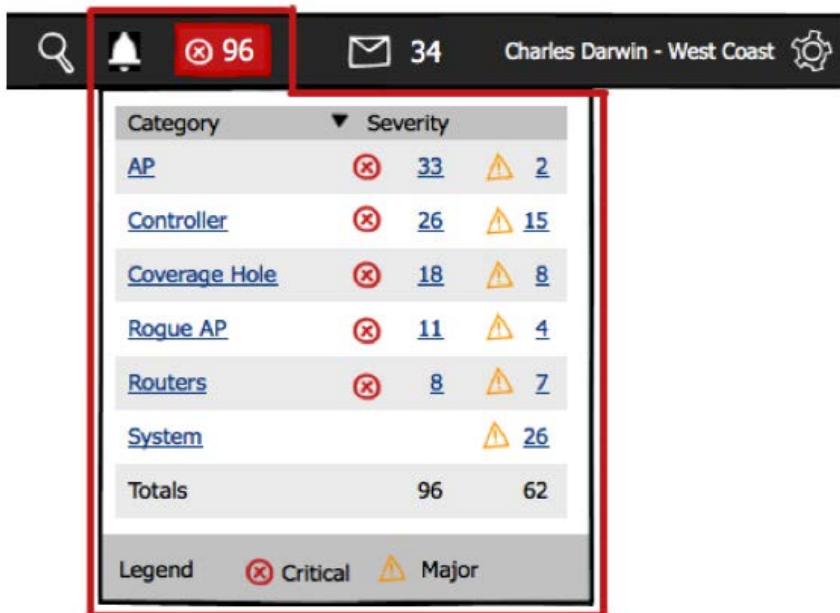


Figure 8. Customizing Alerts / Alarms

- The header panel for this section can be customized by application teams.
- A sample layout is provided for guidance.
- This includes displaying a roll-up count of all alarm severities by category.
- See Alarm Badging below for functional display of the header information.
- A totals row is included to provide a roll-up count of all alarms of a particular severity. This also reinforces the severity type with the badging in the header bar.
- Categories can be hierarchical in nature, using expandable child rows.
- A legend is included in the panel footer to confirm the icon visuals.
- A "View All" button is also included in the footer, which brings the user to Alerts & Alarms page.
- All items in the list are clickable.
 - Clicking an item brings the user to the Alerts & Alarms page.

- This provides the clicked filter parameters to the view, only displaying the data that matches the clicked item.
- Filter Criteria can be Category or Severity.

Displaying Proper Alarm Badges



Figure 9. Displaying Proper Alarm Badges

- The header badging will always display the same alarm (bell) icon, along with the highest existing severity alarms badge color.
- The count for this badge represents only the highest severity alarms.
- Counts will never exceed 999.
- Should there be more than 999 alarms, this will be indicated by "999+" without quotes.
- Example 1:
 - 5 Critical alarms, 10 Major Alarms
 - Header will display the Red Badge with a count of 5.
- Example 2:
 - 0 Critical alarms, 12 Major Alarms, 75 Minor Alarms
 - Header will display the Orange Badge with a count of 12.
- Example 3:
 - 0 Critical alarms, 0 Major Alarms, 54 Minor Alarms
 - Header will display the Yellow Badge with a count of 54.
- Example 4:
 - 0 Critical alarms, 0 Major Alarms, 2,350 Minor Alarms
 - Header will display the Yellow Badge with a count of 999+.
- Example 5:
 - 0 Critical alarms, 0 Major Alarms, 0 Minor Alarms
 - Header will display the Black Badge with a count of 0.

Customizing Notifications

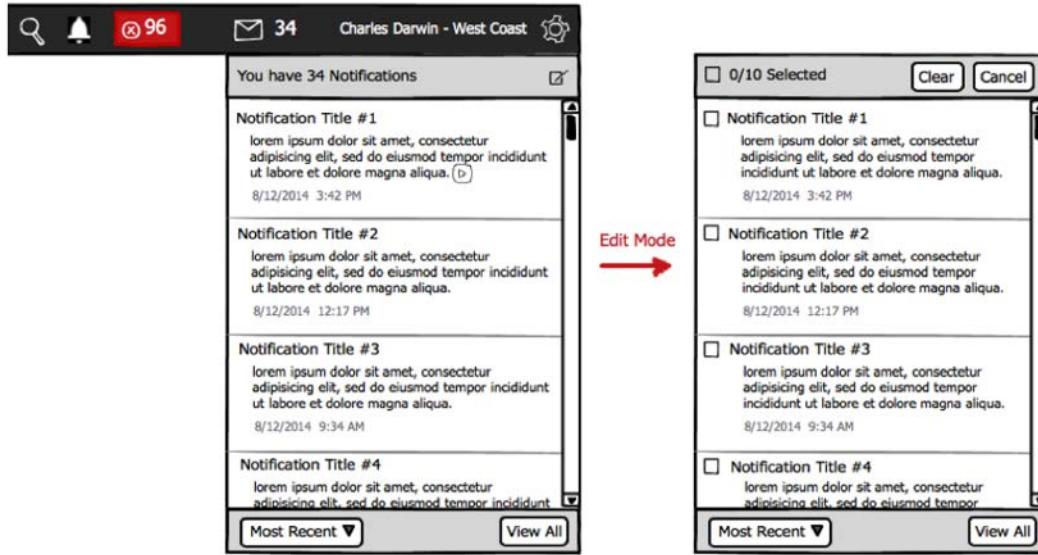


Figure 10. Customizing Notifications

- Use of this section is optional in the header.
- This area is represented by the total number of notifications existing in the system.
- This header panel is a location to view the most recent toaster activity and background job statuses.
- The most recent 10 items are displayed in a scrollable content Panel Content Area by default.
- Users can switch between a Toggle Button in the Panel Footer between "Most Recent" and "Highest Severity".
- Should Highest Severity be selected, this value is persisted across login sessions, until changed by the user.
- This would display the 10 highest severity notifications currently stored in the system.
- Should there be items with equal severities, the most recent item will appear first.
- A "View All" button is included in the Panel Footer, sending the user to a Notification Center to view additional information.
- The Notification Center allows users to view, filter, search, sort and clear all of their stored notifications.
- Clicking the "edit" icon in the top right corner will put the panel in "edit mode".
 - Edit Mode appears by sliding the notifications to the right and showing checkboxes.
 - The original "edit" icon is also replaced by "clear" and "cancel" buttons.
 - The title is replaced with a "select all" checkbox and displays a count of items that have been checked.
 - Selecting checkboxes and clicking "clear" will remove those notifications and grab additional notifications to a max of 10.
 - Clicking "cancel" will bring the user out of edit mode and back to the "normal" view.
- Panel Overrides
 - Application teams may replace the contents of this panel.
 - This is not recommended to preserve consistency across products, however in rare cases, this may be possible.

Quick Guide

The Quick Guide provides a brief visual overview of important elements in a product's user interface and may include new, unfamiliar and/or changed features.

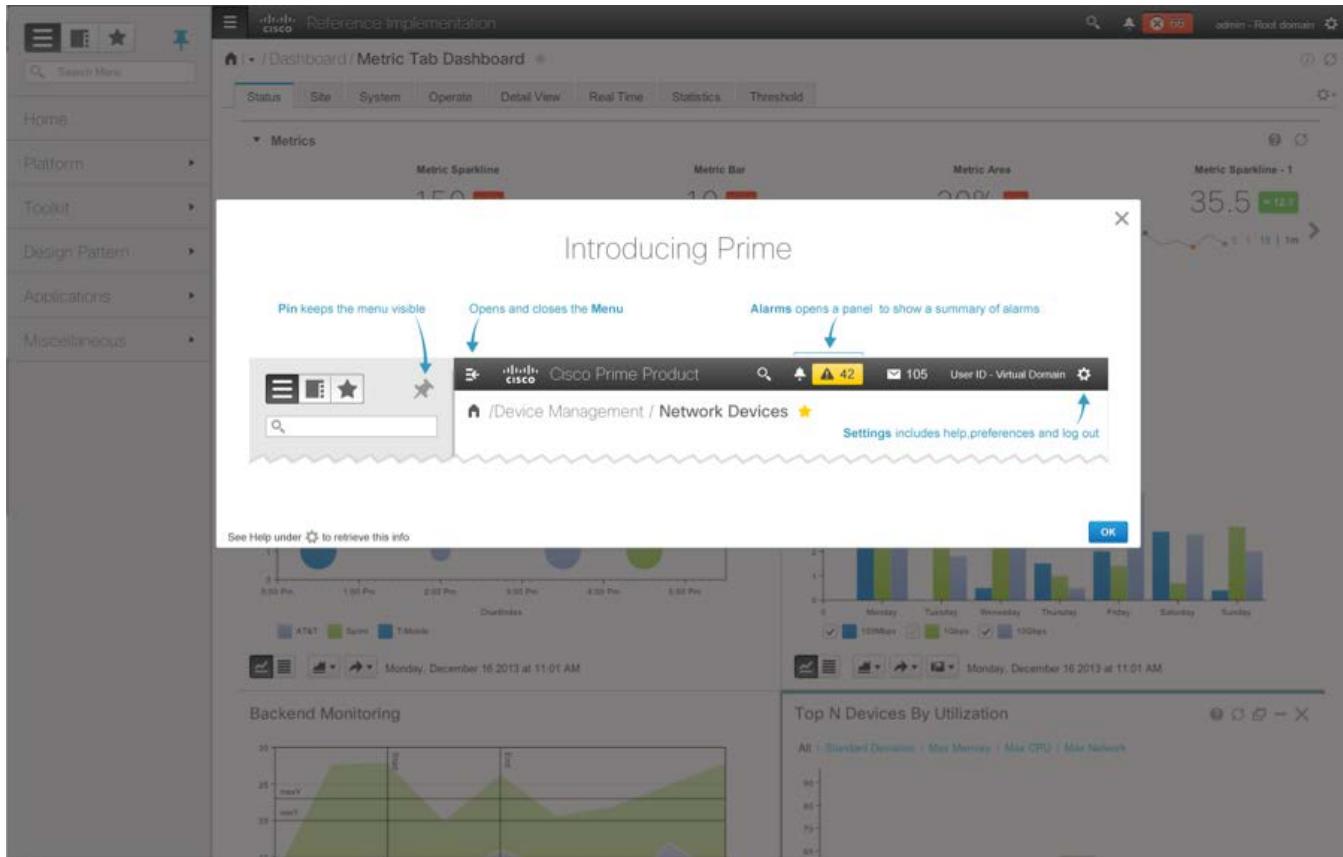


Figure 11. Quick Guide Overlay

It appears when users log into an application for the very first time. It is dismissed by clicking the Close button or the OK button. It can also be dismissed by hitting the Enter key or the ESC key. It may be shown again by selecting "Quick Guide" from the Settings dropdown menu, under the Help section.

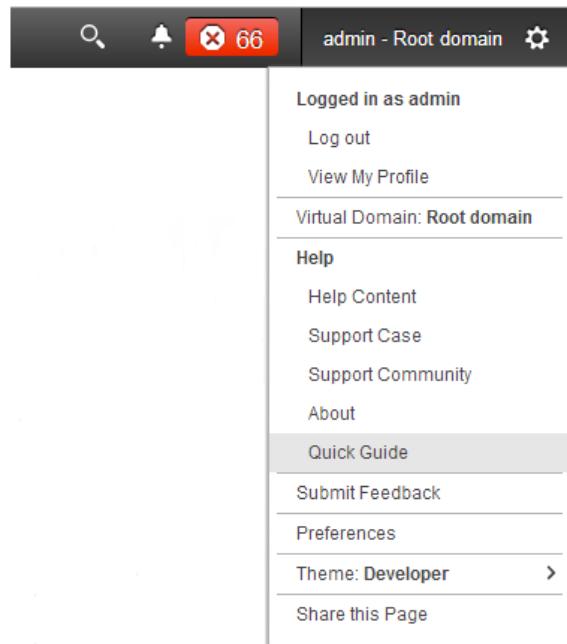


Figure 12. Quick Guide in the Settings Dropdown Menu

For now, the Quick Guide's content is a single static image. In the future, application teams will be able to customize the content in the dialog in order to direct users to new features or recent changes.

Interaction Specifications

Description

This tab contains additional information required for the development of the Global Header Widget required by UI Framework engineering. Please refer to the Overview Tab for the general description of this component.

Section 1 - Usage & Flows

Region Fluidity



Figure 1. Region Fluidity

- Header width is designed for 1280px width resolutions, however it must be fluid, allowing the header to grow and shrink.

Typical Region Widths

- Region Z will always equal the width of its content.
- Region Y will consume all remaining width.

Smaller Resolution Widths

- For smaller resolutions, Region Z will always equal the width of its content.
- Should Region Y need to shrink, it may do so to a pre-defined min-width.
 - Shrinking Region Y can truncate part of the Product Name. If truncated, ellipses will be displayed.
- Upon reaching the minimum limits for Region Y listed above, Region Z should dropdown to a second header row.
 - This would provide a double thickness header for smaller screens.
 - Region Y would fill the rest of the top bar space. (contents left-aligned with padding)
 - Region Z would fill the bottom bar space (contents will be right-aligned on the bottom bar with padding).

Toggling Visibility of Navigation

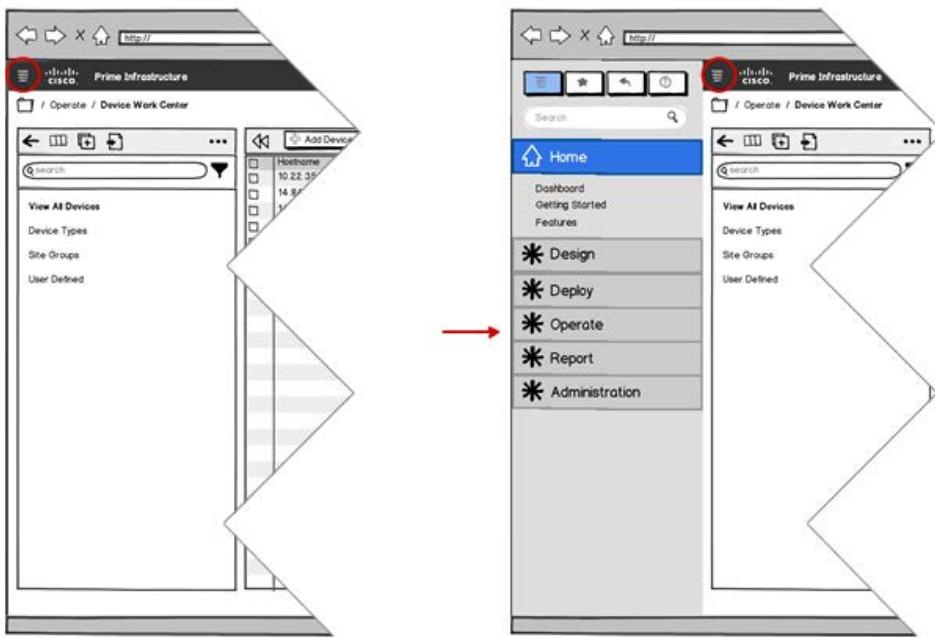


Figure 4. Toggling Visibility of the Global Navigation

Displaying the Navigation

- By default, the global navigation is hidden off-screen.
- Clicking the navigation icon, also known as the hamburger icon (circled in diagram 2), in the header will display the navigation.
- The navigation will transition from off the left side of the screen to the x=0 position in 200 ms using an ease-out transition.
- When displaying the navigation, contents of the page will slide off the right side of the screen (Also known as an Off-Canvas Push), to make room for the navigation.
- The contents of the page will slide off using the same timing and transition as that of the navigation.

Hiding the Navigation

- Once open, there are two ways to close the navigation.
 - Clicking on a Navigation Drawer Item (Brings the user to a new page).
 - Clicking on the navigation icon, the hamburger icon (circled in diagram 2) in the header.
- When hiding the navigation, contents of the page will slide back onto the canvas as room becomes available.
- The navigation will transition from on screen to off screen in a matter of 200 ms with an ease-in transition.

Additional Global Navigation Specifications

- See the Global Navigation Specifications

Getting Back Home



Figure 5. Getting Back Home

- The Cisco Logo and Product Name should be links back to the application home page.
- Both of these items should appear as a single link target, avoiding non-linked space between them
- The clickable area for these elements should be:
 - The full height of the navigation bar
 - Refer to the visual specifications for left and right padding.

Toggling the Visibility of Header Panels

- Clicking a header item in Region Z will toggle the visibility of its associated header panel.
- While a panel is open, the item in the header must have a visual affordance to tie it to the open panel.
 - See visual specifications for details.
- Clicking on any header item while a panel is open will:
 - Close the open panel.
 - Open the panel for the related header item.
 - Note: These should occur simultaneously.
- Showing the Panel
 - Panels will slide down from underneath (z-index) the header
 - Transition will occur over 200 ms using an ease-out transition.
- Hiding the Panel
 - Panels will slide up, underneath (z-index) the header
 - Transition will occur over 200 ms using an ease-in transition.

Closing Panels

- There are several ways to close a panel.
 - Clicking on another header item.
 - Clicking outside a panel.
 - Selecting a link element in a menu.
 - Selecting and setting a value in a menu.

Header Panel Navigation

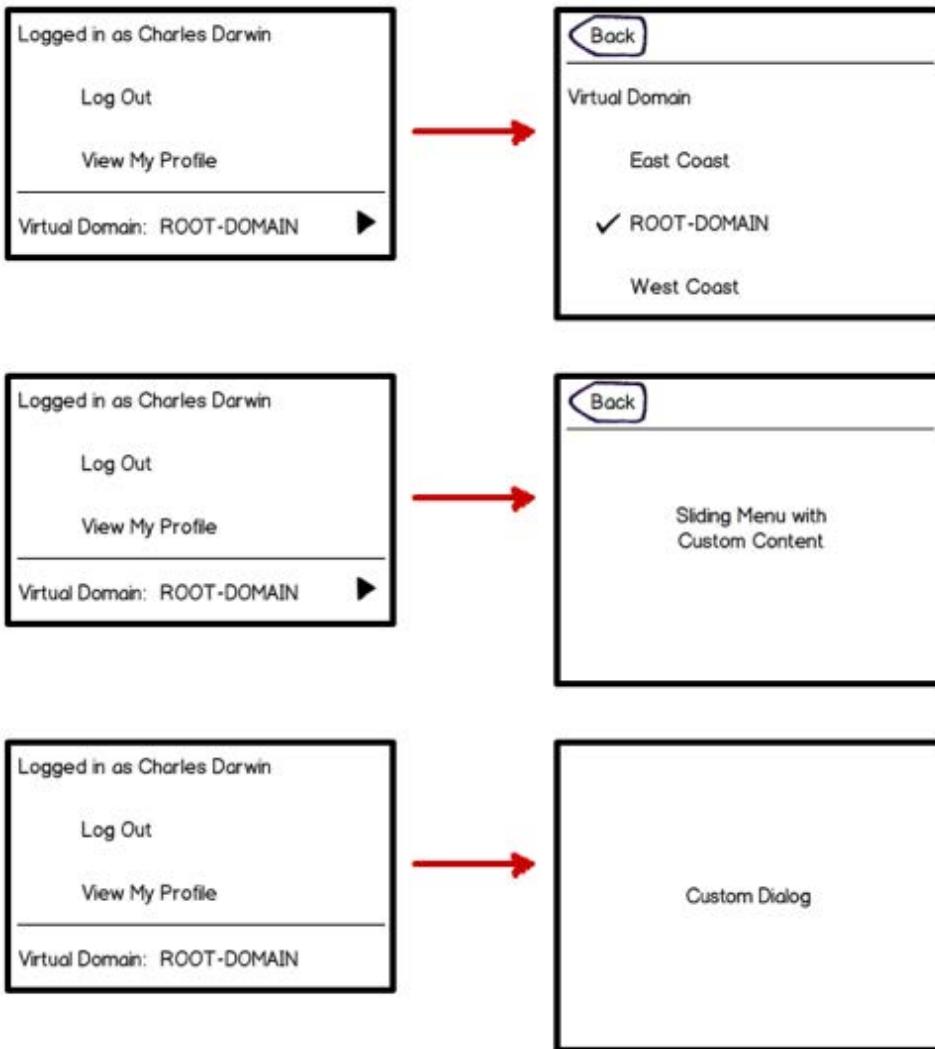


Figure 6. Header Panel Navigation

- Panels have a maximum height equal to the available real estate below the application header.
 - Not all panels are required to use the full height of the browser.
- In some cases, have a Panel Content Area that vertically scrolls.
- Panels have a Panel Content Area that never horizontally scrolls.
- Teams may choose to use the sliding menu seen in the settings menu example.
- This allows user to drill into nested settings in the same menu.
- Parent items will indicate an arrow on the right side of the menu.
- Clicking the parent item will initiate the following interaction:
 - Current menu slides right to left over 200ms easing-in.
 - Newly displayed menu/content follows the same timing and styling.

- Nested Panels:
 - Must provide the ability to go back.
 - Can contain other sliding menus or custom content.
- Panel Sizing
 - When drilling into nested menus, the height and width of the panel can stretch to fit its contents.
 - As the menu slides to reveal additional content, the panel resizes as necessary.
 - The animations occur at the same time, rather than sequentially.
 - Menu width can grow, but can not shrink.

Username / Domain Switcher / Settings

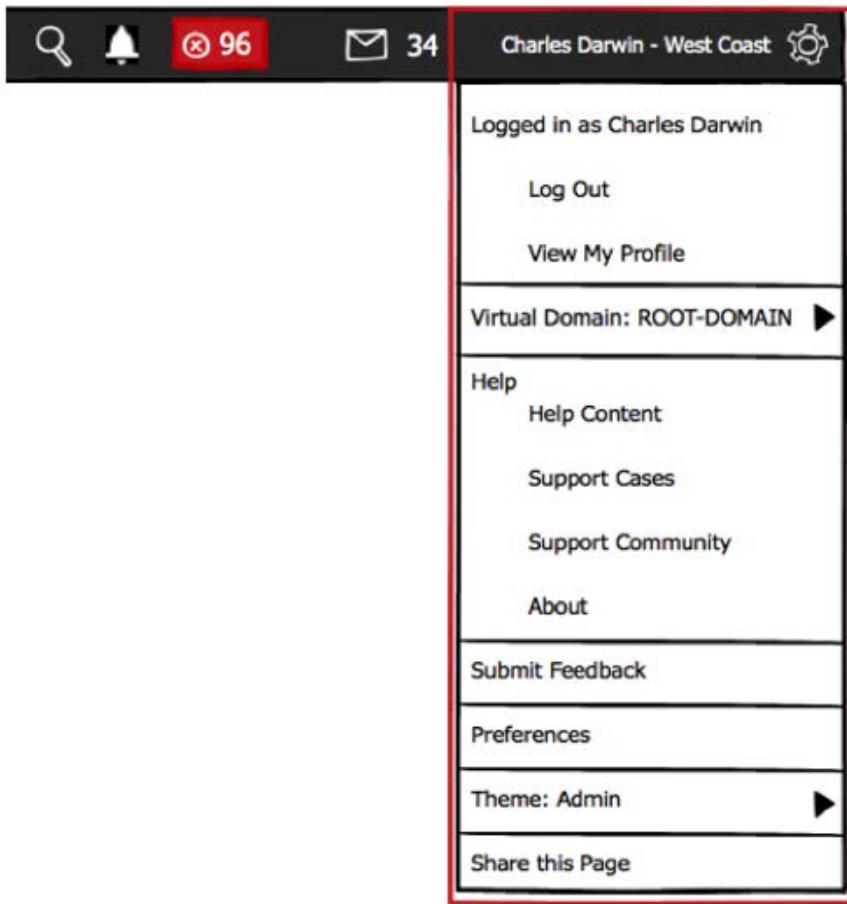


Figure 7. Username / Domain Switcher / Settings

- Use of this section is required in the header.
- The currently logged in username must always be shown.
- Display and Usage of a Virtual Domain is optional, depending upon usage in an application.
- The click target must extend the entire height of the header bar and refer to the visual specifications for left and right padding.
- Clicking this section will toggle the visibility of the header panel as described above.

- In these instances, the items are interchangeable and will behave similarly.
- The label in the header panel must reflect the proper value.

Panel

- The header panel for this section reinforces the currently logged in username by displaying at the top.
- Provides users with the ability to log out of an application.
- Optionally displays the currently selected Virtual Domain and the ability to see additional details.
- Includes access to Help and other general settings.

Alerts / Alarms

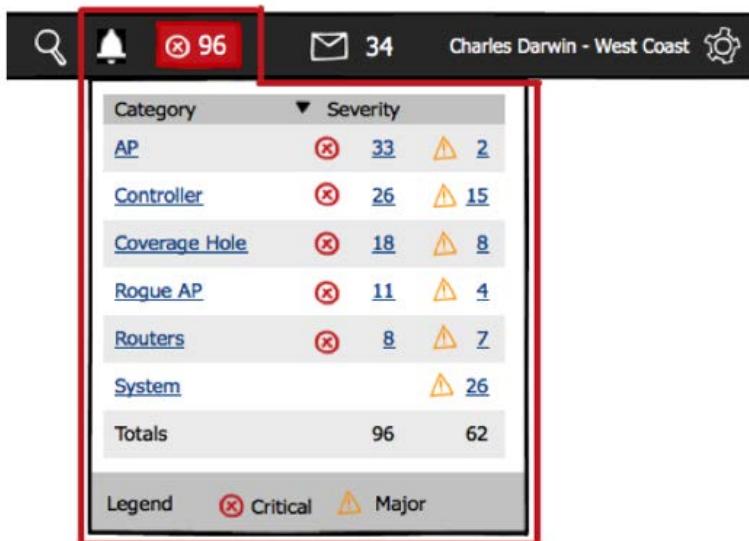


Figure 8. Alerts / Alarms

- Use of this section is optional in the header.
- This area is represented by the Alarm icon (Bell) and a color-coded numeric badge.
- The click target must extend the entire height of the header bar and refer to the visual specifications for left and right padding.
- Clicking this section will toggle the visibility of the header panel as described above.

Alarm Badging



Figure 9. Displaying Proper Alarm Badges

- The header badging will always display the same alarm (bell) icon, along with the highest existing severity alarms badge color.
- The count for this badge represents only the highest severity alarms.
- Counts will never exceed 999.
- Should there be more than 999 alarms, this will be indicated by "999+" without quotes.
- Example 1:
 - 5 Critical alarms, 10 Major Alarms
 - Header will display the Red Badge with a count of 5.
- Example 2:
 - 0 Critical alarms, 12 Major Alarms, 75 Minor Alarms
 - Header will display the Orange Badge with a count of 12.
- Example 3:
 - 0 Critical alarms, 0 Major Alarms, 54 Minor Alarms
 - Header will display the Yellow Badge with a count of 54.
- Example 4:
 - 0 Critical alarms, 0 Major Alarms, 2,350 Minor Alarms
 - Header will display the Yellow Badge with a count of 999+.
- Example 5:
 - 0 Critical alarms, 0 Major Alarms, 0 Minor Alarms
 - Header will display the Black Badge with a count of 0.

Notifications

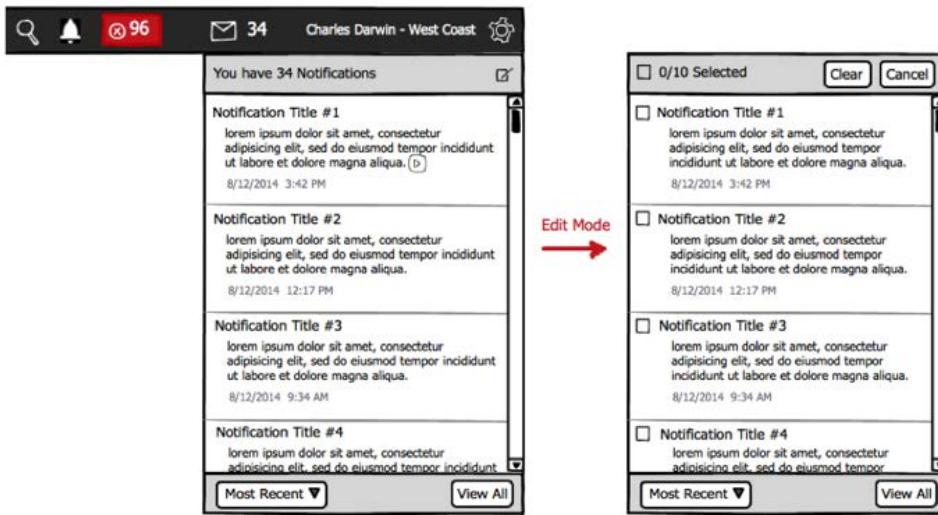


Figure 10. Notifications

- The click target must extend the entire height of the header bar and refer to the visual specifications for left and right padding.

Section 2 - Technical Constraints

N/A

Section 3 - Rationale, Rejected and Future Ideas

Rejected Ideas

Cisco Logo Launching Corporate Website

- In releases prior to 3.0, clicking the Cisco logo brings a user to the corporate website.
- The norm for both websites and applications is to bring a user to the site's home page.
- This behavior causes confusion for users, in that their expected behavior is to go home, yet they are brought to the corporate website.

Header Scrolls off Page upon Scrolling Downward

- To conserve vertical space, it was proposed that the header could scroll upward off the page when the user scrolled down
- The user can only be focused on one thing at a time, and search may not be the most frequently desired access item (since it is also available via the global nav)
- However, in order to avoid having to scroll back up in order to perform a search, it was determined that the header remain in a non-scrolling region at the top

Future Ideas

Responsive Header

- In order to provide support for all device types, we must begin to implement a responsive solution.

- As screen real estate begins to shrink for mobile and tablet devices, elements in the header will need to hide and/or re-arrange into different menu structures.
- The responsive nature of this display is yet to be determined.

Tabbed Navigation

- For some very simple applications, using the Global Navigation is overkill.
- These applications may only contain a couple of pages.
- As such, we need a way to present these navigational items inside the header, always visible.
- These would behave similarly to tabs.

Store Use Case

- Some applications require the use of Mega Menus inside the header.
- This navigational treatment would be used in place of the Global Navigation.
- Mega Menus provide users with a "map" that helps them understand how the application is organized.
- They provide a way to quickly jump to any point in the system.
- The information architecture of navigation is made clear and visible all at once.
- The amount of clicking, searching, and navigating is also reduced.

Customizing Notifications

- Users currently have the ability to limit the types of alerts & alarms that they receive.
- Users should also have this same functionality for notifications.
- In the midst of admin configurations, users should be able to select the types of notifications they would like to receive.
- All other notifications types will never be presented to them.

Search Positioning with Drop-Down Panel

- Position Search in the upper right corner, where it is expected
- Include a drop-down panel for search instead of an overlay
- This would require less reserved horizontal space in the header

Section 4 - Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications



Figure 1. UI Shell Header Overview

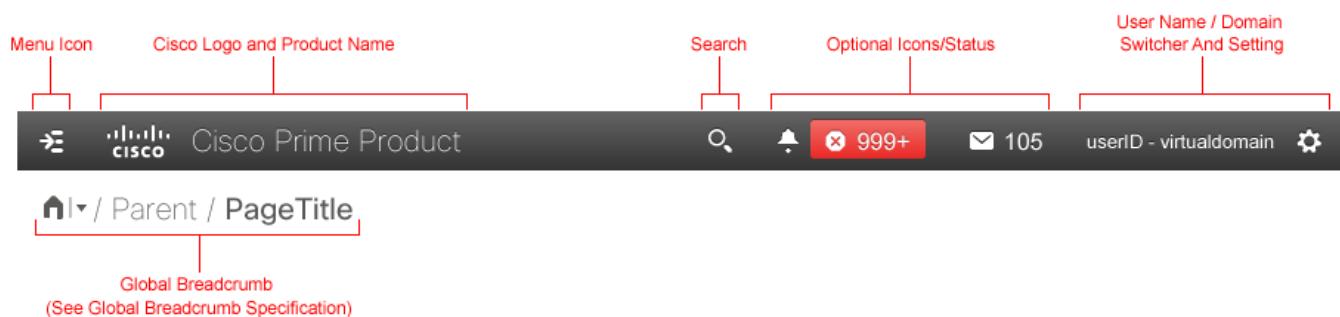


Figure 2. UI Shell Header Elements

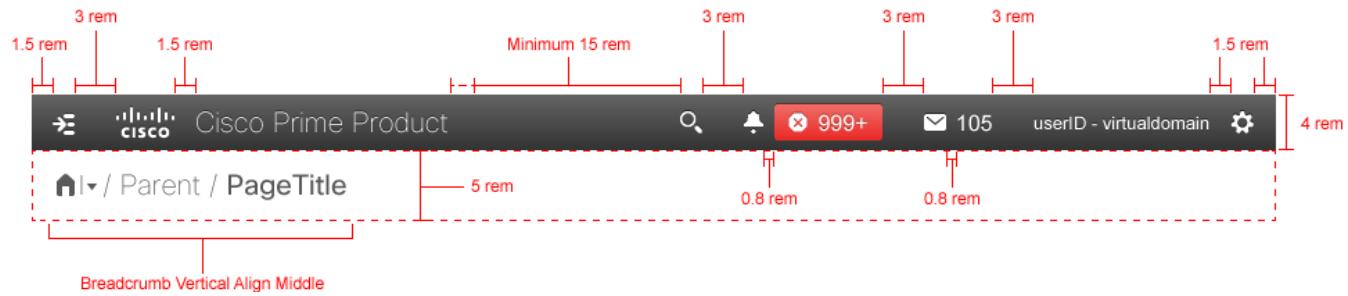


Figure 3. UI Shell Header Specifications



Figure 4. UI Shell Header Regions

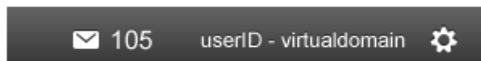


Figure 5. UI Shell Header with Truncation



Figure 6. UI Shell Header with Wrapping

Normal State



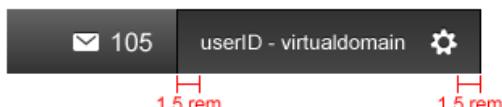
Normal State
Gradient: Top #646464, Bottom #323232

Hover State



Hover State
Top Border: 0.1 rem, #000000
Left Border: 0.1 rem, #000000
Right Border: 0.1 rem, #000000
Gradient: Top #464646, Bottom #646464

Selected State



Selected State
Top Border: 0.1 rem, #000000
Left Border: 0.1 rem, #000000
Right Border: 0.1 rem, #000000
Gradient: Top #323232, Bottom #464646

Figure 7. UI Shell Header Menu States

Alarm Font and Color Specification

Element	Example	Font Family	Size	Style	Color	Shadow
Product Name	Cisco Prime Product	CiscoSansThin, Arial	2 rem	Normal	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Notification Counter	105	Arial	1.6 rem	Normal	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
User ID / Virtual Domain	userID - virtualdomain	Arial	1.3 rem	Normal	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Color	Shadow
Menu				1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Cisco Logo				4.2 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Alarm				1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Notification		Ą		1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Setting				1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Search				1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;

Table 2. Icons Specifications



Alarm - Critical



Alarm - Major



Alarm - Minor



Alarm - None



Figure 8. UI Shell Header Alarm Specification

Font and Color Specification

Element	Example	Font Family	Size	Style	Color	Shadow
Critical Alarm Numbers	999+	Arial	1.6 rem	Normal	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Major Alarm Numbers	999+	Arial	1.6 rem	Normal	#464646	text-shadow: 0 0.1rem 0.1rem #ffffff;
Minor Alarm Numbers	999+	Arial	1.6 rem	Normal	#464646	text-shadow: 0 0.1rem 0.1rem #ffffff;

Table 3. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Color	Shadow
Critical				1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Major				1.6 rem	#464646	text-shadow: 0 0.1rem 0.1rem #ffffff;
Minor				1.6 rem	#464646	text-shadow: 0 0.1rem 0.1rem #ffffff;

Table 4. Alarm Icons Specifications



Figure 9. UI Shell Header Slide Down Panel Specifications

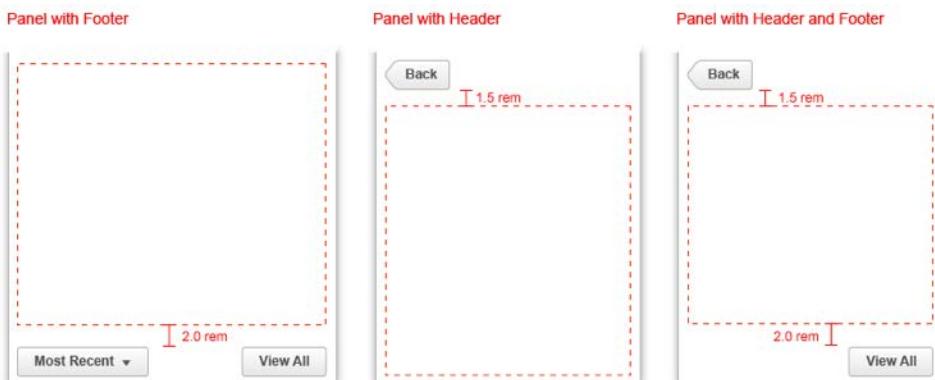


Figure 10. UI Shell Header Slide Down Panel with Header & Footer

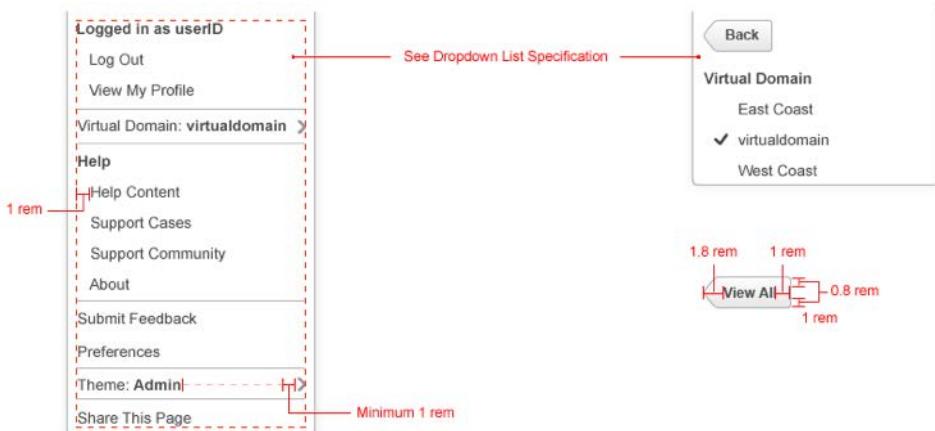


Figure 11. UI Shell Header Setting Specifications

KEYWORD TOKEN FIELD

Description

The keyword token field is a means for users to easily enter pre-determined and/or user defined keywords/tags. The system will help users as they are typing in the field to autosuggest with existing keywords that match their entry. Users may also choose to enter their own keywords.

Additionally, this field may include a filter icon, which when clicked would initiate a filter functionality on a data set based upon the keywords entered in the field.

Usage Guidelines

There are two basic variations of this component depending on the situation:

1. Keyword Form Entry:

Used to assign or update keywords/tags for a particular object. Any existing tags in the system will be displayed as part of the autosuggest functionality and any new tags entered would be stored and available for use with this widget in the future.



Figure A. Keyword Form Entry

2. Keyword Filter:

Used to filter a set of data through the use of predetermined and/or user-defined keywords/tags. Any existing keywords/tags in the system will be displayed as part of the autosuggest functionality and any new keywords entered would be used as part of the filter criteria. The field can be pre-populated with keywords.



Figure B. Keyword Filter

Use this component...

- When multiple user-defined labels/keywords/tags can be assigned to objects.
- When there can be a one-to-many relationship with the many keywords/attributes being represented as 1 field.
- When the user needs to run a query or filter with existing or new keywords/tags.

Do not use this component...

- When the user needs to assign single values to various attributes about an object.
- There is no need for a user to create his own set of tags or attributes for a particular object.
- The user needs to run a simple search.

Visual Specifications

Keywords



A screenshot of a keyword input field. The field is empty and has a placeholder text "Keywords". Above the input field is a "Go" button.

Figure 1-1. Keyword Field with no tags/keywords pre-populated.

Keywords



A screenshot of a keyword input field containing four pre-populated tags: "Catalyst 6500", "Interface", "error", and "drops". Above the input field is a "Go" button.

Figure 2-1. Keyword Field with pre-populated tags/keywords.



Figure 1-2. Keyword Field with no tags/keywords pre-populated (Filter icon button in token field - Disabled when the field is blank).

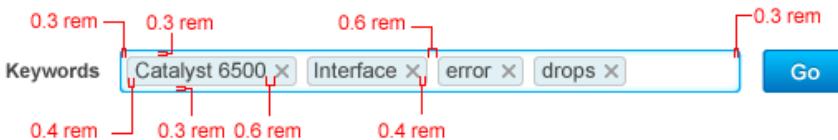
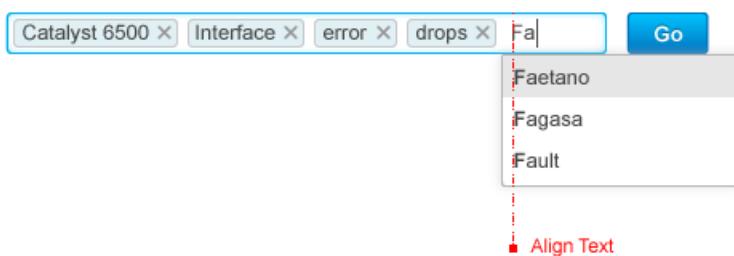


Figure 2-2. Keyword Field with pre-populated tags/keywords.

Keywords



A screenshot of the keyword input field showing an auto-suggestion dropdown. The input field contains the prefix "Fa|". The dropdown shows three suggestions: "Faetano", "Fagasa", and "Fault". A red callout box at the bottom right of the dropdown indicates the option "Align Text".

Figure 3-2. Auto-Suggest for keyword with more than 10 matches (Top) show only 3 matches (Bottom)

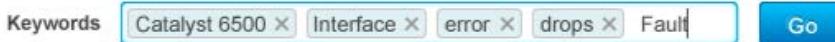


Figure 4-2. Auto-Suggest has no matches for user's input



Figure 5-2. Cursor at different point in keyword field

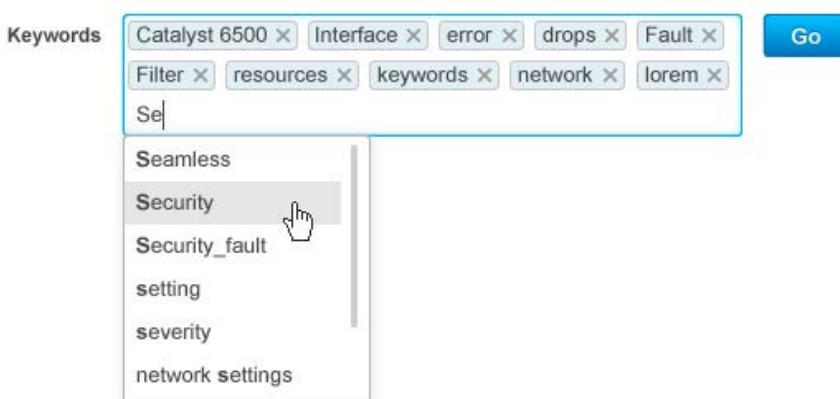


Figure 6-2. Auto-Suggest at different point in keyword field

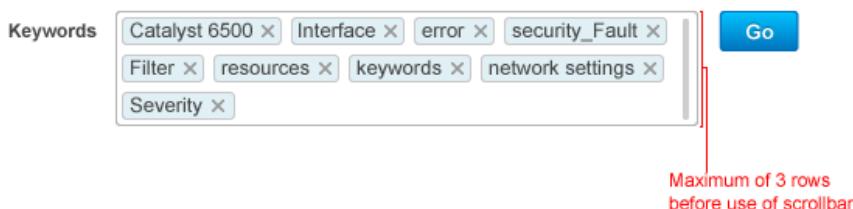


Figure 7-2. Auto-Suggest at different point in keyword field (Maximum of 3 rows before use of scrollbar)

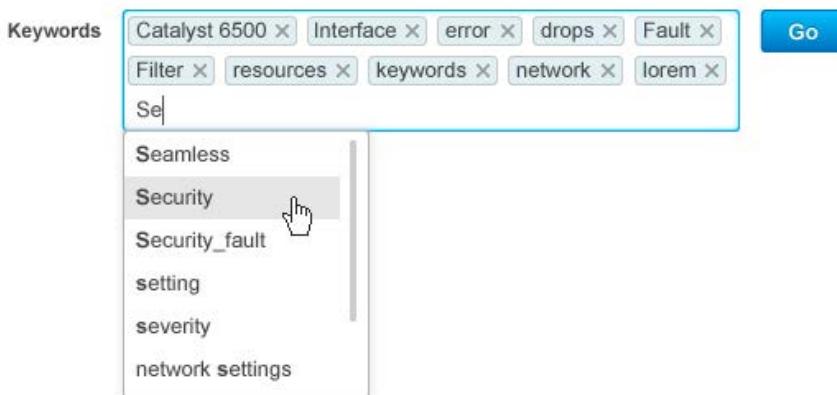


Figure 8-2. Close Option Visual Specification.

Font and Color Specification

Element	Specifications
Text Box	Follow the Text Box specification.
Dropdown List	Follow the Dropdown List specification.
Keyword	Background: #e1f0f5 , border-radius:3px; border-color:# c8c8c8;
Keyword Font	Arial, 1.3 rem, Normal, #464646
Table 1. Specifications for Fonts and Colors	

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Normal Color	Pressed Color
Close	×			0.8 rem	#969696	#379bbe

Table 2. Icons Specifications

Interaction Behavior

Keyword Field

- The field may be pre-populated with keywords/tags that have already been added for the object or in the case of a filter, relevant keywords based on a known context.
- The field may or may not have a label. This should be a customizable setting.
- If the field is used as a filter, there will be an icon button to initiate the filter action.

Keywords

Figure 9.2. Keyword Field with no tags/keywords pre-populated

Keywords

Figure 10.2. Keyword Field with pre-populated tags/keywords

Adding Keywords

- Users can add new keywords/tags by typing them into the field.
- Auto-suggest functionality will suggest known keywords as the user types.
- If the keyword/tag match from auto-suggest or the text entered does not fit in the available text box space, it will grow to another line.
- As keywords are added, they will be given the visual style of keywords/tags within the text field.
- If the user enters a comma or semicolon and then a space, the text that was entered by the user will be treated as a keyword/tag and given the appropriate visual style.
- If the user tabs or clicks out of the field after typing in characters, whatever characters the user entered will be treated as a keyword/tag and given the appropriate visual style. If the auto-suggest layer is open, it will be closed.
- Persist the new keyword to be part of the repository is application specific.

Auto-Suggest

- Auto-suggest functionality will appear as users are typing in the field displaying keywords/tags that have 1 or more words containing the characters entered.
- The layer displaying the matches will be displayed with the first character entered and connected to the text field where the 1st character of the current keyword entry appears.
- Matching characters will be highlighted visually in the list of auto-suggested keywords.
- The first 10 matches will be visible, and if there are more than 10 a scrollbar will be displayed for the user to manually scroll through to pick an item if he chooses to do that vs. continuing to type.
- Auto-suggest list displays the matches in alphabetical order.
- As the user types, the list of matches will continue to adjust.
- When there are no more matches, the list will no longer be displayed, but the user can continue to type in order to use his own keyword/tag for filtering.

- The first item in the auto-suggest list will always be highlighted for selection.
- The user can use the arrow keys to move the highlight down the list and to scroll down.
- If the user hits the 'enter/return' key while the auto-suggest list is open, the selected item in the list will be displayed as the next keyword tag. The cursor will remain in the text box.
- If the user clicks the 'enter/return' key when what has been entered has no auto-suggest matches, whatever the user entered will be treated as a keyword/tag and be given the visual style of a keyword/tag
- Keywords/Tags that are already in the field will not be displayed in the auto-suggest list.

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Star - Fill	★			1.6 rem	#FFCD00	#74BAD1	#FFCD00
Star - No Fill	★			1.6 rem	#FFCD00	#74BAD1	#FFCD00
Star - Half Fill	★			1.6 rem	#FFCD00	-	#FFCD00

Table 2. Icons Specifications

Figure 11.2. Cursor in Field



Figure 12.2. Auto-Suggest for keyword with more than 10 matches



Figure 13.2. Auto-Suggest for keyword refined to show only 3 matches

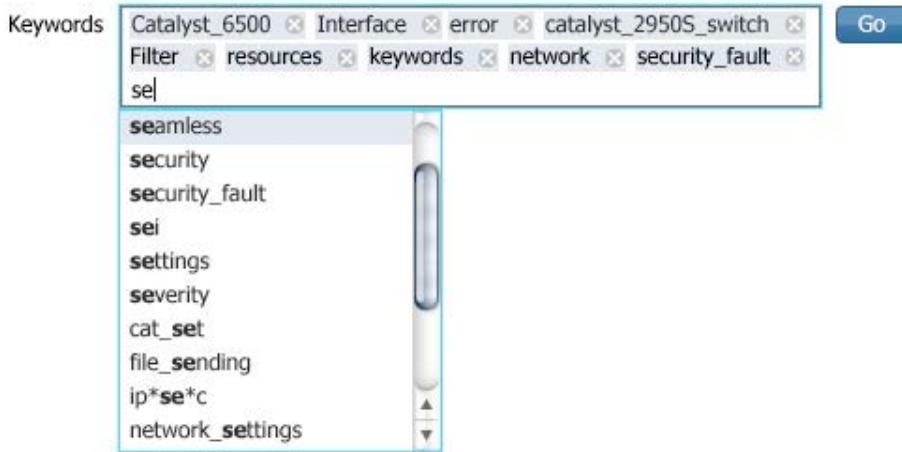


Figure 14.2. Auto-Suggest at different point in keyword field.

Removing Keywords

- When the user hovers over a keyword the visual style changes.
- On hover over the 'x' icon in a keyword token, a tooltip appears that says "Remove this keyword".
- On click of the 'x' icon, the keyword token is removed.
- Via the keyboard if the cursor is in the field immediately next to a keyword, the user can click the delete key to delete the keyword to the left of the cursor.

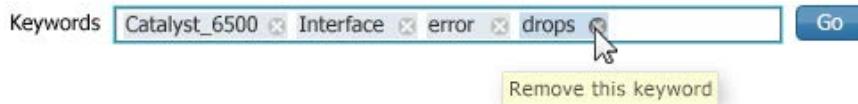


Figure 15.2. Keyword highlighted and tooltip when hovering over 'x' icon.

Filtering based on Keywords

- If the user clicks the 'enter/return' key when what has been entered has no auto-suggest matches, whatever the user entered will be treated as a keyword/tag and be given the visual style of a keyword/tag. The user can continue typing to add another keyword/tag. If he clicks the 'enter/return' key a 2nd time, the filter will be run with whatever keywords/tags are in the field.
- If the user clicks the 'enter/return' key while the cursor is in the keyword text field and there are no new characters, the filter will be run with whatever keywords/tags are in the field
- Hovering over the filter button icon displays a tooltip.
- Clicking the filter button icon initiates the filter.

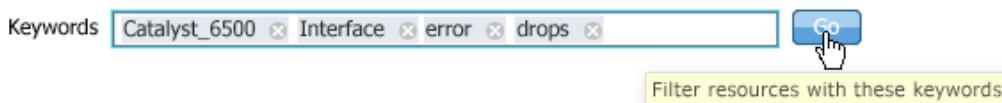


Figure 16.2. Tooltip displayed when hovering over filter button.

Keyboard Navigation

- Enter/Return Key when there are no auto-suggest matches turns user input into keyword style and cursor remains in field.
- Enter/Return Key when cursor in field and no new characters entered initiates filter when there is filter case.
- Tab, semi-colon, or comma when user is typing a keyword turns user input into keyword style and cursor remains in field.
- Arrow keys navigate the auto-suggest list.
- Enter/Return or tab key when there are auto-suggest matches takes the highlighted keyword in the auto-suggest list as the keyword for the field and closes the auto-suggest overlay.
- Delete/Backspace key when the cursor is in the field deletes the keyword immediately to the left of the cursor if the user is not in the process of entering a new keyword.
- Delete/Backspace key deletes individual characters when the user is in the process of typing in a keyword/tag.

LOGIN AND PASSWORD

Usage Guideline

Login and Password

The Login page allows users to log in to the application by supplying a valid username and password (at a minimum).



Why use this pattern?

A user needs to securely access an application and the provider of the application needs to enforce security measures to prevent unauthorized access.

When to use it

Use this pattern when a user needs to provide credentials to a secured application. Login is required for all Cisco Prime Products.

Options

- Use textboxes to display additional information such as a notes field
- A "Remember Me" checkbox to have the username be repopulated when using the same browser
- Additional login parameters, such as Domain and Role, are allowed

Required

Product Identity

- The product name must start with "Cisco Prime" followed by the application name (e.g. Cisco Prime Collaboration)

Recommendations

Login

- A "Forgot Password" link is available should the user have difficulties logging in.
- The "Remember Me" checkbox is optional.
- Auto complete is not enabled as a security measure.
- The notes field is disabled by default but should be shown if there is content in this section.

Login Messages

- Warning messages will always be visible upon each visit, regardless of event (e.g. logout, login failure, etc.)

Exceptions

None

See Also

Field Hints, Progress Indicator

Interaction Behavior

Passwords

- As the user types, a null character, an asterisk " * " is displayed instead of the actual letters typed.
- There is no minimum or maximum length guideline for the password field. This is a design time decision that should align with an application's requirements. Hence, the length of the password input fields should be configurable.
- Using the keyboard to add or delete characters simply adds or deletes the asterisks or bullets.

Login

- On page load, the username field should be in focus to allow the user to login immediately without extra interaction
- When the user enters their first character in the username field, the label is completely removed. Only if the field is completely cleared will the label return.
- A progress indicator appears while the system is verifying the login attempt
- The “Forgot Password” link redirects users to online contextual help that lists options, provided in the application, to retrieve, change or reset the password.
- When the “Remember Me” checkbox is enabled, the password field will remain blank but be focused on page load.
- If the Notes field is enabled, the textbox has a maximum height of 10 REM (100 px). Once the max height is reached, the notes panel will vertically scroll.
- When the “Remember Me” checkbox is selected the last entered username will be repopulated by the browser.

Login Messages

- Users landing on the login page that are using an unsupported browser will see the following message: “For best results use a supported browser (?).” The help icon will display a popover containing information on downloading the most recent browsers.
- If cookies are required, the user will see the following message: “Cookies are required. Enable them before logging in.”
- If the user fails their login attempt, an error message will display saying: “Invalid Username or Password. Please try again.”
- If a user is logged out due to inactivity or if the user manually logs out, an informational message will display.

Using Additional Form Parameters

- Common additional parameters are Domain and Role.
- These elements can be added directly below the password field.
- These elements will use a Combobox widget, but can also use textfields if necessary.
- These additional elements should be defaulted with a value whenever possible.

Login Lite

When a user needs to log into an external application or website (such as Cisco.com) from inside a Prime Product, use Login Lite. If a user needs to log into another Prime Product, or is cross launched into another Prime Product in the suite (and single sign on is not being utilized), the user should be presented with the product's normal login screen.

Visual Specifications

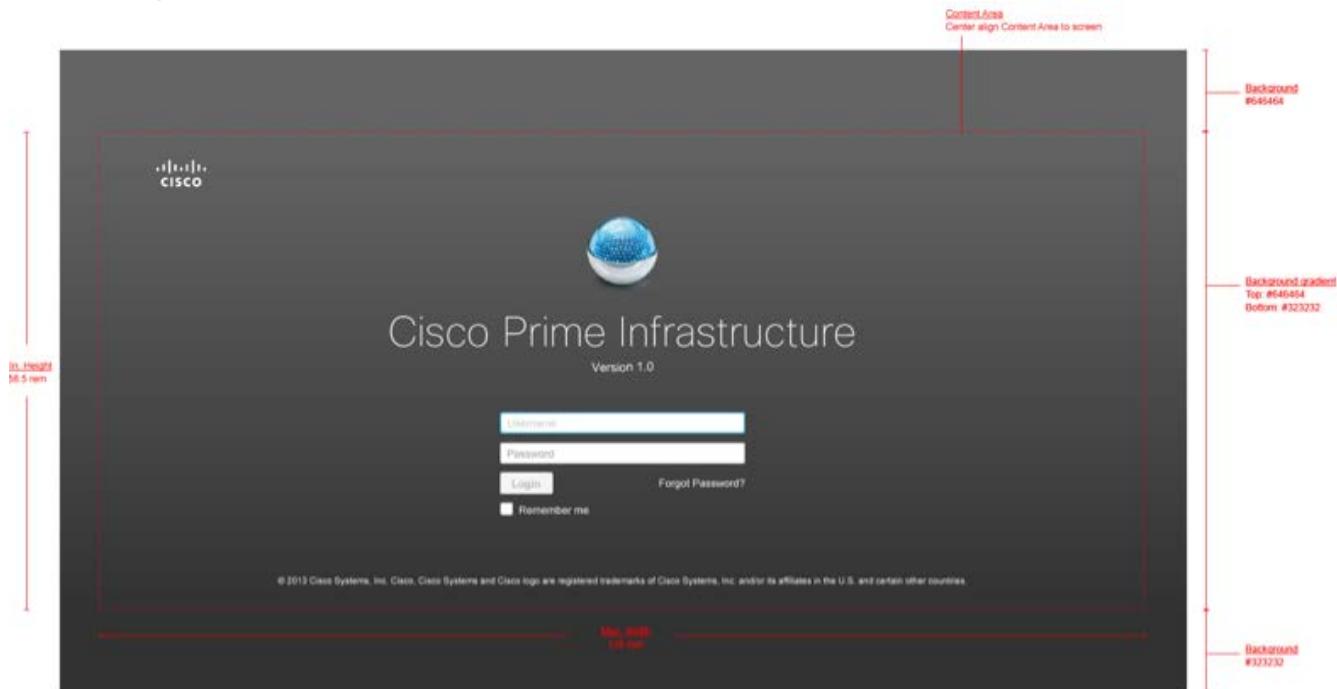


Figure 1. Login Page Overview

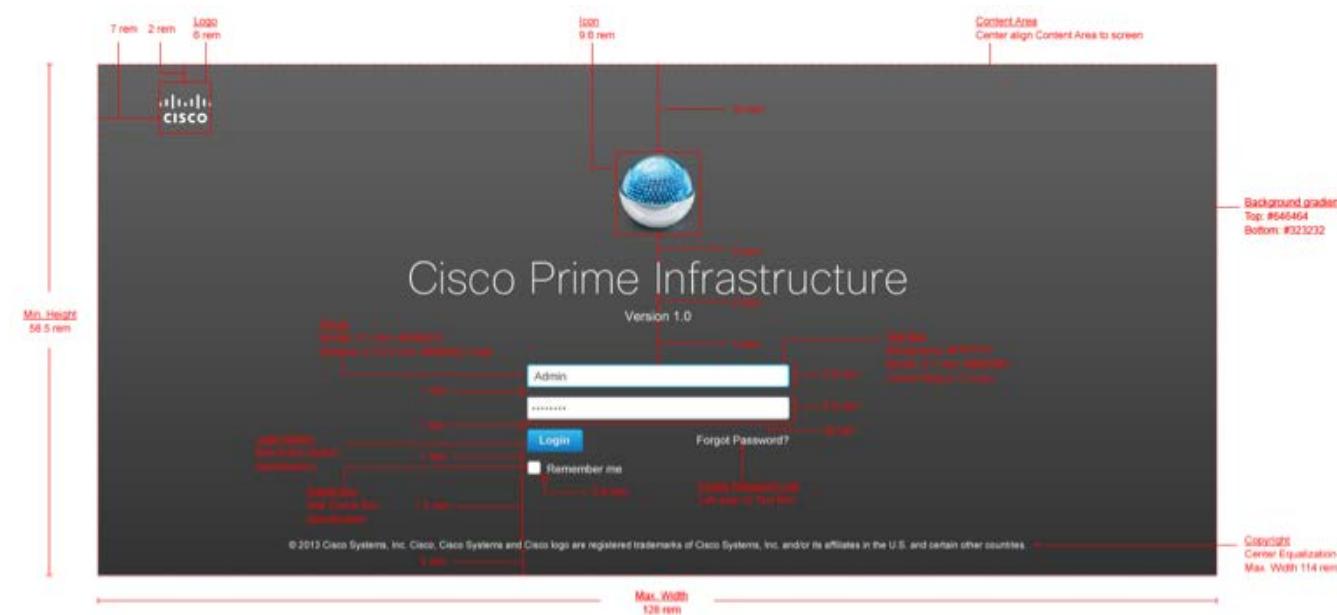


Figure 2. Login Page Overview



Figure 3. Login Page with Product Subtitle



Figure 4. Login Example with One Notification



Figure 5. Login Example with Two Notifications of Different Types



Figure 6. Login Example with Two Notifications of Same Type

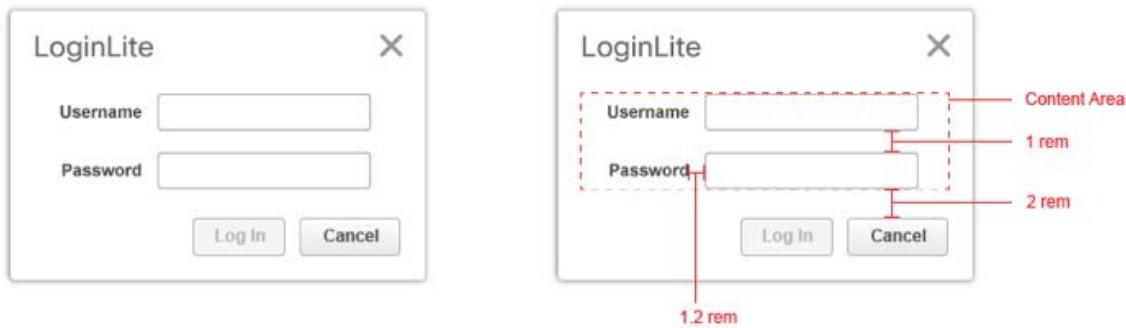


Figure 7. LoginLite example.

Font and Color Specification - Login Page Content

Element	Font	Size	Style	Color / Setting
Product Name	CiscoSans	6 rem	Thin	#FFFFFF
Version Name	Arial	1.8 rem	Normal	#FFFFFF
Login Field (Hint Text)	Arial	1.3 rem	Normal	#969696
Login Field (Input Text)	Arial	1.3 rem	Normal	#464646
Forget Password	Arial	1.3 rem	Normal	#FFFFFF
Remember Me	Arial	1.3 rem	Normal	#FFFFFF
Copyright	Arial	1.1 rem	Normal	#FFFFFF
LoginLite Label	Arial	1.3 rem	Bold	#464646

Table 1. Font and Color Specifications for Login Pages.

Icons

Icon Name	Icon	Unicode	Size	Color
Cisco Logo			4 rem	#FFFFFF

Table 3. Login Page Icons

MULTIPLE FILE UPLOAD

Description

Multiple file upload enables users to select and upload one or more files as part of a workflow or as its own task.

Usage Guidelines

There are two basic variations of this component depending on the situation:

- **Inline Upload:** Select and view files to upload and perform the upload action within the current context (page or overlay).
- **Upload on Submit:** Select and view files to upload and upon submitting the page/overlay action button the upload would be initiated (best suited for uploading files to another system or if user does not need to see outcome of upload right away).

Both variations can work for single or multiple file upload. Multiple file selection is generally encouraged, unless the use case requires only a single file.

Use this component when...

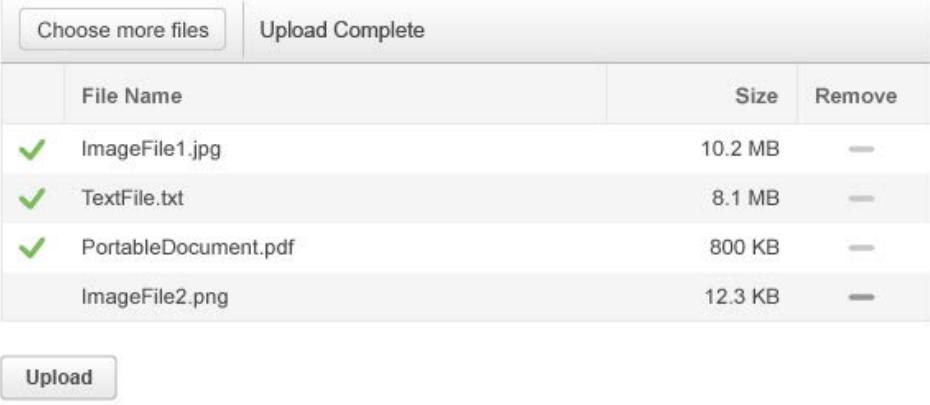
- When the user needs to upload multiple files at one time.
- When the user needs to upload a single file and needs to see the progress of the upload or to use the file as part of the next step in a process.

Do not use this component...

- When the user needs to upload a single file and does not need any additional information or functionality during the upload.

Visual Specifications

Upload Files

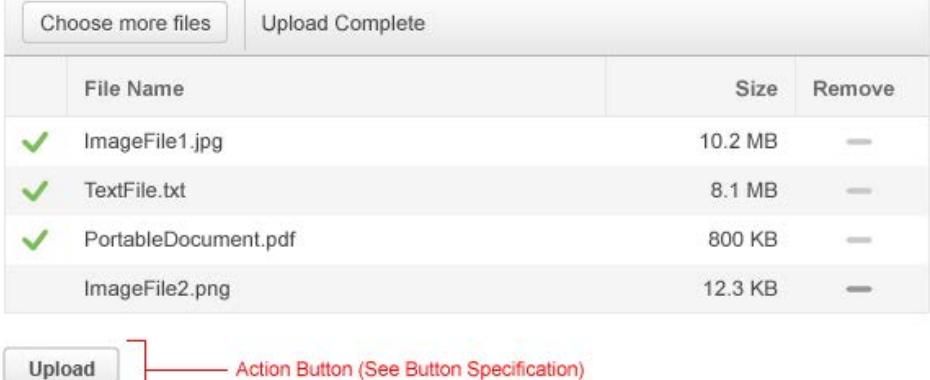


The screenshot shows a file upload interface. At the top left is a "Choose more files" button. To its right is a "Upload Complete" message. Below this is a table with four columns: "File Name", "Size", and "Remove" buttons. The table contains five rows, each with a green checkmark icon and a file name. The file names are: ImageFile1.jpg, TextFile.txt, PortableDocument.pdf, and ImageFile2.png. The sizes are: 10.2 MB, 8.1 MB, 800 KB, and 12.3 KB respectively. Below the table is a large "Upload" button.

	File Name	Size	Remove
✓	ImageFile1.jpg	10.2 MB	—
✓	TextFile.txt	8.1 MB	—
✓	PortableDocument.pdf	800 KB	—
	ImageFile2.png	12.3 KB	—

Figure 1. Multiple Files Upload Overview

Upload Files



The screenshot shows the same file upload interface as Figure 1. A red bracket on the right side points to the table area with the text "Table (See Table Specification)". Another red bracket at the bottom left points to the "Upload" button with the text "Action Button (See Button Specification)".

	File Name	Size	Remove
✓	ImageFile1.jpg	10.2 MB	—
✓	TextFile.txt	8.1 MB	—
✓	PortableDocument.pdf	800 KB	—
	ImageFile2.png	12.3 KB	—

Figure 2. Multiple Files Upload Elements

Upload Files



The screenshot shows the initial state of the file upload interface. It includes the "Upload" button and a dimension line above it labeled "2 rem".

Figure 3. Multiple Files Upload Initial State Specifications

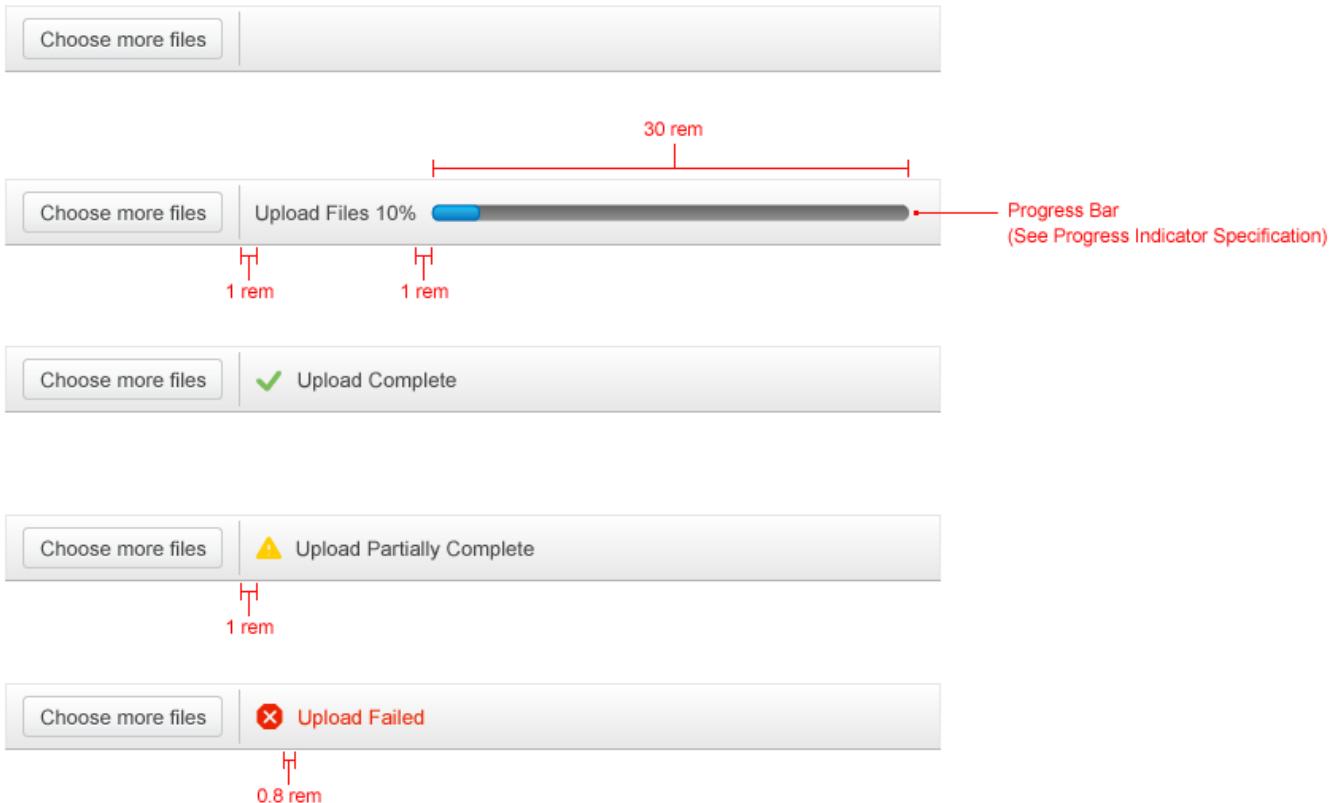


Figure 4. Multiple Files Upload Status Specifications

Font and Color Specification

Element	Font	Size	Style	Color
Upload Status Message	Arial	1.3 rem	Normal	#464646
Upload Status Message (Error)	Arial	1.3 rem	Normal	#EB2300

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Upload Complete Icon	✓			1.6 rem	#7cbc59		
Upload Fail Icon	✗			1.6 rem	#eb2300		
Remove File Icon	—			1.6 rem	#969696	#74bad1	#379bbe
Remove File Icon (Disabled)	—			1.6 rem	#c8c8c8		
Upload Partially Complete Alert Icon	⚠			1.6 rem	#ffcd00		

Table 2. Icons Specifications

Interaction Behavior

Selecting Files

- The file upload component includes a title pane that is expanded by default as well as functionality for choosing and uploading files.
- The title pane title text by default would be “Upload Files” if setting is for multiple files, and “Upload File” for single file upload. App teams can customize this text.
- Initially the component has no files selected and just an action button to choose one or more files to upload.
- Clicking the “Choose Files” action button opens the OS browse dialog for selecting files. Users should be able to select multiple files from the OS dialog, unless the use case calls for only a single file.
- The widget should support customization to only allow certain file types for selection. By default, all file types will be allowed.

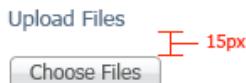


Figure 3. Initial state of multiple file upload component.

Files Added

- Once the user has selected files from the OS dialog, the files with their associated sizes would be listed in a table beneath the header.
- Users can remove files from the list by clicking the remove link. Upon clicking the link, the line item would be removed.
- The list of files should be scalable such that if there is a large list, a scrollbar would appear. Based upon the other elements on the page/overlay, the size of the list before showing a scrollbar should be configurable.
- The user can also add more files by clicking the “Select more files” link. Clicking this link opens the OS browse dialog from which the user can choose more files. All newly selected files will be added to the top of the list.
- If the user can upload inline, an Upload button will be displayed. Clicking the upload button would initiate the upload process and show the progress inline (refer to the following section for more details).

Upload Files		
 Choose more files		
File Name	Size (KB)	Remove
Lorem Ipsum.jpg	10.2	
Lipsum.txt	8.1	
MyFile.txt	12.3	

Upload

Figure 4. Files selected for upload. The upload process happens inline. There is an upload button and the size column shows the file size.

Upload Files

Upload Files			
	File Name	Size (KB)	Remove
	LoremIpsum.jpg	10.2	
	Lipsum.txt	8.1	
	MyFile.txt	12.3	

Figure 5. Files selected for upload. Upload is initiated via page/overlay's action button. Upload does not happen while user remains on this page. In this case, there is no designated Upload button and the size column only contains the total size of the file.

Upload Files

Upload Files			
	File Name	Size (KB)	Remove
	LoremIpsum.jpg	10.2	
	Lipsum.txt	8.2	
	MyFile.txt	7.3	
	>LoremIpsum_2.jpg	6.5	
	Lipsum_2.txt	8.9	

Upload

Figure 6. Files selected for upload. Table has scrollbar for user to see all files.

Upload Inline (in-context within page/overlay)

- When the user starts the upload inline (via clicking the upload button):
 - The “Upload” button will become disabled.
 - The “select more files” link will be replaced by text that says “Uploading...”

Upload Files

Upload Files			
	File Name	Size (KB)	Remove
	LoremIpsum.jpg	10.2	
	Lipsum.txt	8.1	
	MyFile.txt	12.3	

Upload

Figure 7. Upload in progress.

Upload Files

Choose more files		Upload Complete	
	File Name	Size (KB)	Remove
	>LoremIpsum.jpg	10.2	
	Lipsum.txt	8.1	
	MyFile.txt	12.3	

Upload

Figure 8. Upload complete. All successful.

Upload Failure (for inline upload in-context within page/overlay)

- If 1 or more files fails to be uploaded,
 - A slide-down notification would be displayed informing the user the number of files that failed to be uploaded with an option to try again.
 - The footer text would say “Upload partially complete.”
 - The “Upload” button would be enabled and clicking it would start the upload again for all files that failed to be uploaded.
- If all files fail to be uploaded,
 - A slide-down notification would be displayed informing the user the number of files that failed to be uploaded with an option to try again.
 - The footer text would say “Upload failed.”
 - The “Upload” button would be enabled and clicking it would start the upload again for all files that failed to be uploaded.

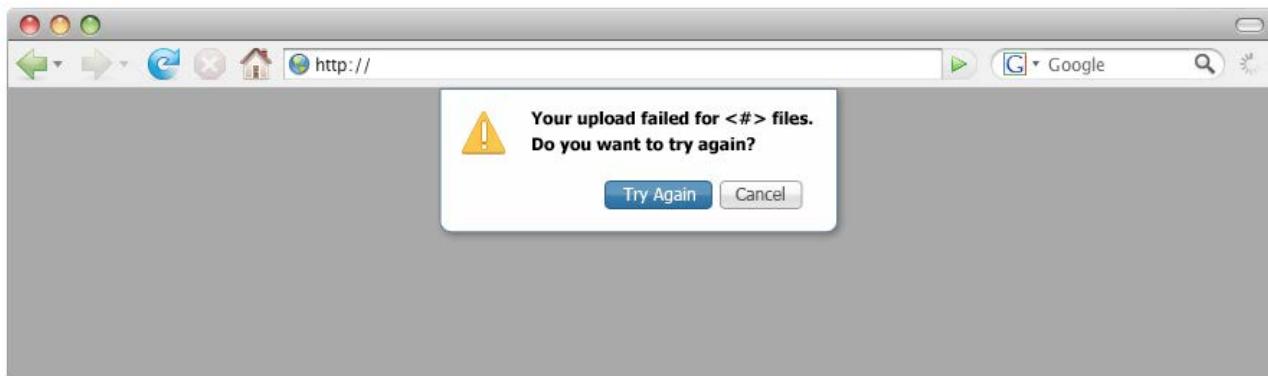


Figure 9. Slide-down notification if 1 or more files fails to be uploaded. The number of files that failed to be uploaded would be listed and the try again button would initiate the upload process again (the table would update to “in progress” state accordingly).

Upload Files 8px 5px

 Choose more files  Upload Partially Complete

File Name	Size (KB)	Remove
 LoremIpsum.jpg	10.2	
 Lipsum.txt	8.1	
 MyFile.txt	12.3	

Upload

Figure 10. Upload Failed for 1 or more files (not for all files).

Upload Files

 Choose more files  Upload Failed

File Name	Size (KB)	Remove
 LoremIpsum.jpg	10.2	
 Lipsum.txt	8.1	
 MyFile.txt	12.3	

Upload

Figure 11. Upload Failed for all files.

NAVIGATION - GLOBAL

Usage Guideline

Description

The global navigation is the primary navigation mechanism of the application. It provides users of the system with a "map" of the information architecture, organizes the application and provides a vehicle to quickly jump to any point in the system.

Section 1 - Main Components

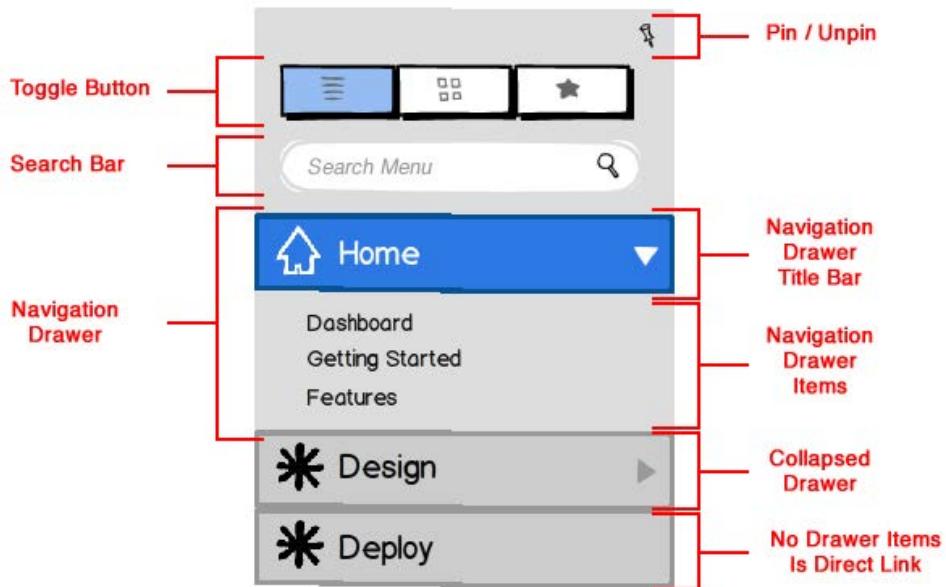


Figure 1. Global Navigation legend

- Toggle Button
- Search Bar
- Navigation Drawer
- Navigation Drawer Title Bar
- Navigation Items

Section 2 - Required/Recommended/Optional/Not Permitted

Component	Description	Status
Pin / Unpin	Allows the user to keep the navigation open while working on page and across the application. This setting is persisted beyond sessions.	Required
Toggle Button	Switches views in the navigation to display additional information. Functions similarly to a Content Pane	X > 1 pane = Required X = 1 pane = Do Not Use
Search Bar	Allows the user to quickly search through the entire navigational hierarchy	Using more than one Title Pane = Required 1 Title Pane with > 20 options = Required 1 Title Pane with < 20 options = Optional
Navigation Drawer	Groups navigational links into sections	Required
Navigation Drawer Title Bar	Controls visibility of navigation items through toggling	Required
Navigation Items	Lists of text links that are the actual navigational items	Required
Navigation Drawer Title Bar Icons	Icons found inside the Navigation Drawer Title Bar	Required
Navigation Items Icons	Icons found next to the Navigation Items	Not Permitted

Section 3 - Other Widgets Incorporated/Referenced

- Title Pane (Example | Engineering Notes | Specification)
- Text Box (Example | Engineering Notes | Specification)
- Toggle Button (Example | Engineering Notes | Specification)

Section 4 - Use Cases

Use When

- Use to provide persistent primary access to navigation, search, critical alerting functions and viewing/changing usernames and domains.
- Use to provide access to content that must be quickly reachable across an entire application.

Do Not Use When

- Do not use when content is "torn off" from the page into a new tab. This newly created tab should use the Abridged Shell.
- Do not use when quick access to navigation, search, alerting and other critical information is not needed.
- Do not place content inside the header that:
 - Pertains to a small subset of an application.
 - Is not required to be accessed from anywhere in the application.

Using the Global Navigation for Information Architecture

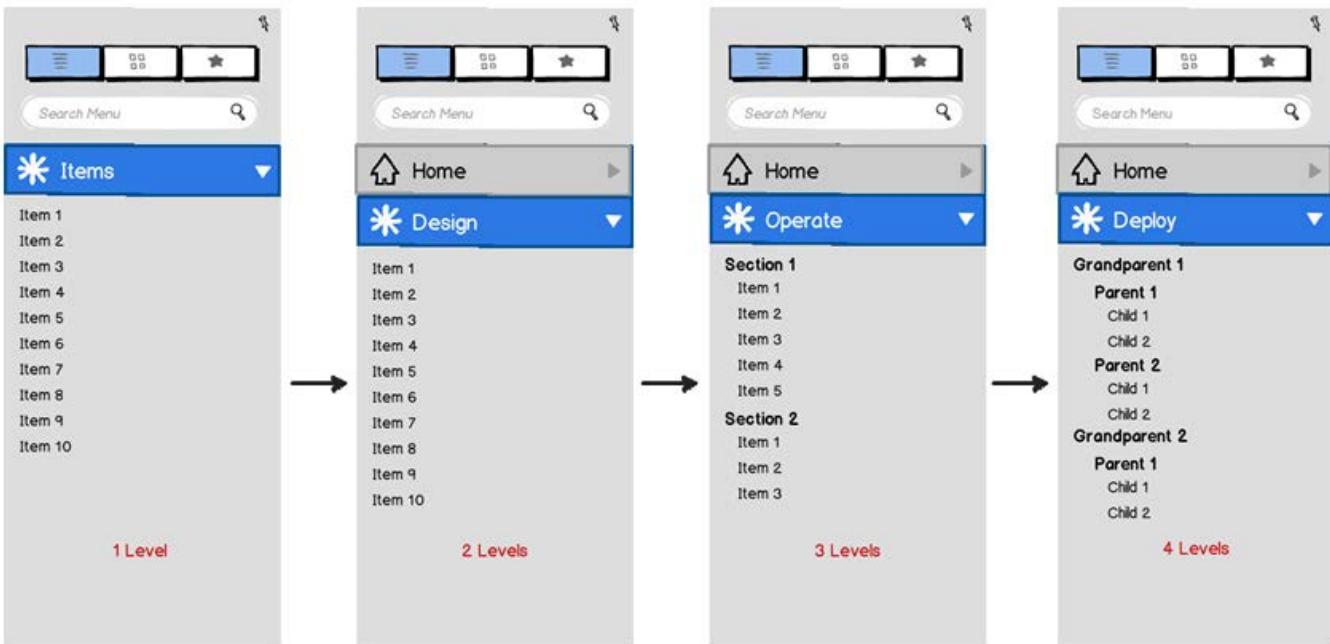


Figure 2. Global Navigation Nesting

- Use the main view navigation pane to display a curated list of navigational links.
- Ideally, the IA will be limited to 2 levels of nesting with a maximum of 3 levels, however the navigation will support 1 to N levels of nesting.
- Examples of nesting:
 - 1 Level Deep
 - ◆ Navigation Drawer Title Bar (Single)
 - ◆ Navigation Drawer Items (Multiple)
 - 2 Levels Deep (Ideal Structure)
 - ◆ Navigation Drawer Title Bar (Multiple)
 - ◆ Navigation Drawer Items (Multiple)
 - 3 Levels Deep
 - ◆ Navigation Drawer Title Bar (Multiple)
 - ◆ Navigation Drawer Item Parents (Multiple)
 - ◆ Navigation Drawer Item Children (Multiple)
 - 4 Levels Deep
 - ◆ Navigation Drawer Title Bar (Multiple)
 - ◆ Navigation Drawer Item GrandParents (Multiple)
 - ◆ Navigation Drawer Item Parents (Multiple)
 - ◆ Navigation Drawer Item Children (Multiple)
- The currently expanded navigation drawer will have an arrow pointing downwards.
- All collapsed navigation drawers will feature arrows pointing to the right.
- The navigation drawer title bar should predominantly expand/collapse its navigation drawer, not link to a page.

- In rare cases, a drawer may not contain navigation items.
 - For this case, the right hand arrow is removed.
 - Clicking the drawer will automatically send the user to the desired page.
- Parent items are not clickable, only their children.
- Top level clickable items are allowed as long as they do not have children.

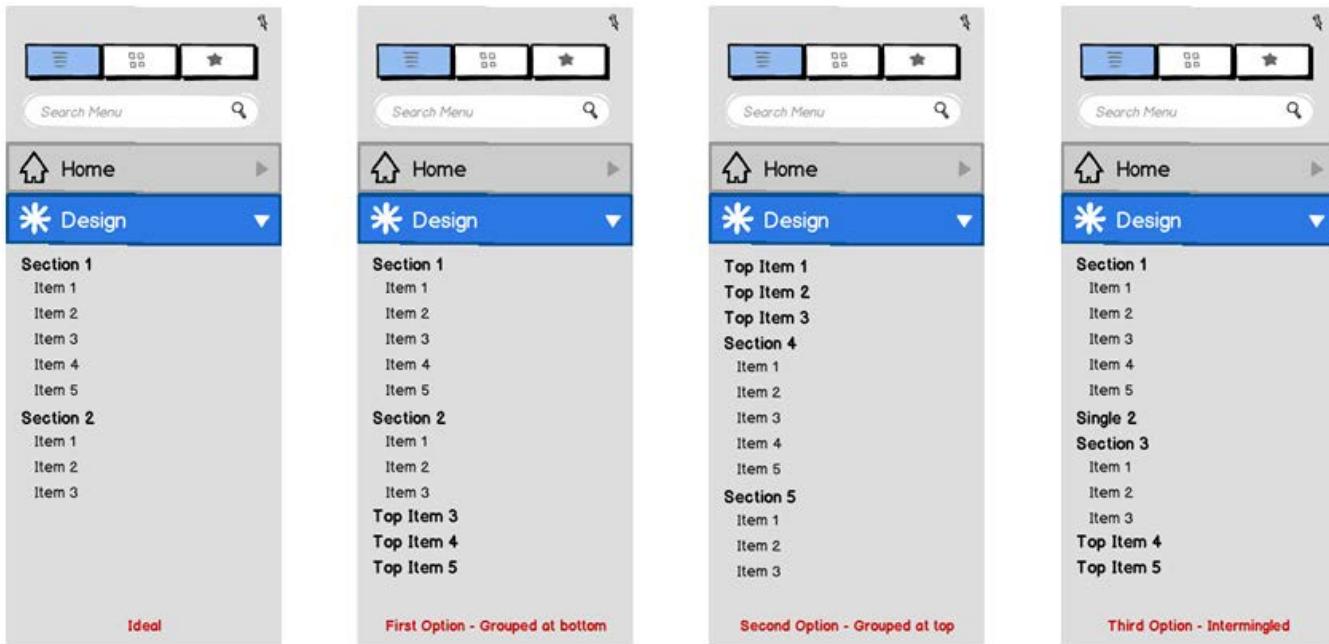


Figure 3. Main Navigation Nesting Options

- The ideal nesting structure:
 - Does not have clickable parent level items.
- The second option:
 - Allows clickable parent items that are grouped at the bottom of the list.
- The third option:
 - Allows clickable parent items that are grouped at the top of the list.
- The fourth option should be avoided if possible, however it is permitted.
 - This allows items to be intermingled throughout the list.
 - Items can be at the top, dispersed throughout the middle, and/or at the bottom.

Mapping to Tabs and/or Pages

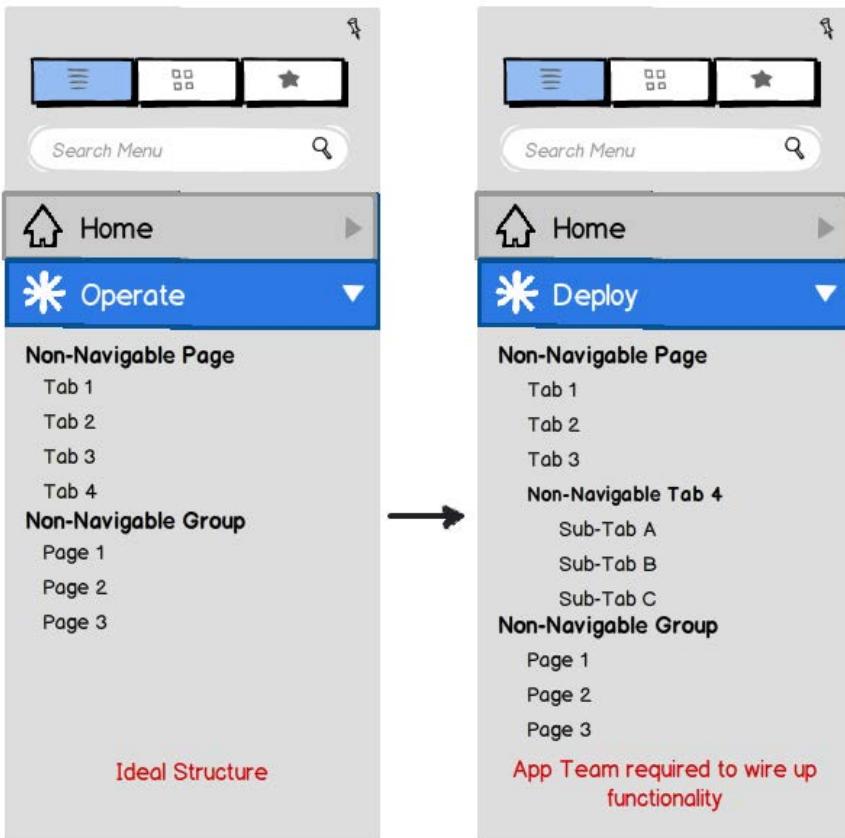


Figure 4. Global Navigation Mapping

- Navigation items in the Global Navigation can link directly to specific pages and/or specific tabs on pages.
- In both scenarios, these Navigation Items are grouped under a non-navigable parent node.
- The parent node describes:
 - For pages: the group of related pages.
 - For tabs: the page that contains the tabs.
- The framework will only support 2 levels of nesting for pages and/or tabs. This is the ideal scenario.
- If application teams would like to nest deeper, they will need to wire up the functionality to map the pages and views to the navigation items.

Accessing Navigation Panes

- Application teams are not permitted to add additional navigation panes and toggle buttons.
- Application teams may remove navigation panes and toggle buttons, however they must first receive approval.

Accessing Navigation Drawer Items

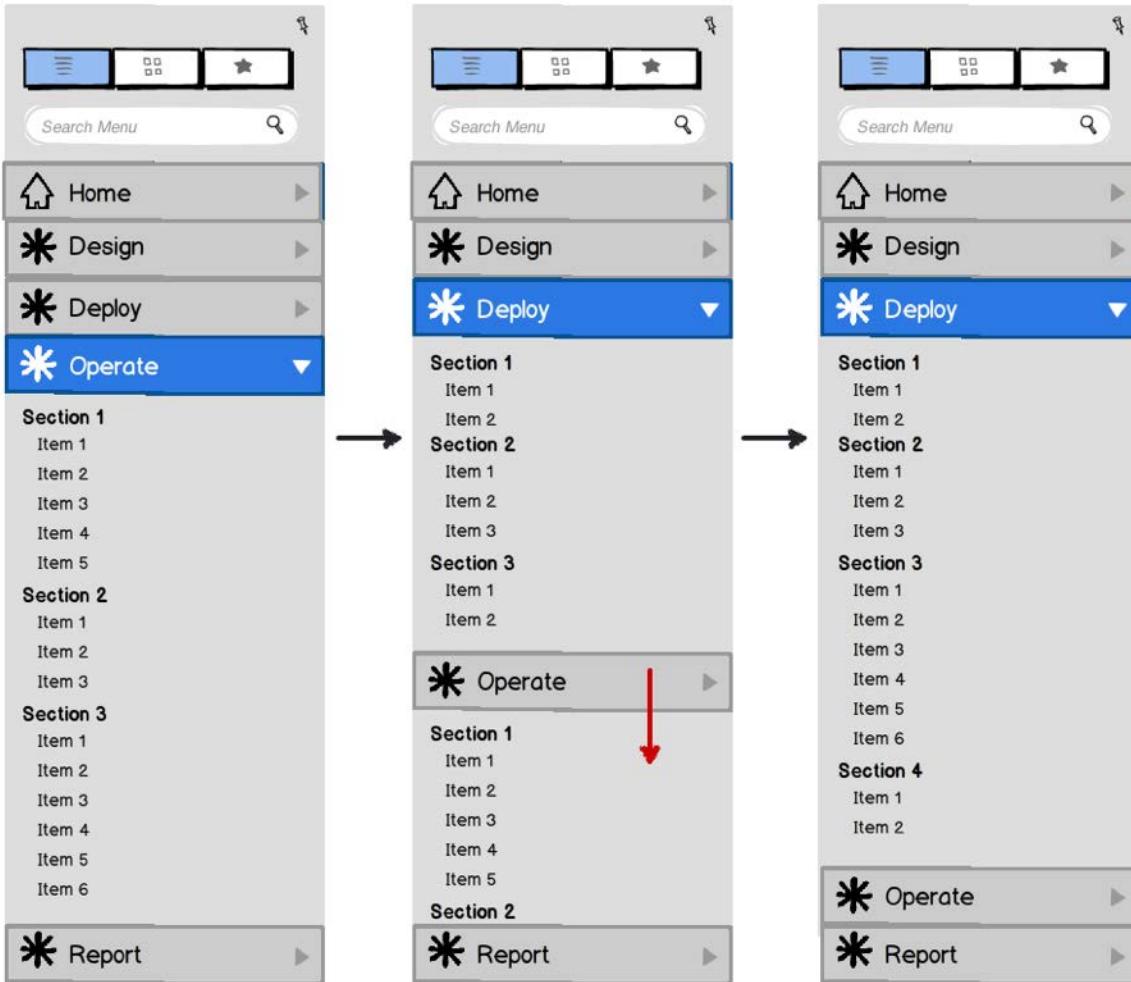


Figure 5. Accessing Navigation Drawer Items

- By default, Only 1 Navigation Drawer is expanded at a time.
- Upon clicking a collapsed drawer:
 - The clicked drawer expands.
 - The expanded drawer collapses.

Interaction Specifications

Description

The global navigation is the primary navigation mechanism of the application. It provides users of the system with a "map" of the information architecture, organizes the application and provides a vehicle to quickly jump to any point in the system.

Section 1 - Main Components

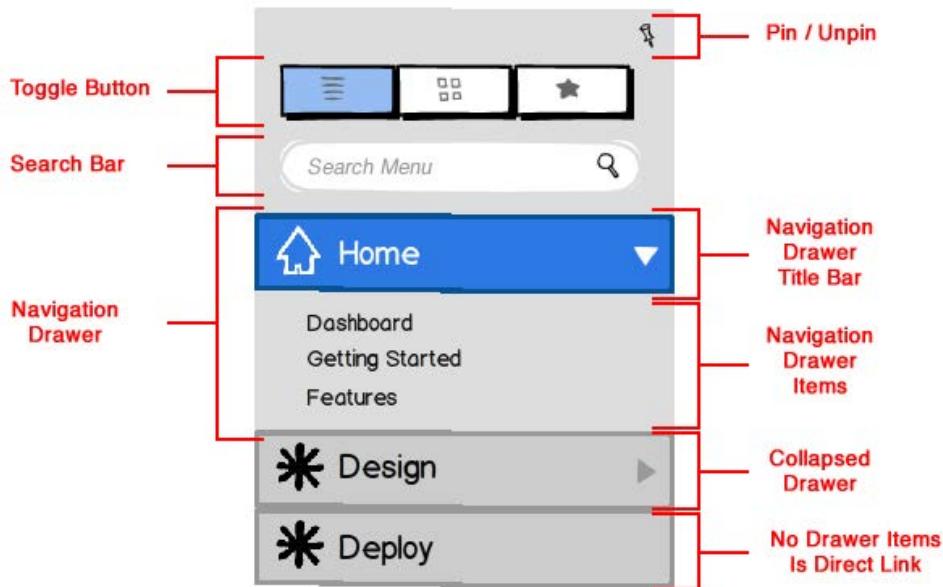


Figure 1. Global Navigation legend

- Toggle Button
- Search Bar
- Navigation Drawer
- Navigation Drawer Title Bar
- Navigation Items

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Navigation Drawer	Groups navigational links into sections	Required
Navigation Drawer Title Bar	Controls visibility of navigation items through toggling	Required
Navigation Items	Lists of text links that are the actual navigational items	Required
Navigation Drawer Title Bar Icons	Icons found inside the Navigation Drawer Title Bar	Required
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Section 3 - Other Widgets Incorporated/Referenced

- Title Pane (Example I Engineering Notes I Specification)
- Text Box (Example I Engineering Notes I Specification)
- Toggle Button (Example I Engineering Notes I Specification)

Section 4 - Usage & Flows

Toggling Visibility of Navigation

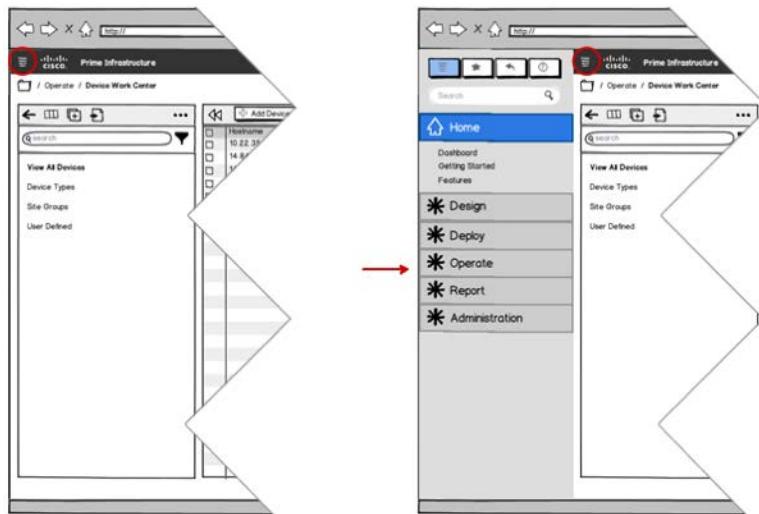


Figure 2. Toggling Visibility of the Global Navigation

Displaying the Navigation

- By default, the global navigation is hidden off-screen.

- Clicking the global navigation menu icon (circled in diagram 2), in the header will display the navigation.
- The navigation will transition from off the left side of the screen to the x=0 position in 200 ms using an ease-out transition.
- When displaying the navigation, contents of the page will slide off the right side of the screen (Also known as an Off-Canvas Push), to make room for the navigation.
- The contents of the page will slide off using the same timing and transition as that of the navigation.

Hiding the Navigation

- Once open, there are two ways to close the navigation.
 - Clicking on a Navigation Drawer Item (Brings the user to a new page).
 - Clicking on the global navigation menu icon (circled in diagram 2) in the header.
 - Clicking anywhere outside of the navigation.
- When hiding the navigation, contents of the page will slide back onto the canvas as room becomes available.
- The navigation will transition from on screen to off screen in a matter of 200 ms with an ease-in transition.

Pinning the Navigation

- Once the navigation is open, users have an option to keep it open.
- Clicking the pin icon in the upper right corner does the following:
 - Switches the pin icon into an unpin icon.
 - Redraws the right contents of the screen to fit the new available width.
 - ◆ This content was previously pushed off
 - ◆ The right side can now be used will retaining the navigation visibility.
 - Maintains the visibility of the navigation across page reloads, new pages, etc.
 - Allows the user to resize the width of the global navigation with a 25 REMs (250 px) min-width.
 - This setting will persist across sessions, remaining open even after logging out and logging back in.

Unpinning the Navigation

- The navigation will close only when the user clicks the unpin icon.
- Clicking the pin icon in the upper right corner does the following:
 - Switches the unpin icon into a pin icon.
 - Redraws the right contents of the screen to fit the new available width.
 - ◆ New page updates and reloads will follow the default off-canvas push.
 - Maintains default behavior of global navigation, remaining out of view and closed for each page.
 - Retains default width of global navigation.
 - This setting will persist across sessions, remaining closed even after logging out and logging back in.

Scrolling

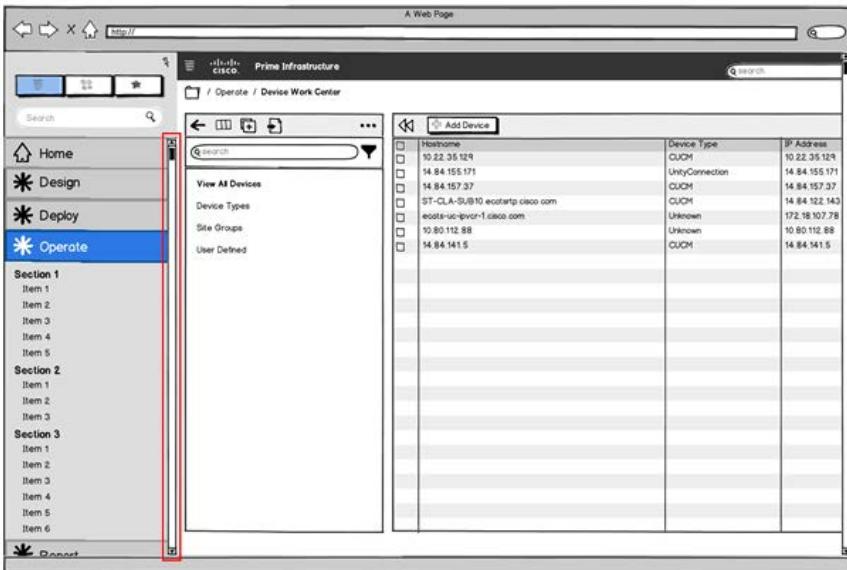


Figure 3. Scrolling

- The contents of the global navigation scrolls independently of the rest of the page.
- The pin/unpin, toggle buttons and search bar are fixed in position.
- The contents below the search bar are scrollable.
- The scroll bar is only visible if scrolling is required.
- The scroll bar should not cut off any content.
- Scroll position and state are retained when the global navigation is toggled open/closed using the global navigation menu icon.
- Navigation Drawers ARE NOT independently scrollable. They must be fully expanded.

Accessing Navigation Panes

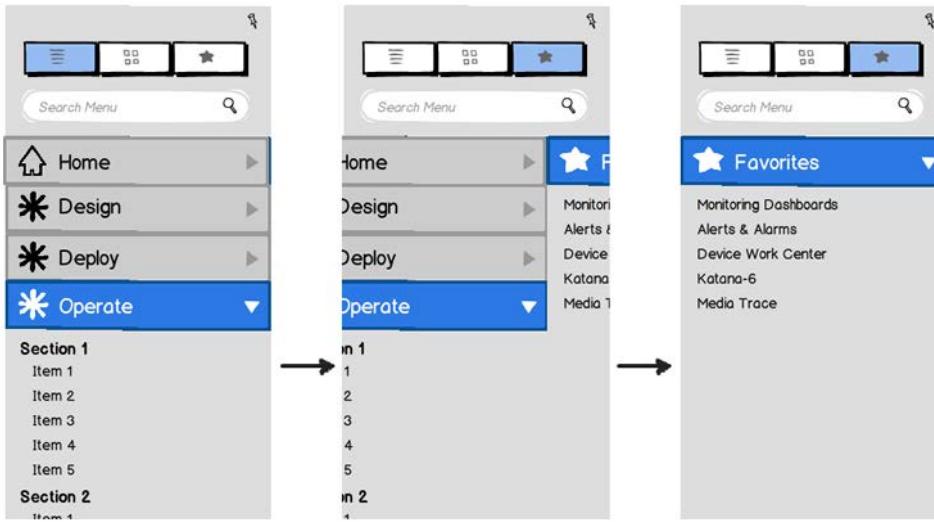


Figure 4. Accessing Navigation Panes

- Each toggle button represents a different navigation pane.
- The "main view" toggle button is selected by default. This maps to the regular hierarchical information architecture.
- Clicking another toggle button will replace the contents of the current navigation pane with new content.
- The switching of navigation panes will occur with an animated transition over 200 ms, easing-out.
- Slide direction is related to the currently selected toggle button and the relation of the newly clicked button.
 - Slide right to left for newly clicked buttons to the right of the currently selected.
 - Slide left to right for newly clicked buttons to the left of the currently selected.
- See the "Functionality" section below for more information about the toggle buttons and each navigation pane.
- Application teams are not permitted to add additional navigation panes and toggle buttons.
- Application teams may remove navigation panes and toggle buttons, however they must first receive approval.

Searching



Figure 5. Searching

- When user focuses the search field, the place holder "search" text is removed.
- The search index navigation pane also transitions into view, replacing the existing pane.
- The search index will transition from on screen to off screen in a matter of 200 ms with an ease-out transition.
- Searching is limited to all values found in the global navigation.
- There are 3 ways to activate a search.
 - User enters 1 character other than a space and pauses for 1 second. This will auto-submit their query.
 - Users enters text and hits the enter key.
 - User enters text and clicks the search icon button (magnifying glass).

Searching

Main List

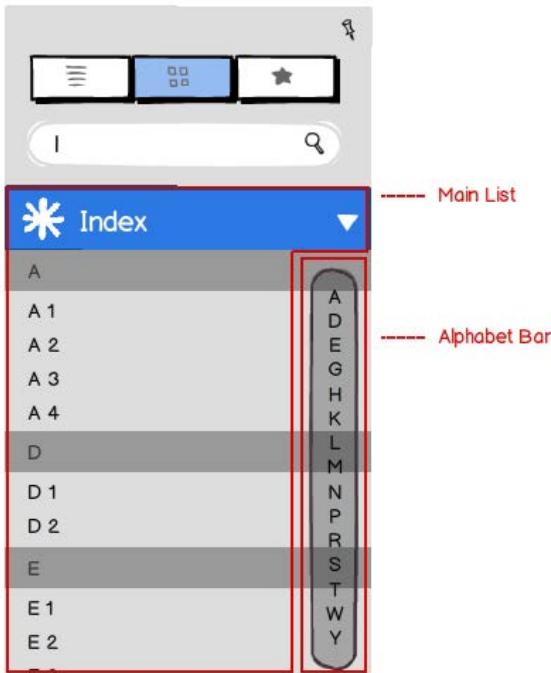


Figure 6. Search Index Legend

- Alphabetically sorted list of all navigation options. (0-9, A-Z)
- Navigation options that start with the same character are grouped under a representative tombstone.
- Clicking the navigation option will bring the user to the appropriate page.

The Alphabet Bar

- Appears in the right corner and allows users to jump to the location in the Main List for the item selected.
- Only shows letters for those that exist in the Main List.
- Remains in top right corner always. Does not scroll out of view.

Displaying the Search Index



Figure 7. Displaying the Search Index

- User focuses the search field.
- The search index navigation pane transitions into view, replacing the existing pane.
- The search index will transition from off screen to on screen in a matter of 200 ms with an ease-out transition.

Hiding the Search Index

- The search index is hidden when it is replaced by other navigation panes.
- The user can select one of the toggle buttons options at the top, switching the navigation pane and hiding the search index.
- The search index navigation pane transitions out of view, being replaced by the new pane.
- The search index will transition from on screen to off screen in a matter of 200 ms with an ease-in transition.

Search Failure (No Records Found)



Figure 8. No Search Results Found

- User performs search.
- No matching records are found.
- Message is displayed stating "There are no matching results."

Accessing Navigation Drawer Items

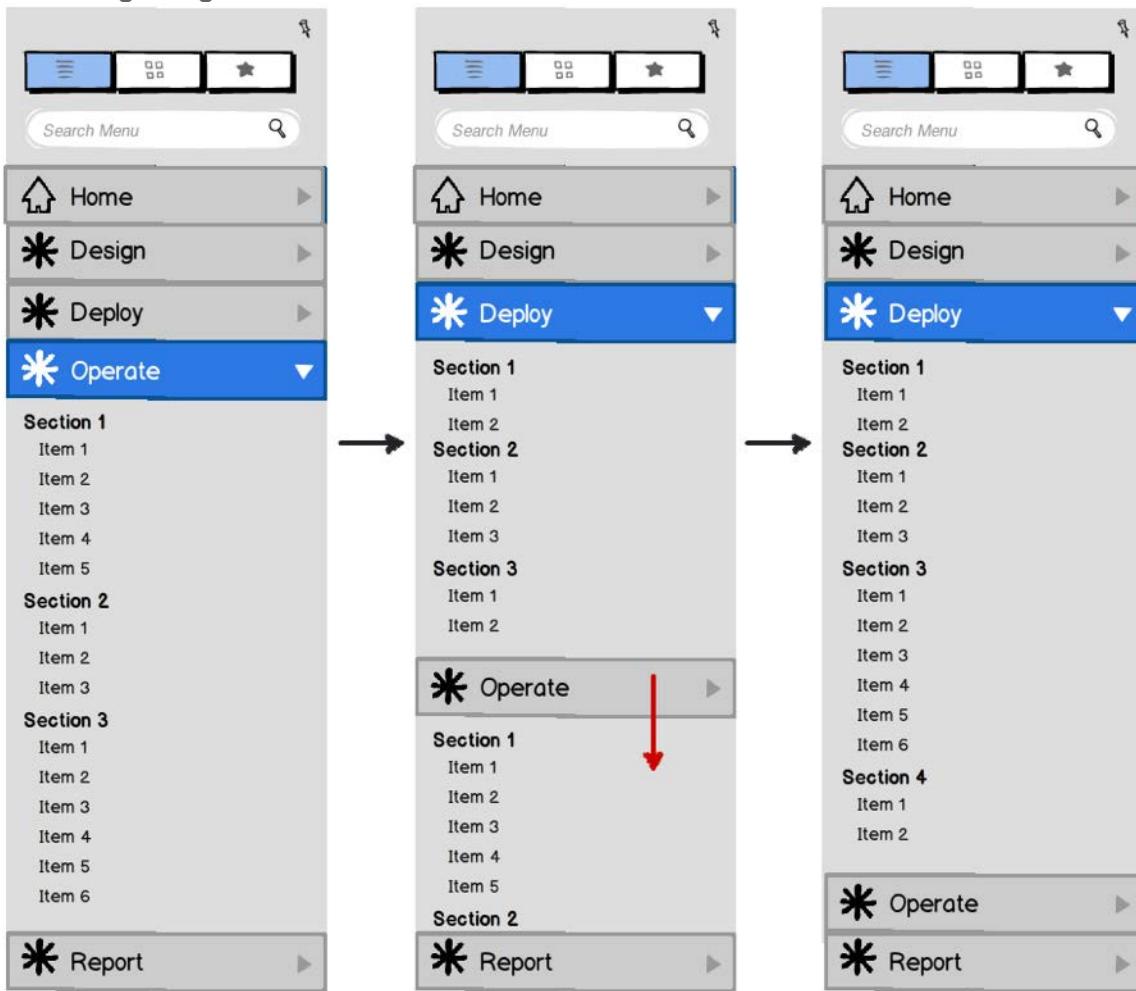


Figure 9. Accessing Navigation Drawer Items

- The current page's drawer is expanded by default.
- All other navigation drawers are collapsed.
- The toggled state of each navigation drawer is maintained when the global navigation is toggled open and closed.
- When clicking on a navigation drawer title bar, the drawer slides down, revealing the navigation items inside.
- When expanding the drawer, a slide-down animation is used over 200ms with an ease-out transition.
- When collapsing the drawer, a slide-up animation is used over 200ms with an ease-in transition.
- There will only be one navigation drawer expanded at a time.
- The currently expanded drawer will collapse as another drawer expands.

- Navigation Drawer Title Bars will display an "arrow" icon on the far right side, when navigation items are contained inside the drawer.
- In rare cases, a drawer may not contain navigation items.
 - For this case, the right hand "arrow" icon is not displayed.
 - Clicking the drawer will automatically send the user to the desired page.

Navigation Items

- When clicked, navigation items will bring users to the associated page.

Navigation Elements

- Every item in the global navigation must follow these rules:
 - The navigation text and the entire "button" height and width will launch link.
 - All navigation items will have hover behavior (Not seen on touch devices).
 - All navigation items will have active behavior.

Navigation Panes

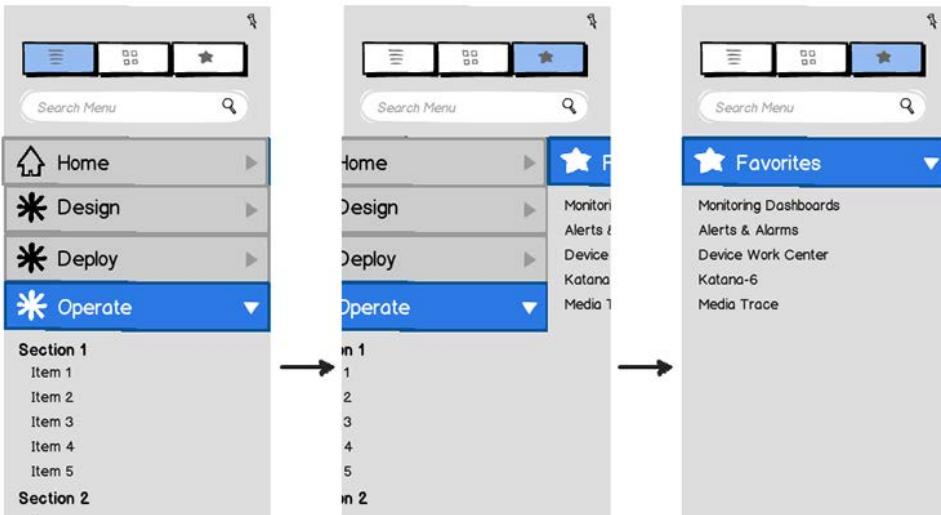


Figure 10. Navigation Panes

- There will only be one navigation pane visible when stationary.
- There will only be more than one navigation pane visible during a transition of panes.
- Toggle buttons control the currently shown navigation pane.
- Navigation panes will be positionally aware.
 - There are currently 3 toggle buttons, each representing a pane.
 - The direction of transition for each pane depends upon the location of the newly clicked toggle button in relation to the currently selected button.
 - Example 1:
 - ◆ Main Navigation button selected

- ◆ Index or Help buttons clicked
- ◆ Right to Left transition
- Example 2:
 - ◆ Index button selected
 - ◆ Help clicked
 - ◆ Right to Left transition
- Example 3:
 - ◆ Index button selected
 - ◆ Main Navigation clicked
 - ◆ Left to Right transition
- Example 4:
 - ◆ Help button selected
 - ◆ Main Navigation or Index buttons clicked
 - ◆ Left to Right transition
- All transitions will occur over the course of 200ms using an ease-out transition.
- Focusing the search box will automatically select the "Index" toggle button and replace the current navigation pane with the Search Index.

Main View



Figure 11. Main Navigation Nesting Structure

- The main view pane is the common list of hierarchical navigation items.
- This navigation pane maps to the furthest left toggle button.
- Each navigation drawer title bar can display an icon, text and an arrow that indicates open/closed status.

- The currently expanded navigation drawer will have an arrow pointing downwards.
- All collapsed navigation drawers will feature arrows pointing to the right.
- The navigation drawer title bar should predominantly expand/collapse its navigation drawer, not link to a page.
- In rare cases, a drawer may not contain navigation items.
 - For this case, the right hand arrow is removed.
 - Clicking the drawer will automatically send the user to the desired page.
- Parent items are not clickable, only their children.
- Top level clickable items are allowed as long as they do not have children.

Nesting Options

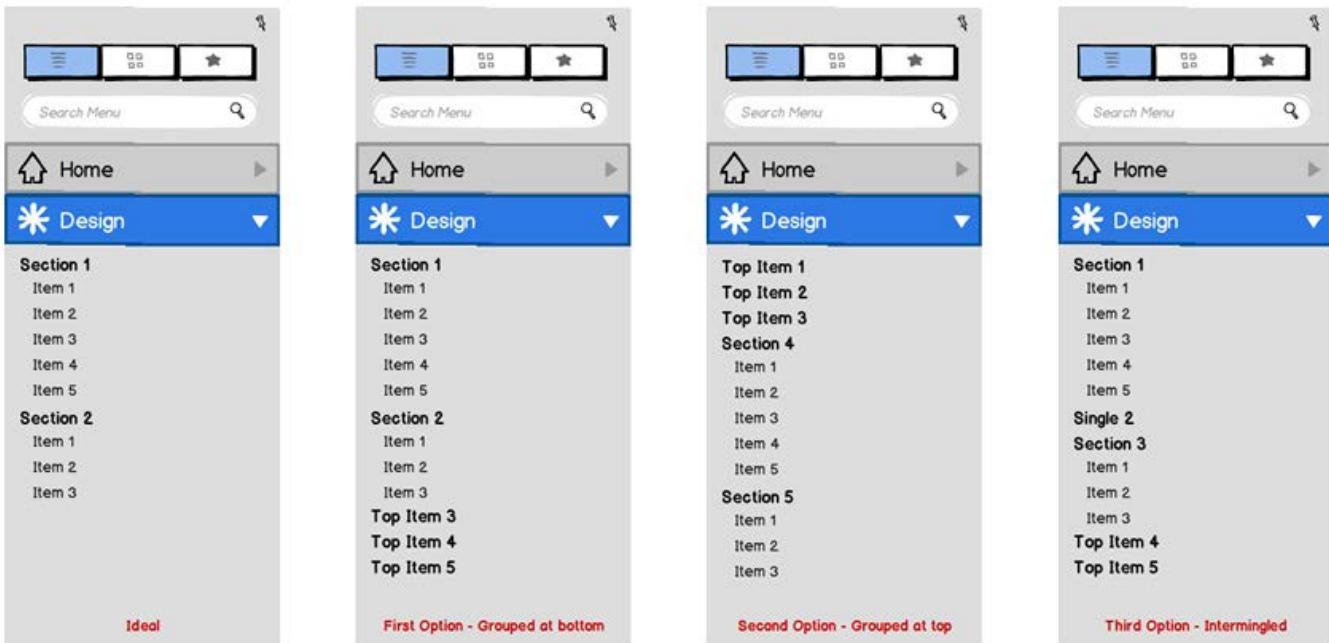


Figure 12. Main Navigation Nesting Options

- The ideal nesting structure:
 - Does not have clickable parent level items.
- The second option:
 - Allows clickable parent items that are grouped at the bottom of the list.
- The third option:
 - Allows clickable parent items that are grouped at the top of the list.
- The fourth option should be avoided if possible, however it is permitted.
 - This allows items to be intermingled throughout the list.
 - Items can be at the top, dispersed throughout the middle, and/or at the bottom.

Mapping to Tabs and/or Pages

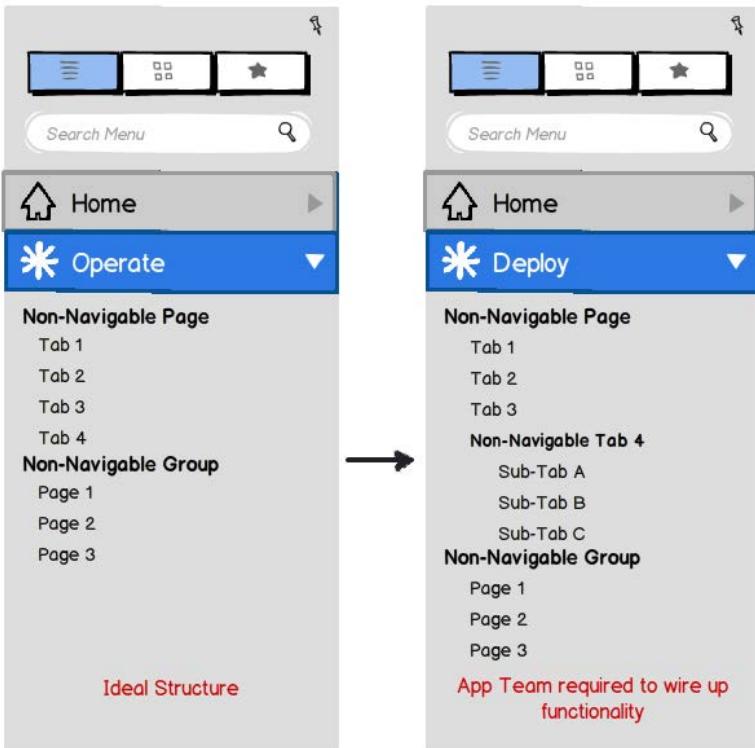


Figure 13. Mapping to Tabs and/or Pages

- Navigation items in the Global Navigation can link directly to specific pages and/or specific tabs on pages.
- In both scenarios, these Navigation Items are grouped under a non-navigable parent node.
- The parent node describes:
 - For pages: the group of related pages.
 - For tabs: the page that contains the tabs.
- The framework will only support 2 levels of nesting for pages and/or tabs. This is the ideal scenario.
- If application teams would like to nest deeper, they will need to wire up the functionality to map the pages and views to the navigation items.

Favorites

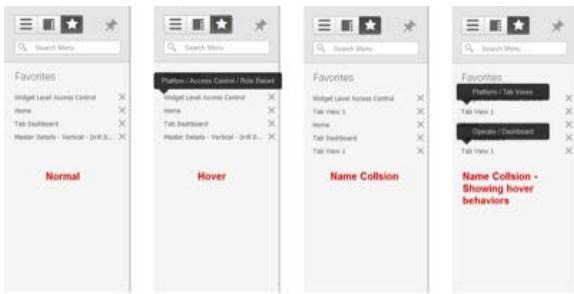


Figure 14. Favorites Menu

- The favorites pane consists of links to pages that a user visits frequently.
- The links that appear in this menu are determined by the individual user.
- Upon clicking the "favorite" star on a given page, that item will appear at the bottom of this menu.
- Users can then quickly navigate to those items.
- Clicking on the "favorite" star on the page or object again, will remove the item from this menu. Users can also remove a favorite by clicking the "x" icon next to the name in the favorites menu.
- These items will be a flat list sequenced by time. First items at the top, newest items at the bottom.
- When hovering:
 - A tooltip appears that contains the full hierarchy to get to the favorited item. This is used to help users differentiate between favorited pages that have the same or similar names.
 - When the hierarchy of a favorite page is many levels deep, the tooltip will expand horizontally until it hits the edge of the browser window. It will then wrap the text to the next line. This will be repeated until all items in the hierarchy are shown (see figure below).
- See "Future Ideas" section for editing and managing the favorites menu.

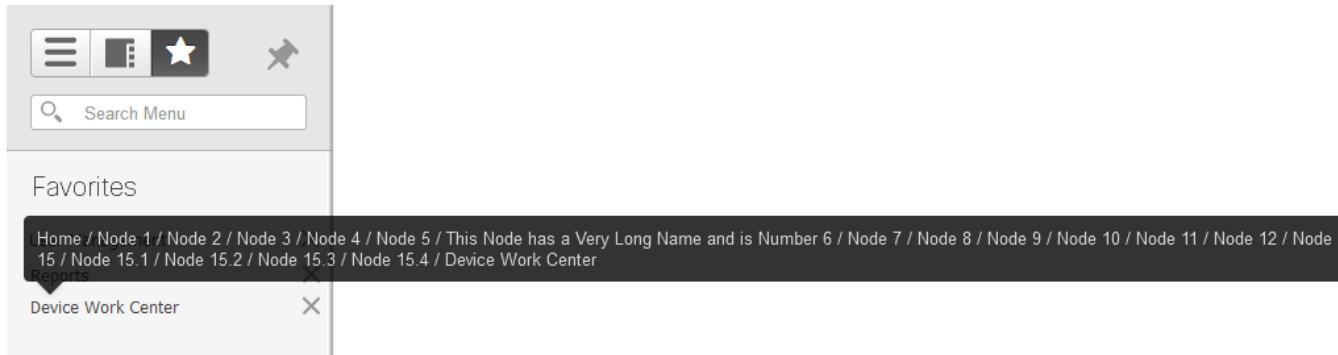


Figure 15. Favorites tooltip with many levels of hierarchy

Favorites Security

- While building the favorites menu, we must first inspect the users privileges and access rights.
- This will ensure users still retain rights to access particular pages and/or objects.
- If the user no longer has rights to a particular item, it should be removed from their list before rendering on screen.

Section 5 - Technical Constraints

N/A

Section 6 - Rationale, Rejected and Future Ideas

Rejected Ideas

Collapsible Navigation Item Sections

- Nested Levels of Navigation Items in a Drawer can be collapsed.
- This limits the amount of vertical scrolling required.
- This is rejected because:
 - It adds un-necessary visual clutter.
 - It requires too many interactions in order to view all navigational elements. Scrolling is faster and simpler.

Help Navigation Pane

- The help contents are part of the Settings menu located in the header.
- While testing, this is the location most users navigated to first to find this content.
- This content has been removed from the navigation pane to avoid redundancy and provide more room for other navigation options.

Future Ideas

Nesting Structure

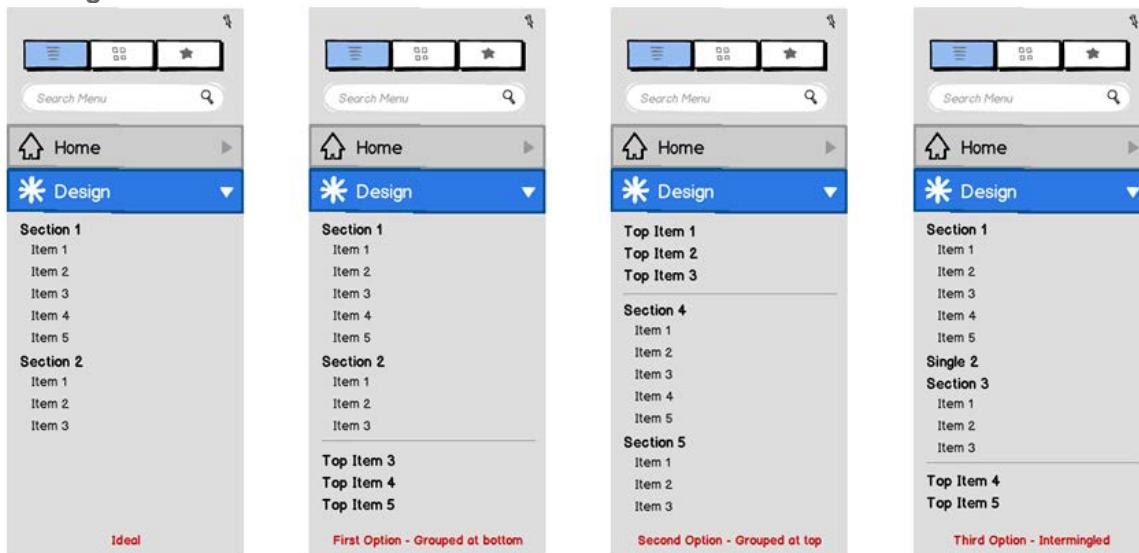


Figure 16. Main Navigation Nesting Structure

- Grouped Items
 - If one clickable top level item is placed at the top or bottom of the list, this does not require a separator.

- If more than one clickable top level item is grouped at the top or bottom, a separator is required.

Editing and Managing Favorites

- Introduce an "Edit" button and mode to this pane.
- While in edit mode, users are able to manage their menu items from inside the navigation.
- This includes:
 - Deleting Items
 - Rearranging Items
 - Creating folders and hierarchies (tree navigation)
 - Renaming Menu Items
- This will provide users with quick and easy management should their workflows and needs change.

Favoriting Objects

- Allowing users to favorite devices, alarms and various objects.

Additional Navigation Panes

- History Navigation Pane.
- List of most recently visited pages.
- Items roll up over time up to a pre-determined garbage collection interval.

Simple/Lightweight Navigation Structure

- Applications may have very few pages, as such they do not need the complexity of the global navigation.
- For these scenarios, teams may substitute a tabbed navigation and/or small mega menu in the header.
- Only one navigation option may be used at a time. These may not be used in conjunction with one another.

Section 7 - Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

- Users must be able to visually see which item is currently selected using focus border/styling.
- Users must be able to tab to all elements in the global navigation.
 - Pin/Unpin Icon
 - Toggle Buttons to switch navigation panes
 - Search Field
 - Navigation Drawer Title Bars
- Once a user is focused on a Navigation Drawer Title Bar, hit the Enter key or Spacebar will expand the navigation drawer (or activate the link for those items that do not have child elements).
- The Tab key can be used to quickly focus between high-level elements in the navigation and Navigation Drawer Title Bars.

- Once a Navigation Drawer is expanded, a user can then use the up/down arrow keys to traverse the Navigation Drawer Items.
- When tabbing to the search bar, a 3 second delay is required before activating the search index.
 - This prevents the search index from immediately switching into view, preventing the user from accessing any other navigational content.

Visual Specifications

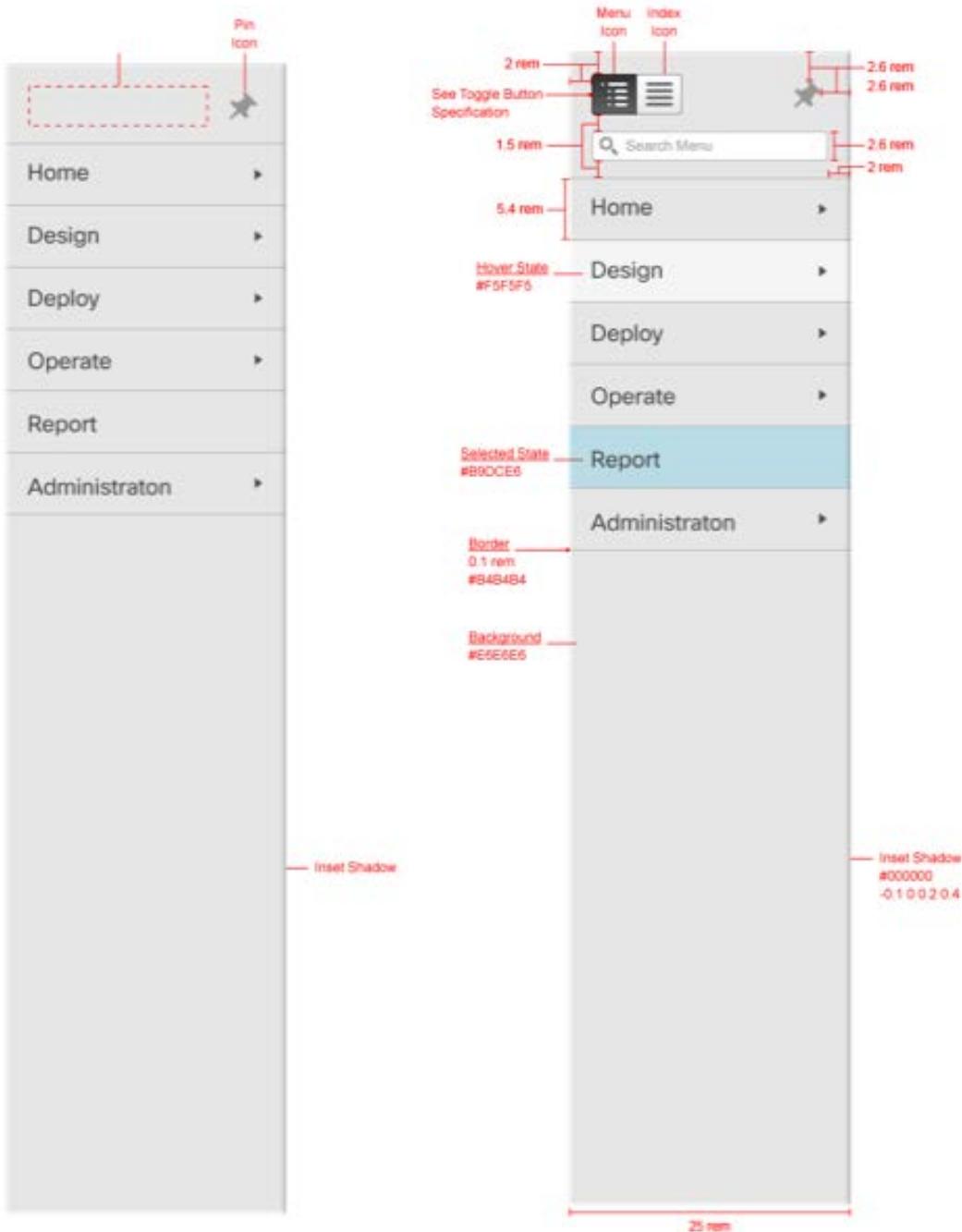


Figure 1. UI Shell Visual Specification (Object Selector page) (NEW UPDATES)

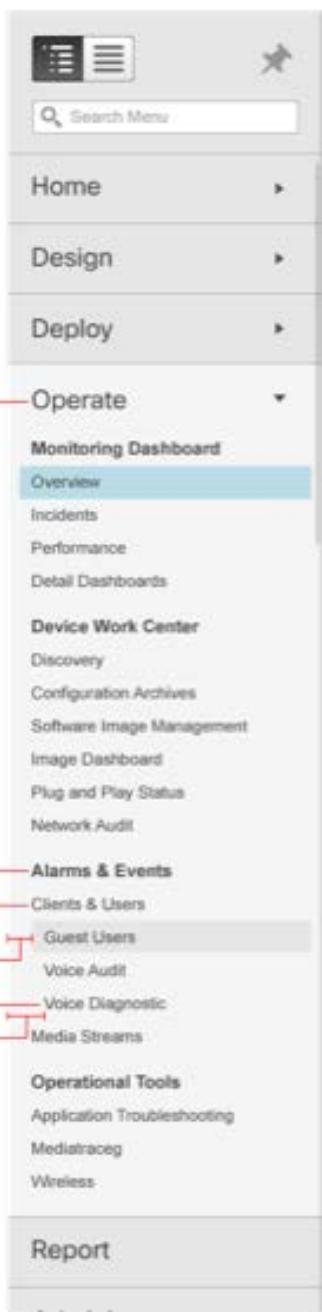
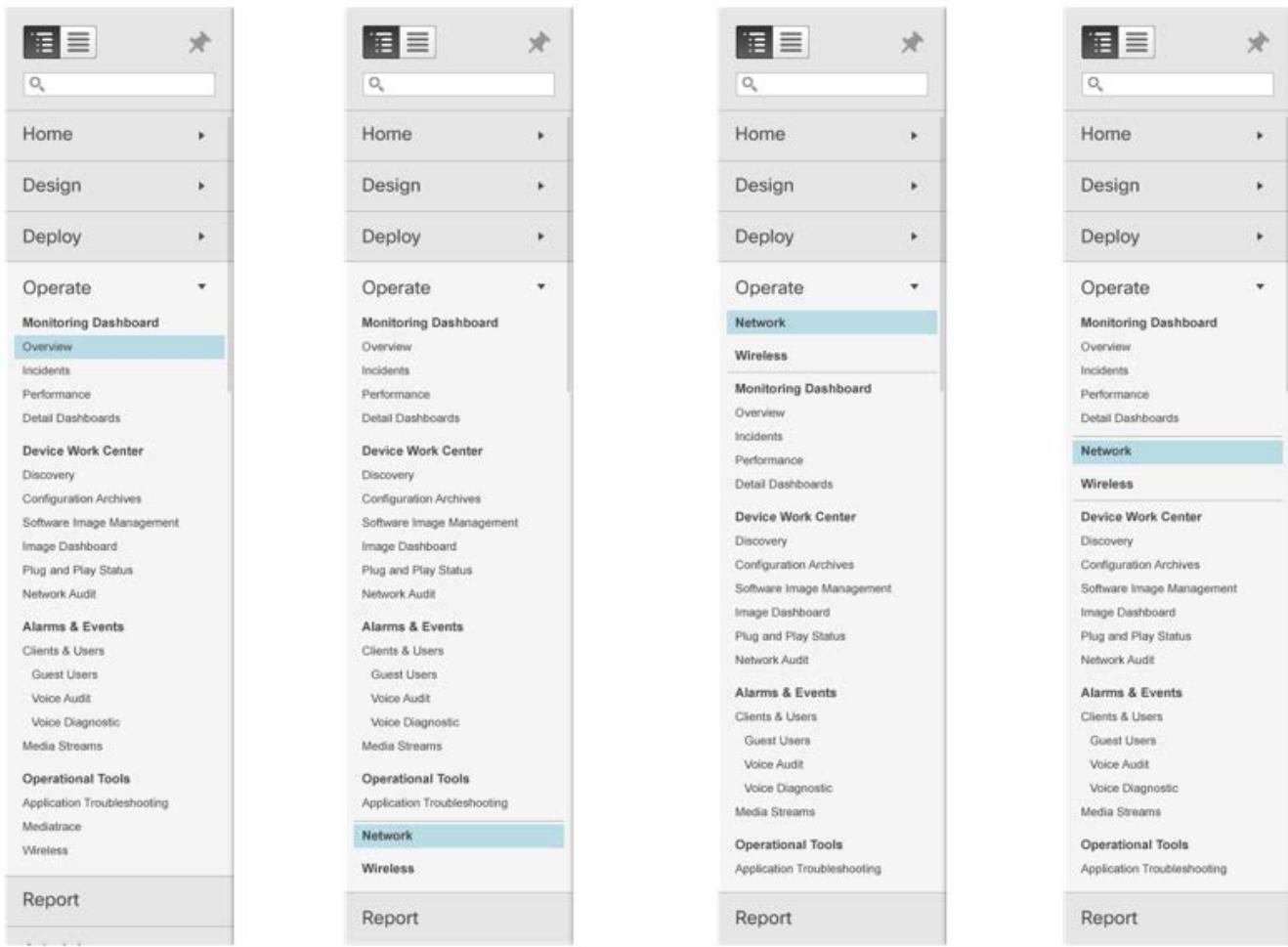
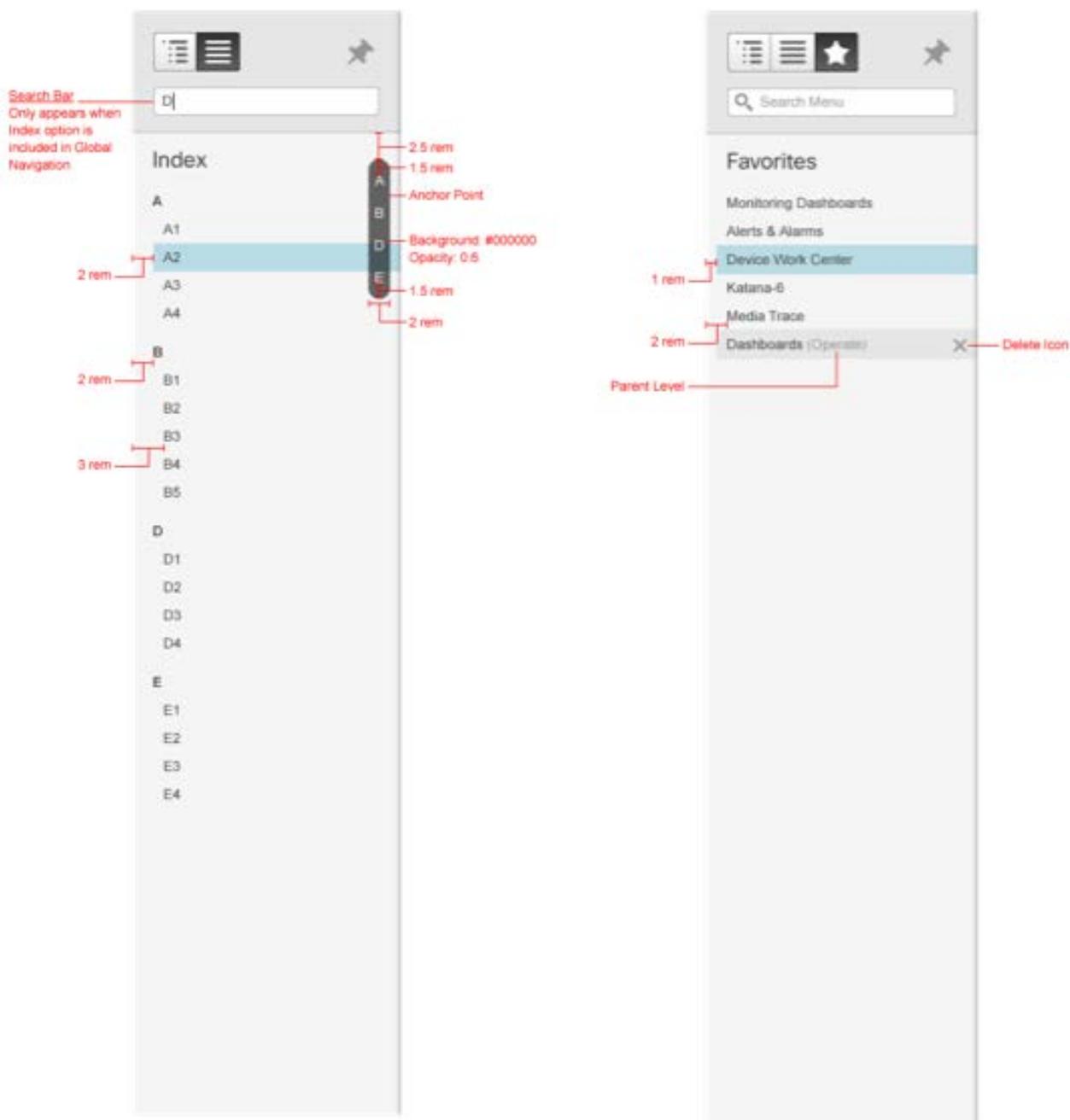


Figure 2. UI Shell Visual Specification (Dashboard page) (NEW UPDATES)







Font and Color Specification

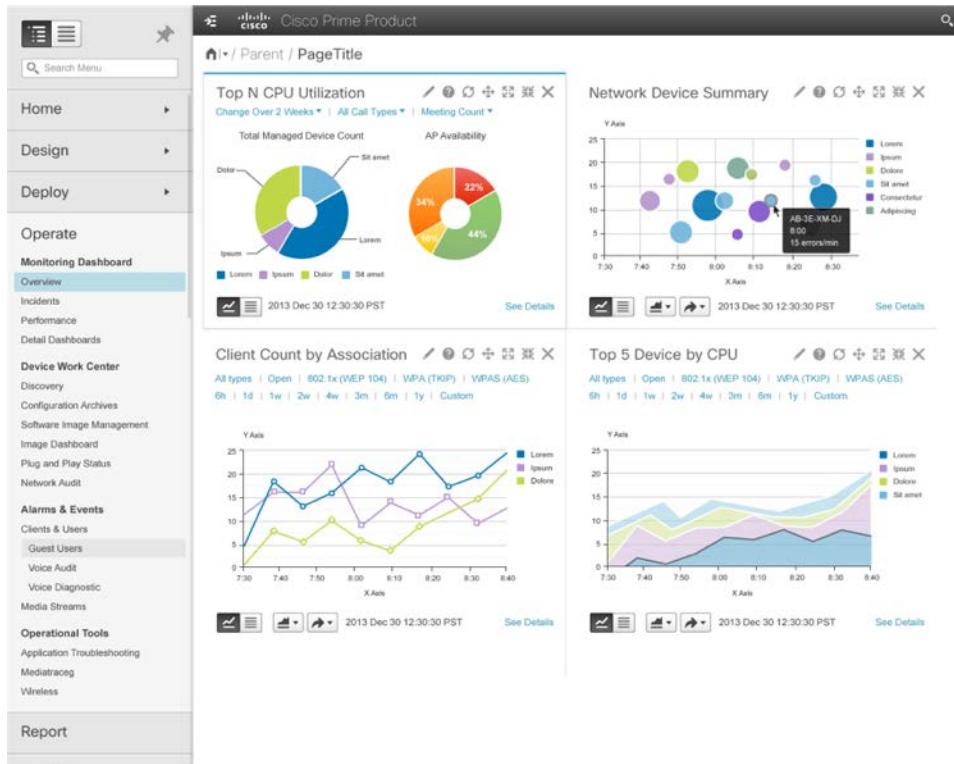
Element	Font	Size	Style	Color
Level 1 (Navigation Drawer Title)	CiscoSans Thin, Arial	2 rem	Normal	#464646
Level 2	Arial	1.4 rem	Bold	#646464
Level 3 & Up	Arial	1.3 rem	Normal	#464646
Search Menu Hint Text	CiscoSans	1.3 rem	Normal	#969696
Parent Level (Favorite)	Arial	1.3 rem	Normal	#969696

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Menu Icon	☰			2.4 rem	#464646		#FFFFFF
Index Icon	☰			2.4 rem	#464646		#FFFFFF
Favorite Icon	★			2.4 rem	#464646		#FFFFFF
Search Icon	🔍			1.6 rem	#969696	#74BAD1	#379BBE
Pin	📌			2.4 rem	#969696	#74BAD1	#379BBE
Pinned	📌		icon_rotate-45 (for rotation)	2.4 rem	#969696	#74BAD1	#379BBE
Delete Icon	✗			1.2 rem	#969696	#74BAD1	
Navigation Drawer Arrow	▶			0.9 rem	#464646		

Table 2. Icons Specifications



The screenshot displays the Cisco Prime Product interface. On the left, a vertical navigation menu includes links for Home, Design, Deploy, Operate, Monitoring Dashboard (selected), Incidents, Performance, Detail Dashboards, Device Work Center, Discovery, Configuration Archives, Software Image Management, Image Dashboard, Plug and Play Status, Network Audit, Alarms & Events, Clients & Users (selected), Guest Users, Voice Audit, Voice Diagnostic, Media Streams, Operational Tools, Application Troubleshooting, Mediabridge, Wireless, and Report.

The main content area features several dashboards:

- Top N CPU Utilization:** Shows a pie chart with segments for Lorem (44%), Ipsum (34%), Dolore (22%), and Sit amet (10%).
- Network Device Summary:** A bubble chart showing device availability over time. A callout box indicates "AB-3E-XM-DJ 8:00 15 errors/min".
- Client Count by Association:** A line graph showing client count over time for Lorem (blue), Ipsum (purple), Dolore (yellow), and Sit amet (light blue).
- Top 5 Device by CPU:** A stacked area chart showing CPU usage over time for the same four devices.

Each dashboard includes filters like "Change Over 2 Weeks", "All Call Types", and "Meeting Count". Time stamps at the bottom of each section indicate the data is from December 30, 2013, at 12:30:30 PST.

NOTIFICATIONS

Description

Slide-down Alerts/Messages

Slide-down Alerts are animated layers which slide down from the top of a page and require user response or acknowledgement. These alerts are appropriate for system, application, page or module-level messages that need to be acknowledged or acted upon by the user.

Slide-down Alerts provide a consistent, anchored location for alert messages and indicate which system is generating the error without obscuring the current task excessively. The animation draws user attention to the alert without being as jarring as normal pop-ups.

Slide-down Alerts are used when the user must make a choice or confirm an action. Slide-down Alerts can be used when the user must respond to a message about something that is or is not related to the currently displayed screen. Since slide-down alerts require user acknowledgement or action prior to continuing, they are modal and the underlying page is grayed out.

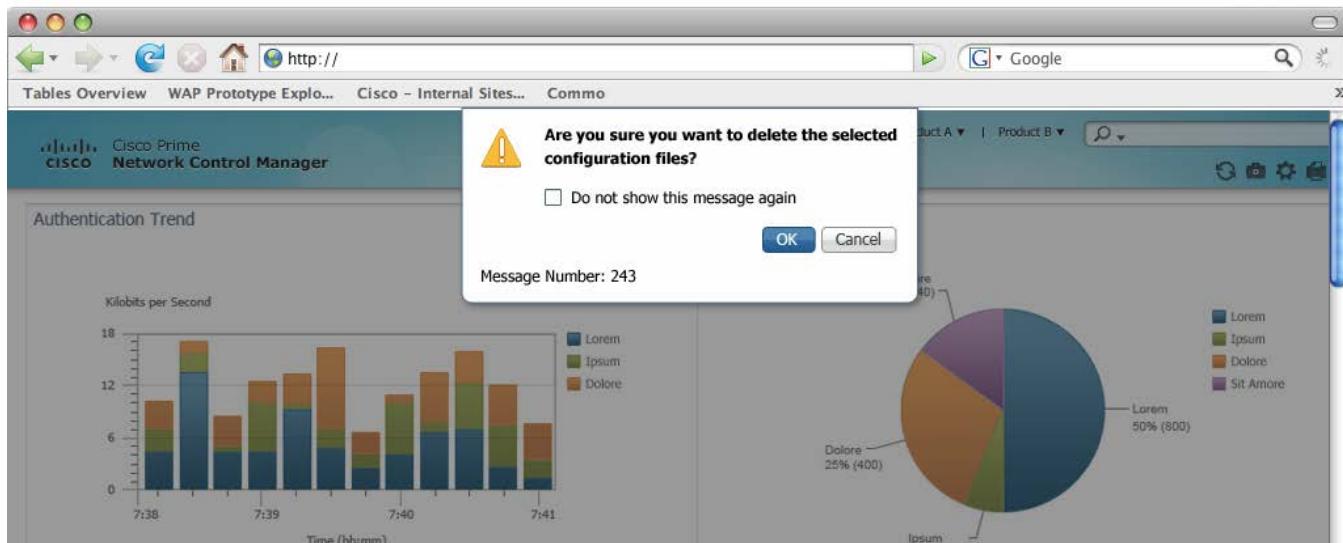


Figure A. Slide-down Alert Example.

Contextual Error Messages

A contextual error message is presented next to a control or section of a form that has a problem, such as incorrect data, and provides specific instructions to solve the problem.

Subject	<input type="text"/>	Please use letters A-Z or Numbers 1-9
Meeting ID	<input type="text" value="@#S(%*"/>	!
Meeting Template	<input type="text" value="Collaborative"/>	
Password	<input type="password"/>	

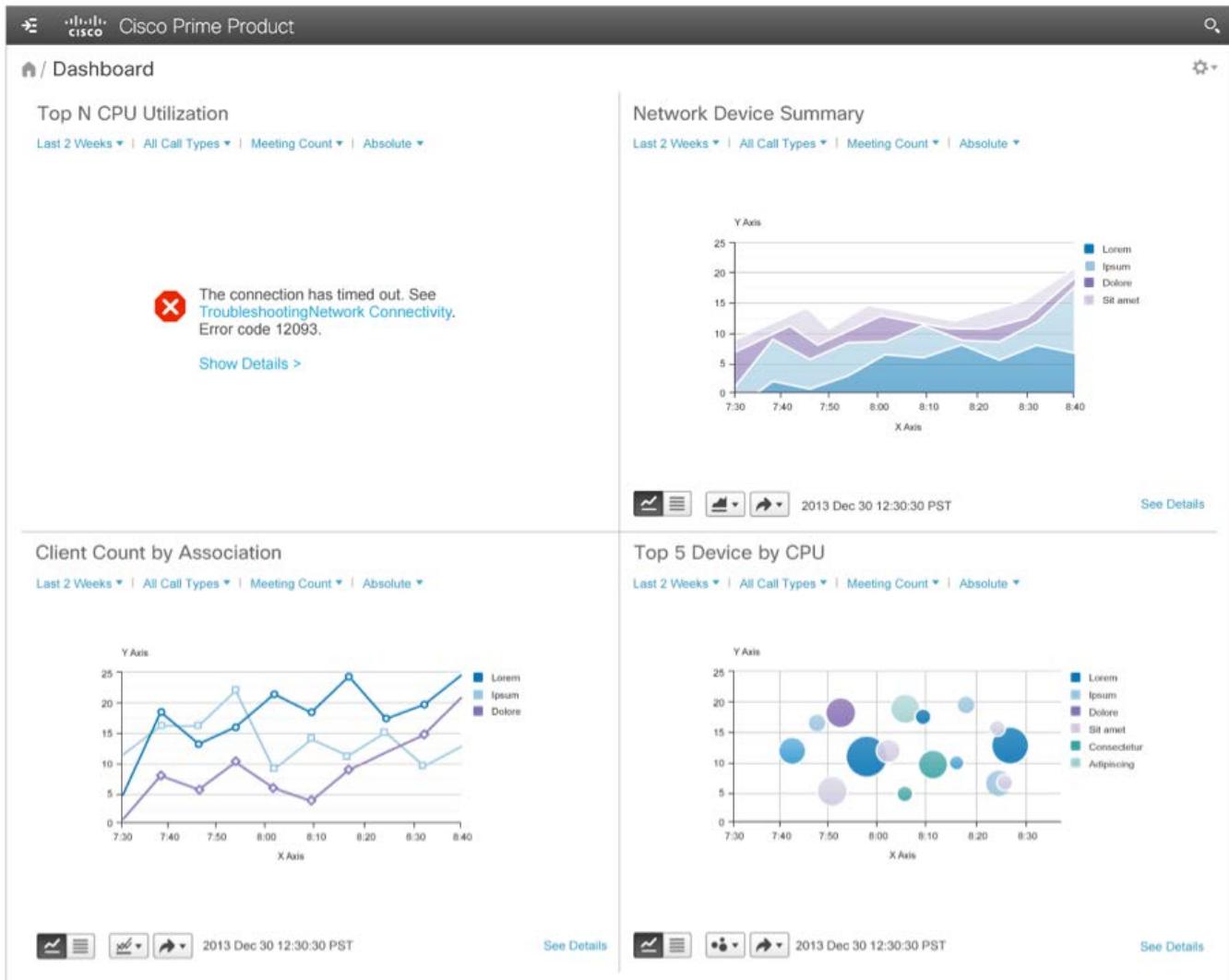
Figure B. Contextual Error Message on a Text Field

On Submit Error Message

TBD

Failure to Load Errors

Failure to Load Errors are those which prevent the application from loading the contents of a particular area, such as a chart, dashlet, or page. In these cases, the failed area is replaced with a message that indicates the failure to load and any corrective action the user can take to try to load it again.



The screenshot shows the Cisco Prime Product interface with two main sections:

- Top N CPU Utilization:** A chart showing CPU utilization over time. A red error icon with a white 'X' is displayed, indicating a failure to load the data. Below the icon, text reads: "The connection has timed out. See [Troubleshooting Network Connectivity](#). Error code 12093." A "Show Details >" link is present.
- Network Device Summary:** A chart showing network device summary data. The chart area is empty, and the title "Network Device Summary" is displayed above it.
- Client Count by Association:** A chart showing client count by association over time. The chart area is empty, and the title "Client Count by Association" is displayed above it.
- Top 5 Device by CPU:** A chart showing top 5 devices by CPU usage. The chart area is empty, and the title "Top 5 Device by CPU" is displayed above it.

Each section includes standard dashboard controls like refresh, list, grid, and search, along with a timestamp (2013 Dec 30 12:30:30 PST) and a "See Details" link.

Figure C. Failure to Load Error Message in a dashlet.

Toaster Notifications

Toaster Notifications are pop-up layers that are automatically dismissed after a determined amount of time. They should be used for status, completion or other informational messages that don't require immediate action or acknowledgement from the user.

Toaster Notifications work well for confirmation messages because regardless where the user is brought upon completion of a task (prior page, results page or next step) they can be displayed easily and consistently without affecting page layout.

Examples

Some messages that would be displayed in a Toaster Notification include

Information:

Provides neutral feedback about the results of a user or system action which does not require acknowledgement. If the information does require acknowledgement by the user, use a slide-down alert message instead.

Success:

Provides positive feedback about the results of a user action. Success messages are recommended when page navigation is not involved with the action (for example, when the user clicks "Save", and the save is successful, or a form is submitted and no other visual feedback is available). If it is important that the success of an operation is acknowledged by the user, use a slide-down alert message instead.

Warning:

Alerts the user about a sub-optimal situation and suggests the means to improve or rectify the situation. Warning messages can be used when the condition may not be optimal, but is still valid and can therefore be accepted without correction if necessary. If the condition is invalid and the input must be corrected, use a slide-down alert and contextual error messages instead.

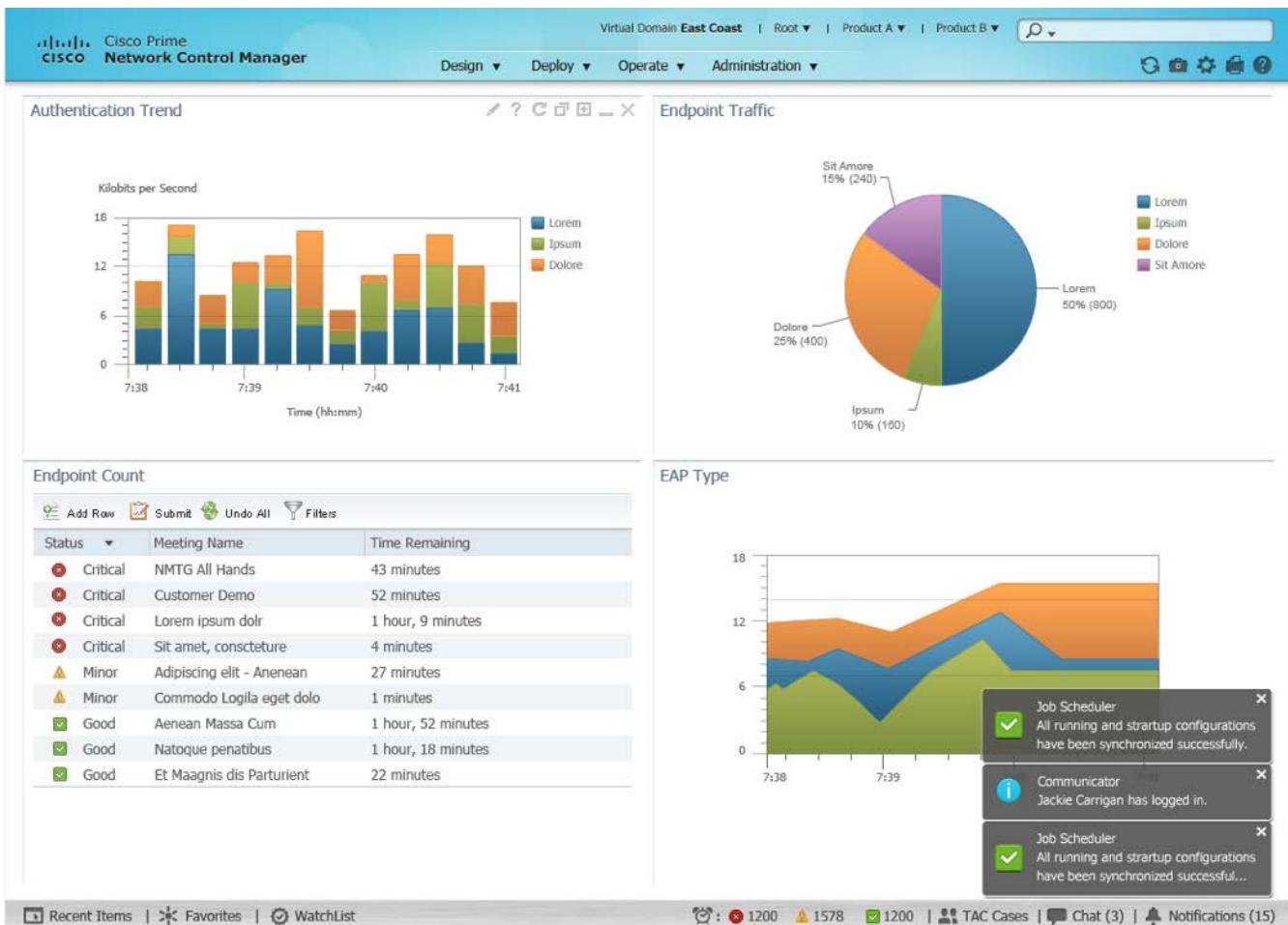


Figure D. Information, Success and Warning Toaster Notifications

Overflow

When the number of toaster pop-ups displayed reaches the limit of the browser, they go into overflow mode.

Messages in overflow mode are held until they are brought into view, either due to auto-dismissing, or by the user dismissing others. If too many messages are displayed, the user will need to configure their preferences to reduce the kinds of messages displayed or turn off the messages.

Applications **must** include a user preference to configure and/or turn off any auto-dismissing notifications they would like to provide.

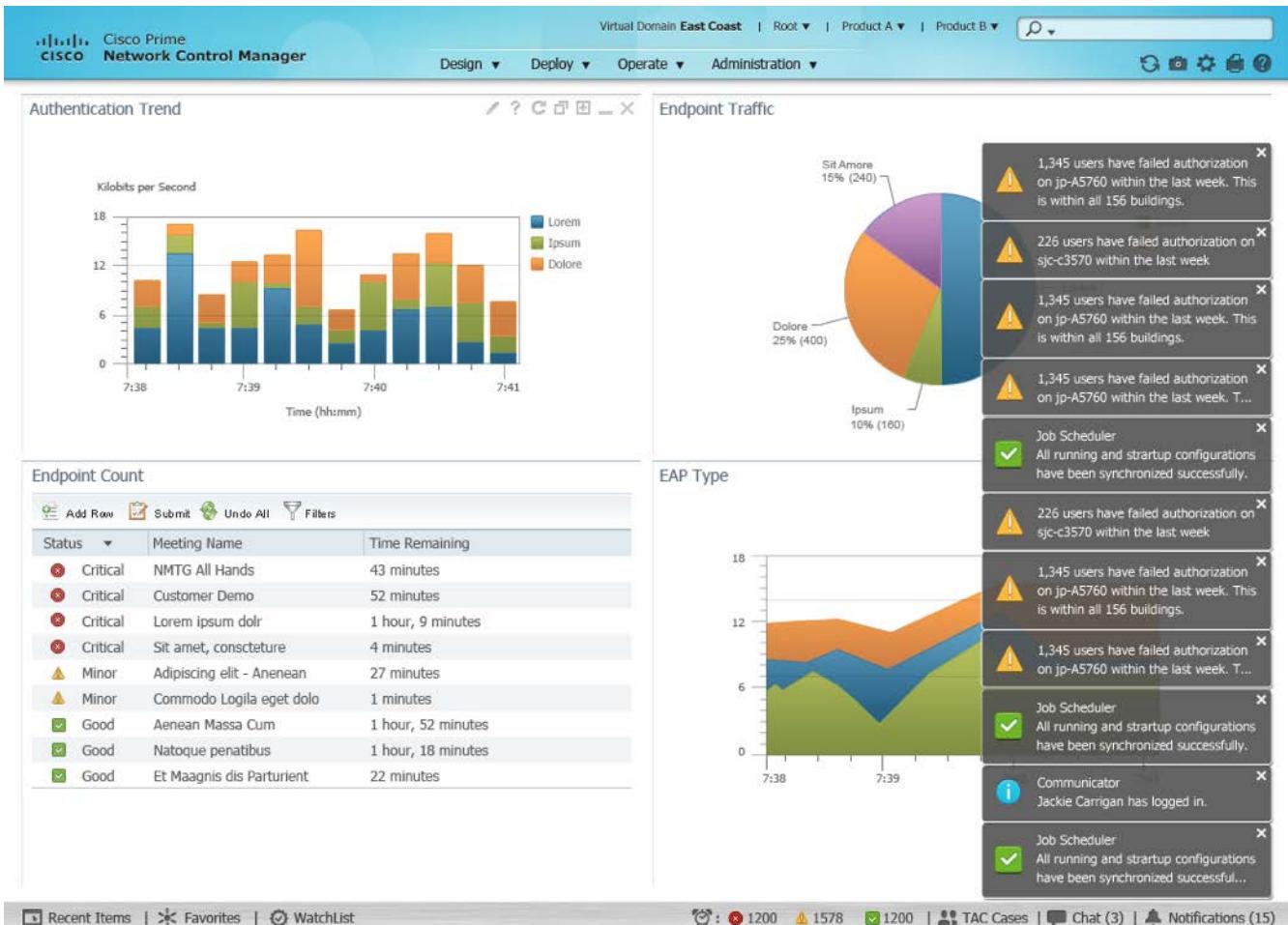


Figure E. Toaster Notifications in Overflow Mode

Usage Guidelines

Slide-down Alerts/Messages

Quick Tips

- Slide-down Alerts are used to prompt the user for simple decisions, typically Go/No-Go decisions.
- Slide-down Alerts are modal dialogs. They require the user to respond before continuing with the application.
- Slide-down Alerts can be used for page-level errors. When used as page-level errors:
 - Ensure the root cause and general messages (i.e., messages that are not related to a specific field) are presented first.
 - For messages that refer to specific fields (e.g., missing value or format errors):
 - Provide a page-level error message instructing the user to "Correct the areas marked below."
 - Use Contextual Error Messages for each field that has a problem.

Use this component when...

Your application has notification or error conditions that require the user's attention or acknowledgement before the application can proceed.

Do not use this component when...

The interruption of an Slide-down Alert would be overly distracting or cause excessive disruption to the user's task flow or would simply not be necessary for the given situation. If any of the above apply, consider using a contextual error message or a toaster notification. These do not require confirmation or a choice from the user.

However, if your industry or application requires explicit user confirmation for content verification failures, an interruption to the user's task flow is unavoidable and therefore you should use an alert/message box rather than a within-page message or auto-dismissed (toaster) message.

Avoiding Errors

The user interface can provide support to help the user avoid some errors. Design options include:

- Change a text field to a forced choice control (e.g., a pull-down selection list).
- Provide a text field default value if this value will be successful for most users.
- Provide Instructional Text.
- Provide a format hint with Hint Text.
- If a command or control cannot be used until a pre-condition is met, disable the command or control until these pre-conditions have been met.
- Provide page- or field-level help (see Help Access).

Contextual Error Messages

Avoiding Errors

The user interface can provide support to help the user avoid some contextual errors. Design options include:

- Change a text field to a forced choice control (e.g., a pull-down selection list).
- Provide a text field default value if this value will be successful for most users.
- Provide Instructional Text.
- Provide a format hint with Hint Text.
- If a command or control cannot be used until a pre-condition is met, disable the command or control until these pre-conditions have been met.
- Provide page- or field-level help.

On Submit Error Messages

TBD

Failure to Load Errors

Quick Tips

Use Failure to Load error messages when part of the page cannot be displayed due to an error. Otherwise, use slide-down alerts for messages that require the user to make a choice or confirm that the message was received. Use contextual messages to indicate incorrect or missing data at the field level. Use Toaster Notifications for messages that do not require user action or acknowledgement.

Toaster Notifications

Is This Component Right for the Job?

As an alternative to Toaster Notifications, use slide-down alerts. Slide-down Alerts are modal layers that display a message. They are used when the user must make a choice or confirm that the message was received, or when the message is not related to the currently displayed screen.

Notification Usage Decision Matrix

Use the below table to determine which notification or message type to use depending on your design.

to read more ...

Design Problem	Message Type
User must respond before continuing interaction with application	Slide-down alert
Page-level errors	Slide-down alert
Field-level errors	Slide-down with Contextual messaging
User must respond to a message about something that may or may not related to the currently displayed screen	Slide-down alert
Message about something on-screen or off-screen that does not require user response (e.g. Save Confirmation)	Toaster notification
No data can be displayed due to error condition or preconditions not met	No data message displayed in-line (specific to condition including instructions)
Prevent user from entering an incorrect value where known values exist	Use a choice control (e.g. drop-down lists, radio buttons) or default values
Prevent user from entering an incorrect value where known values exist	Use a choice control (e.g. drop-down lists, radio buttons) or default values
Prevent user from entering an incorrect value where value must fit a predefined format	Provide defaults, data format hint text or drop-down lists.
Prevent user from entering an incorrect value where further knowledge might be required	Provide page or field-level help
Prevent user from acting until prerequisites are met.	Disable command or control until prerequisites are met. Use tooltips on hover to explain.

Table 1. Notification Usage Decision Matrix.

Visual Specifications

Slide-Down Alerts/Messages

Layout

In general, Slide-down Alerts have a shorter and wider aspect ratio than traditional dialogs. The actual dimensions of Slide-down Alerts depend on the content. There are no maximum recommended dimensions, however, minimum recommended dimensions are 87 x 306 pixels. Slide-down alerts should be centered and slide down from the bottom of the browser chrome.

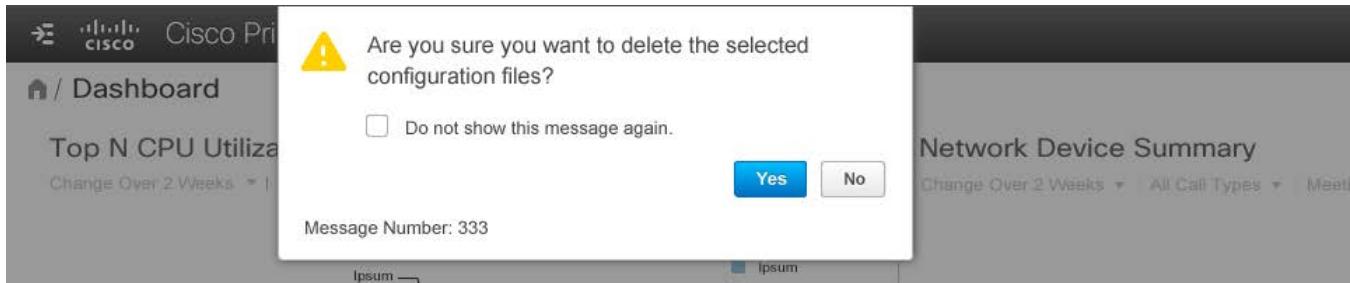


Figure 1. Slide-down Alerts Overview.



Figure 2. Slide-down Alerts Specifications.

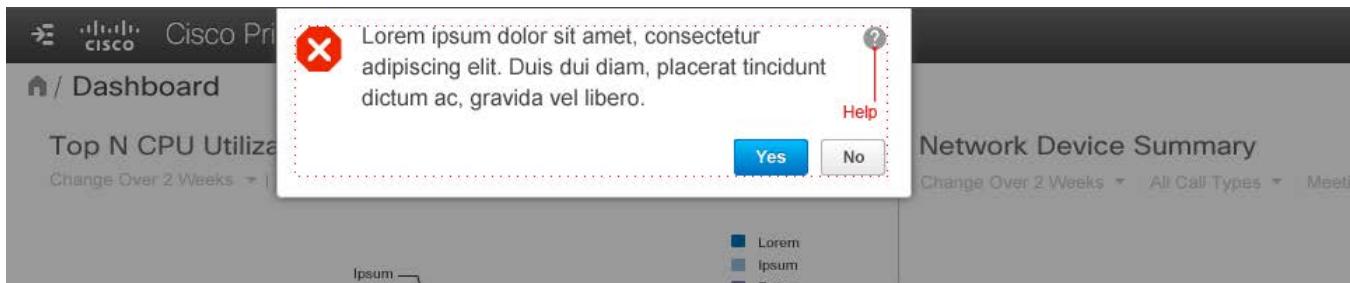


Figure 3. Slide-down Alerts Specifications - Help.

'Don't show me this again' Checkbox (optional)

Locate this checkbox below the message text and above the buttons.

NOTE: The checkbox should be left justified with the message text and follow the specifications for check boxes.

Message Number (optional)

If present, the message number should abide by the following rules:

- The message number should be positioned at the bottom - left (below the action buttons row).
- Use the form: Message Number: xxxx

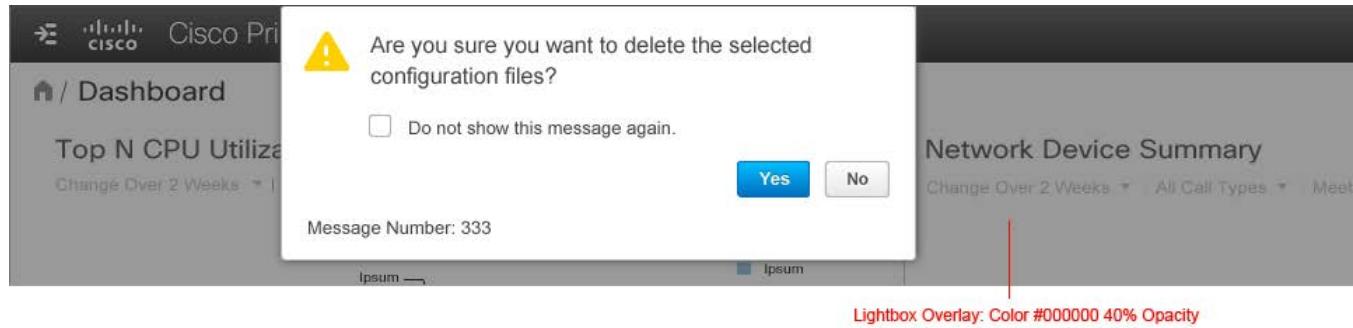


Figure 4. Slide-down Alerts Specifications for Message Number.

Font and Color Specification

Element	Font	Size	Style	Color
Message Title	Arial	1.6 rem	Normal	#464646
Message Text	Arial	1.3 rem	Normal	#464646
"Do not show this message again" Checkbox	Arial	1.3 rem	Normal	#464646
Message Number	Arial	1.3 rem	Normal	#464646
Notification Tooltip Text	Arial	1.2 rem	Normal	#FFFFFF
Toaster Alert Text	Arial	1.2 rem	Normal	#FFFFFF
Lightbox Overlay	Arial			#000000 Opacity @ 40%

Table 1. Font and Color Specifications for Slide-down Alerts.

Contextual Error Messages

Layout and Visual Design

The error icon should be placed after any fields or icons that are placed to the right of the field, but should be placed prior to any hint text.

See the [Editable Table](#) specification for error appearance on an editable table. Login should follow the contextual error and slide-down error standards like any other form field EXCEPT for the case where the user is automatically logged out. In this case, a login-specific message type is displayed. See the [Login Pages](#) specification for details.

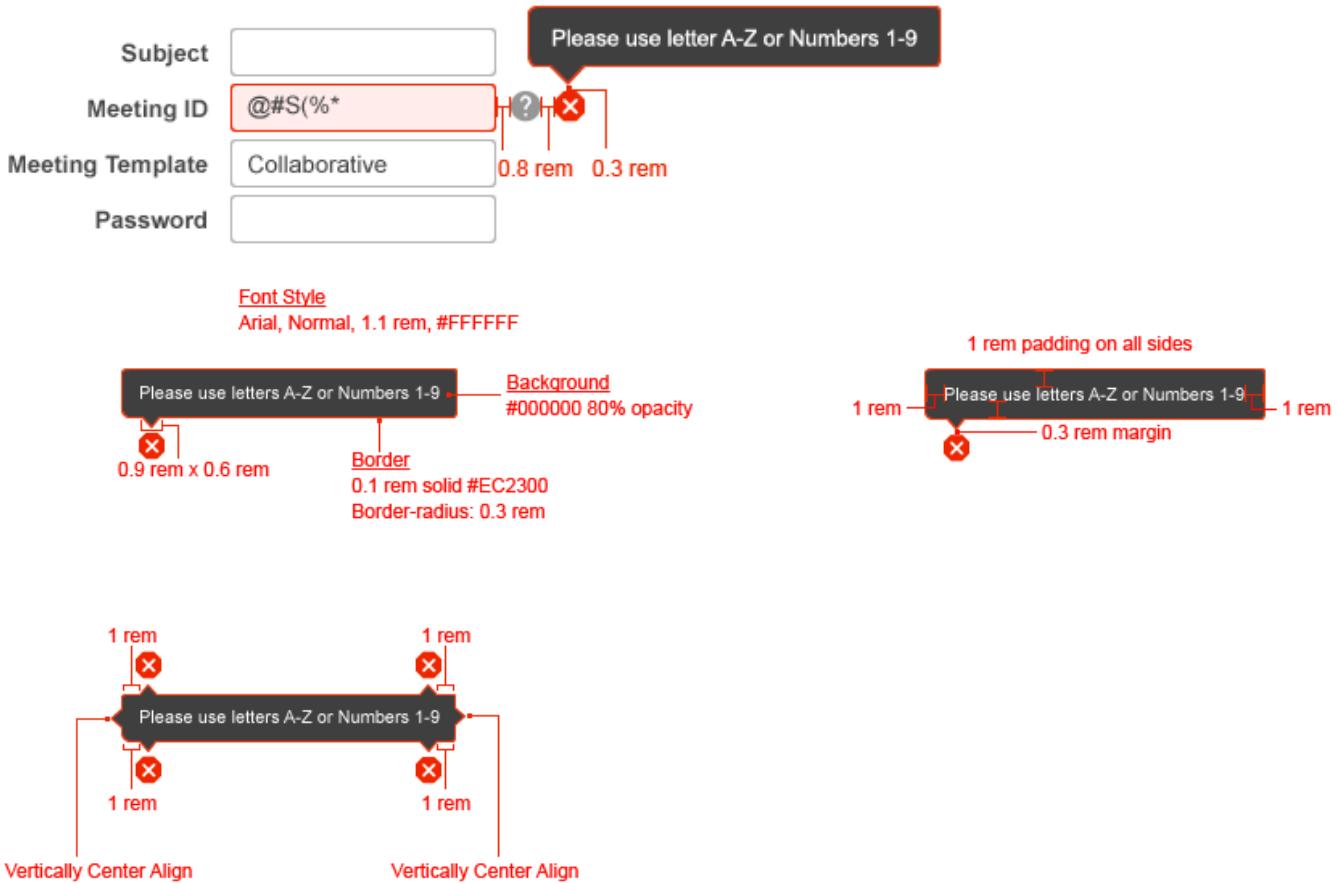
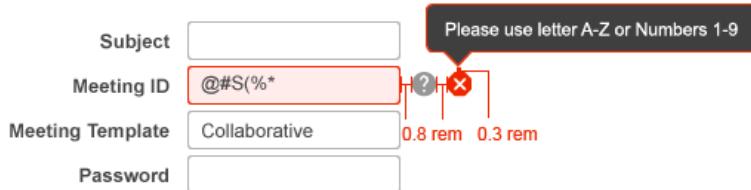


Figure 5. Specification for Contextual Error Message

Note! Minimum padding is 8px all around as per figure above. If the word wrap is set, the padding might be less than 8px for the right edge of the tooltip.



Subject

Meeting ID

Meeting Template 0.8 rem 0.3 rem

Password

Figure 6. Contextual Error icon next to another icon

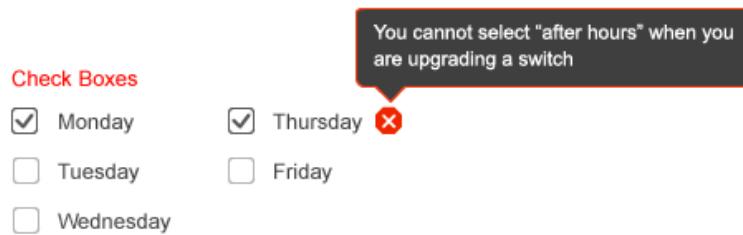


Figure 7. Contextual Error Message on a composite field



Email Field (name@domain.com)

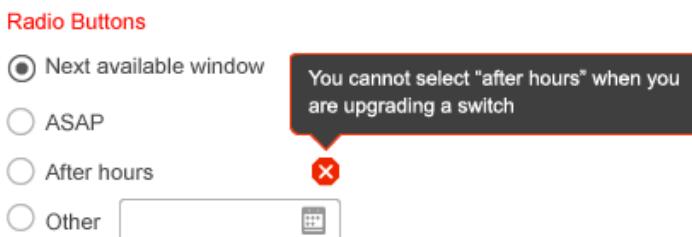
Figure 8. Contextual Error Message on a composite field



Check Boxes

<input checked="" type="checkbox"/> Monday	<input checked="" type="checkbox"/> Thursday X
<input type="checkbox"/> Tuesday	<input type="checkbox"/> Friday
<input type="checkbox"/> Wednesday	

Figure 9. contextual error next to a group of checkboxes



Radio Buttons

<input checked="" type="radio"/> Next available window	<input type="radio"/> You cannot select "after hours" when you are upgrading a switch
<input type="radio"/> ASAP	
<input type="radio"/> After hours X	
<input type="radio"/> Other <input type="button" value="Calendar"/>	

Figure 10. Contextual error next to a group of radio buttons

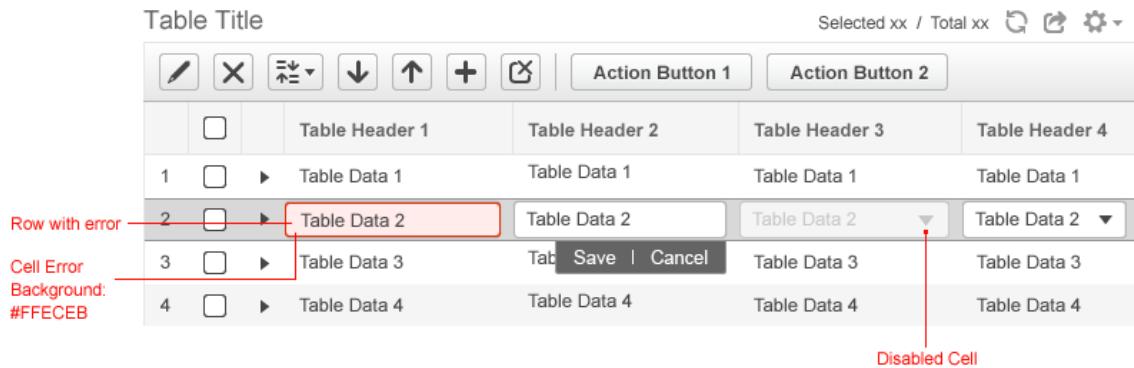


Figure 11. Specifications for Editable Table - Contextual Error indication for a cell in focus

Font and Color Specification

Element	Font	Size	Style	Color
Error Message	Arial	1.2 rem	Normal	#FFFFFF
Contextual Popup Background	#2A2A2A 90% Opacity			
Contextual Popup Border	0.1 rem, #EC2300			
Error Cell Font	Arial	1.3 rem	Normal	#464646
Error Cell Background	#FFECEB			
Error Cell Border	#EC2300			
Disabled Cell Font	Arial	1.3 rem	Normal	#C8C8C8
Disabled Cell Background	#F5F5F5			
Disabled Cell Border	#C8C8C8			

Table 2. Font and Color Specifications for Contextual Error.

Failure to Load Errors

Layout and Visual Design

Failed to Load Error Messages are centered in the failed load area. The page is not automatically scrolled to bring the error message into view. In the case of a page load error, the error is centered in the top part of the page to ensure it is visible without scrolling. In portions of a page, such as a dashlet, chart or table, the error is centered in the component areas and the user will see the message upon viewing the component.

Cisco Prime Product

Dashboard

Top N CPU Utilization

Last 2 Weeks | All Call Types | Meeting Count | Absolute

The connection has timed out. See Troubleshooting Network Connectivity. Error code 12093.

Show Details >

Network Device Summary

Last 2 Weeks | All Call Types | Meeting Count | Absolute

Y Axis

X Axis

Legend: Lorem (blue), Ipsum (purple), Dolore (green)

2013 Dec 30 12:30:30 PST

See Details

Client Count by Association

Last 2 Weeks | All Call Types | Meeting Count | Absolute

Y Axis

X Axis

Legend: Lorem (blue), Ipsum (purple), Dolore (green)

2013 Dec 30 12:30:30 PST

See Details

Top 5 Device by CPU

Last 2 Weeks | All Call Types | Meeting Count | Absolute

Y Axis

X Axis

Legend: Lorem (blue), Ipsum (purple), Dolore (green), Sit amet (light blue)

2013 Dec 30 12:30:30 PST

See Details

Figure 12. Failure to Load Error Message in a dashlet

Cisco Prime Product

Dashboard

Top N CPU Utilization

Last 2 Weeks | All Call Types | Meeting Count | Absolute

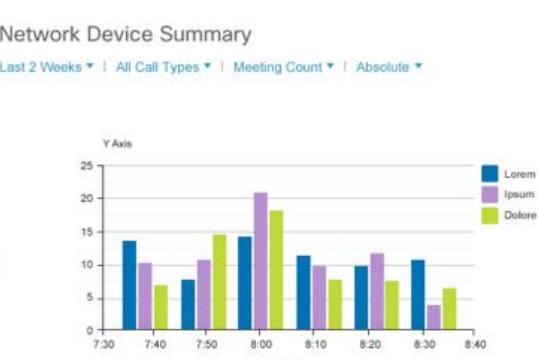
The connection has timed out. See Troubleshooting Network Connectivity. Error code 12093.

Show Details >

Vertically & Horizontally Centered

Font Size 3.2 rem

1.5 rem



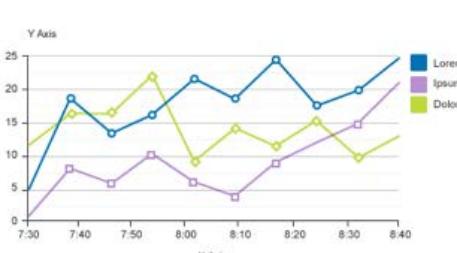
Network Device Summary

Last 2 Weeks | All Call Types | Meeting Count | Absolute



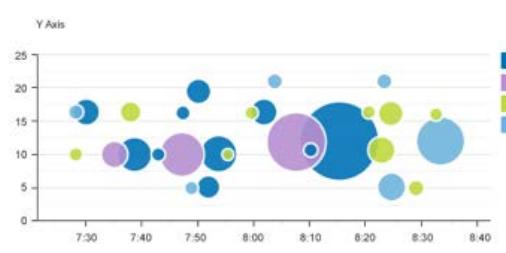
Client Count by Association

Last 2 Weeks | All Call Types | Meeting Count | Absolute



Top 5 Device by CPU

Last 2 Weeks | All Call Types | Meeting Count | Absolute



See Details

See Details

See Details

See Details



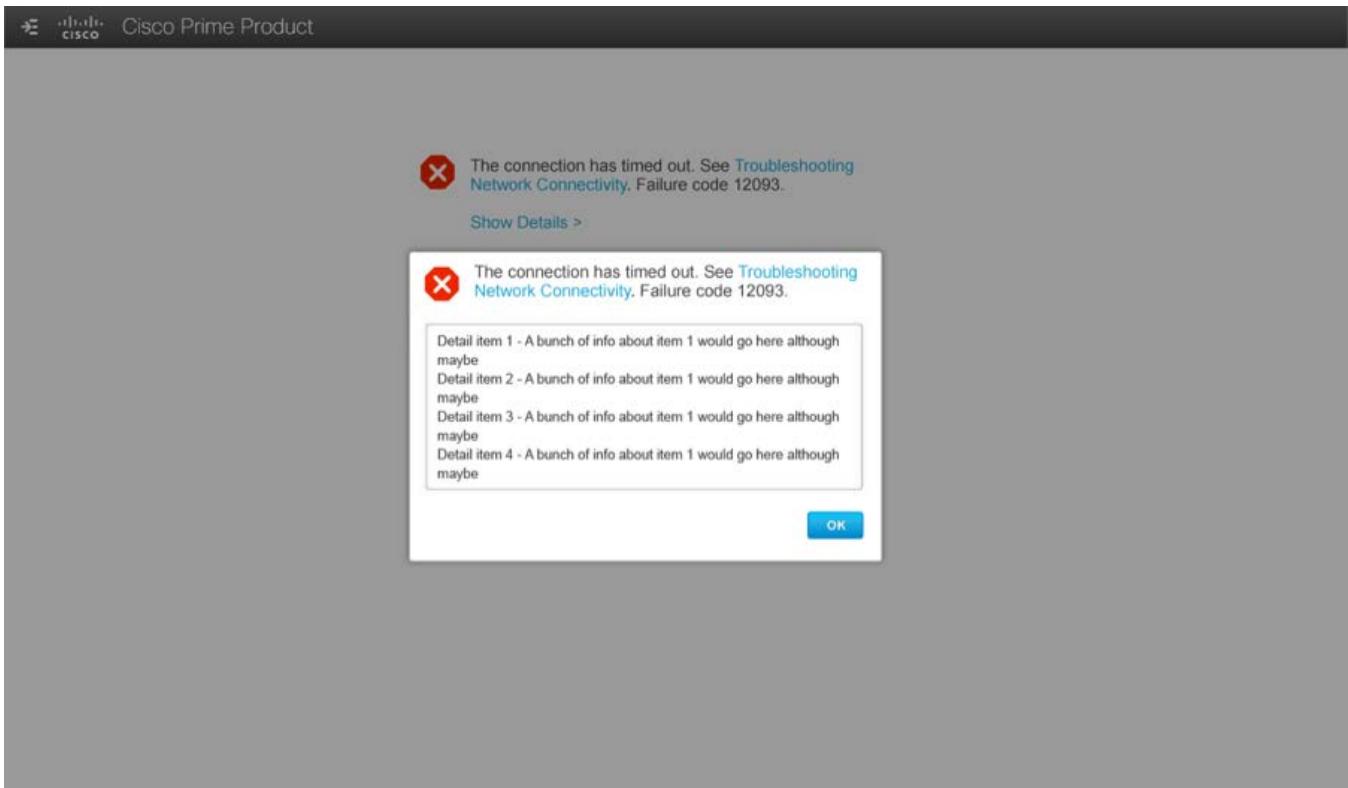


Figure 14. Specification for Failure to Load Error Message for a page

Figure 15. Failure to Load Error Message - Show Details

Font and Color Specification

Element	Font	Size	Style	Color
Error Message Links	Arial	1.3 rem	Bold	#12A4E2
Error Message	Arial	1.3 rem	Bold	#464646

Table 3. Font and Color Specifications for Slide-down Alerts.

Toaster Notifications

Layout and Visual Design

Note that the Title Text for Toaster Notifications can be either the source of the message (application or task), or the type of message (failed authorizations). The Toaster Notification is truncated after three lines of text with an ellipsis (...). The notification box also shrinks to fit the message vertically, but maintains the same horizontal width. If further information is desired, the application team can embed a link to take the user to further information.

Element	Information Message	Success Message	Warning Message
Icon	A circle containing the lowercase letter "i".	A green square containing a checkmark.	A yellow triangle containing an exclamation point.
Title Text	Communicator (Indicates source of message)	Job Scheduler	Failed Authorizations (Indicates type of warning)
Message Text	Neutral feedback about the results of a user or system action.	Positive feedback when action is successful. These might be either regularly scheduled background processes or user-initiated processes.	Alerts the user about a sub-optimal situation and suggests the means to improve or rectify the situation. These might be alarms that have been configured according to a certain threshold by the customer and are tracked in alarms, but the user may also want alarms displayed in Toaster Notifications for more immediate awareness.
Example	Jackie Carrigan has logged in.	All running and startup configurations have been synchronized. The Access Authorization Report has completed successfully.	More than 226 users have failed authorization on sjco-239-C3750. (include a link to alarms)
Background Color			

Table 4. Specifications for Toaster Notifications

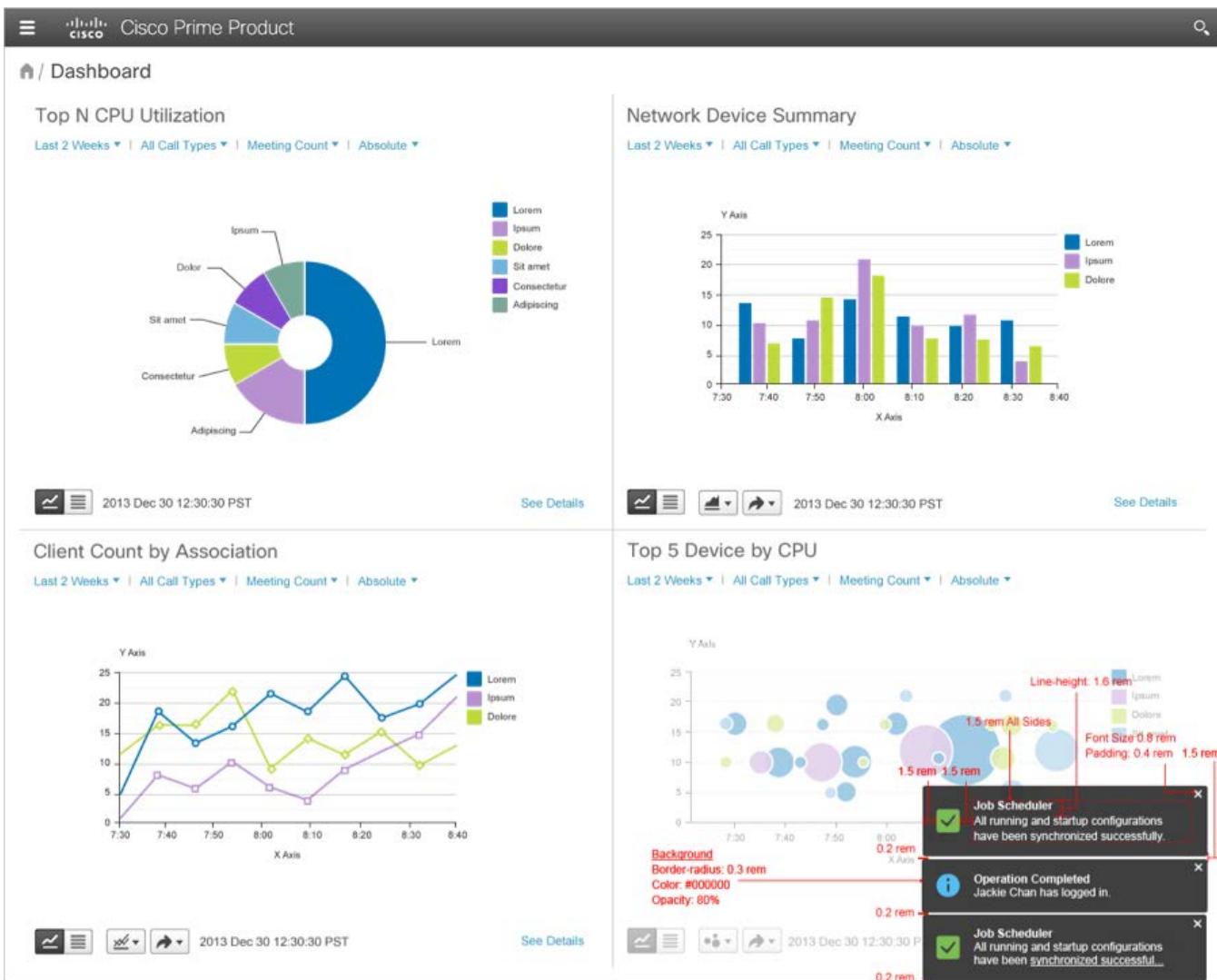


Figure 16. Specification for Toaster Notifications

Font and Color Specification

Element	Font	Size	Style	Color	Behavior
Status Message Header	Tahoma	11 px	Normal	#FFFFFF	
Status Message	Tahoma	11 px	Normal	#FFFFFF	

Table 5. Specifications for Toaster Notification Fonts and Colors

Interaction Behavior

Slide-Down Alerts/Messages

Types of Slide-down Alerts

There are three types of Slide-down Alerts which vary based on the severity of the consequences of the user's action or inaction.

- **Information** - Informs the user about the results of a command or action or provides other generally innocuous information about the application. Information messages are informative only. They **do not** require any user action except acknowledgement. As such, information alerts do not provide any choices or options, just an OK button. NOTE: If it is not necessary for the user to explicitly acknowledge the information message, use a Toaster Notification instead, since they can be automatically dismissed. If the information to be displayed conveys a failure of a command or the system, use a Warning or Critical alert instead.
- **Warning** - Alerts the user about a condition or situation that **does** require the user's decision or input before proceeding. Warnings only offer the user a few discrete choices. Typically, the user can confirm the desire to proceed with the action (or indicate how they want to proceed) or cancel the action altogether.
- **Critical** - Advises the user of a serious problem that requires user intervention or correction to resolve. Critical alerts can include such things as the failure of a selected action or even the failure of the application in general. Critical alerts typically provide few or no choices, just an OK button.

Elements of Slide-down Alerts

Slide-down Alerts have four required elements and can have three optional elements.

Required Elements

- **Message Type Icon** - Icon that identifies the severity or type of alert (Information, Warning, or Critical).
- **Message Text** - Describes the problem or situation and prescribes options (if applicable) to resolve the problem.
- **Action Buttons** - Used to acknowledge the alert and (if applicable) indicate the user's options for proceeding. All action buttons dismiss the Slide-down Alert.

The table below provides further detail on the icon, message text, and action buttons and how they differ across the three types of Slide-down Alerts. Use this table to compare and contrast message box types when deciding which is appropriate for your situation.

Element	Information Message	Warning Message	Critical Message
Icon	A circle containing a lowercase letter "i".	A yellow triangle containing an exclamation mark.	A red hexagon containing an "X".
Message Text	Offers no user choices. Only provides information. Includes a statement that can be acknowledged with an 'OK' button.	Offers limited choices. Typically asks a user if they want to proceed or cancel an action. Message is phrased so it can be answered with 'Yes/No' or with 'OK/Cancel'.	Usually offers no choices, but may offer limited choices in some situations. Includes a statement that can be acknowledged with an 'OK' button.
Action Buttons	The OK button is the only button. The user simply acknowledges the message.	One button for each option (usually 'Yes/No' or 'OK/Cancel'). 'Yes' or 'OK' proceeds with the action, 'No' or 'Cancel' means the action is not performed.	The 'OK' button is usually the only button, but other buttons may be offered in some situations.

Table 6. Slide-down Alert Element Specifications.

Optional Elements

- **"Don't show me this again" checkbox** - It may be useful to receive an information message about the results of an action the first time it is performed, but inconvenient to receive the message every time. Therefore, it is permissible to provide a [checkbox](#) with the label: "Do not show me this message again."
- **Help** - In most cases, the alert message should contain sufficient information to inform the user about the situation and how to resolve it. However, there may be situations in which linking to additional information (with a higher degree of detail) could be desired. In such a case, a Help link may be provided in the upper right corner of the text area.
- **Message Number** - Different errors may have similar-sounding messages yet require different troubleshooting procedures to resolve. Message numbers can simplify the troubleshooting process because they provide an "absolute reference" that can be communicated to support personnel or otherwise referenced by number in troubleshooting tables/guides. This is also helpful in the event a localized UI is not available for certain regions.
NOTE: Do not provide message numbers if the support organization or troubleshooting guide does not use them; they would be meaningless clutter.

Multiple Errors

If multiple errors of a similar type can be predicted to occur at the same time (e.g., as in the case of multiple routers going down at one time), we recommend that the application teams create a custom multiple-message slide-down alert to communicate all the errors in a single alert.

Otherwise, in case of multiple alerts, the behavior will be that every alert will be displayed one after another:

1. the first alert will slide-down,
2. the user dismisses the alert
3. the first alert slides up
4. the next alert slides down, etc.

Guidelines for Message Writing

The alert message should make the cause of the problem and the solution clear to the user. This is sometimes referred to "descriptive" and "prescriptive" information. However, it is not always necessary to provide both types of information explicitly. Often, providing one implies the other. In such cases, it is sufficient to tell the cause OR the solution (i.e., the description OR the prescription).

NOTE: When possible, ask a document writer to review the message text. With a writer's input, the messages will be more understandable and the application will be more professional.

Messages should use complete sentences including punctuation.

Correct: Are you sure you want to delete the selected device?

Incorrect: Delete selected device?

The end punctuation should be a period or a question mark. NEVER end an error message with an exclamation mark.

Correct: Select a device first.

Incorrect: Select a device first!

Avoid using the words "You must..." or "You should...". Instead, start with the verb:

Correct: Select a router before...

Incorrect: You must select a router before...

Do NOT use "please" if the cause is user error.

Correct: Select a router before...

Incorrect: Please select a router before...

NOTE: You may use "please" if the system inconveniences the user. For example, you might write, "Please wait..." if there will a lengthy processing time.

Do NOT use contractions.

Correct: Router "SJ-6-Finance" cannot be found.

Incorrect: Router "SJ-6-Finance" can't be found.

The names of networking concepts do NOT start with capital letters.

Correct: Select a network device before...

Incorrect: Select a Network Device before...

Parts of the user interface (e.g., button labels, field labels, etc.) DO start with capital letters and are placed between single quotes.

Correct: Select a network device before clicking 'Delete'.

Incorrect: Select a network device before clicking delete.

User entered values are placed between double quotes.

Correct: The network element "SJ17" contains no properties.

Incorrect: The network element SJ17 contains no properties.

Error Message Examples

Common, approved message text is provided below. Model these approved messages whenever possible.

Case	Sample Message(s)	Message Box Type
Must select an object before completing an action	Select a device to 'Edit'. Select a device first.	Information
Failure due to condition	Device "SJ17" cannot be contacted. Router "SJ-6-Finance" cannot be found.	Information
Action confirmation	Are you sure you want to delete network element "SJ17"?	Warning
Cause and solution format	There is not enough disk space to save this file. Free additional space on this disk or save the file to a different disk.	Warning or Critical
Fatal Error	An unrecoverable error has occurred. This application must close.	Critical

Table 7. Approved Slide-down Alert Message Text.

Content Verification Message Examples

Typically, content verification errors are handled using inline messages. Refer to Contextual Error Messages for more information. However, if your application requires confirmation of content verification errors, it is permissible to use an Slide-down Alert (typically an informational alert). Some common content verification messages are listed below.

Case	Sample Message(s)
Required field is empty	The 'Name' field cannot be empty.
Field has invalid value	The 'Number of Retries' value must be a positive value. The 'Date' value must use the format yyyy-Mmm-dd.

Required field is empty OR field has invalid value	The 'Number of Retries' field cannot be empty and requires a positive value.
--	--

Table 8. Approved Content Verification Message Text.

Contextual Error Messages

- Contextual error messages are provided via a tooltip that is displayed when in an erred-out field, or by hovering over the error icon to the right of the field where the error has occurred. NOTE: the error icon should be placed after any units or other icons that are placed to the right of the field.
- The message describes the error and can provide a format hint or solution, (e.g., "Missing value", "Invalid Format", "Email Address should contain a @ sign").
- The message is brief and does not have to be a complete sentence.
- The error icon indicates the fields or controls which have errors and associated messages.
- As the user proceeds through form entry, contextual error messages should be generated as soon as possible. Whenever possible, display the error icon, message and field outline upon typing into the field. If that is not possible, as the user tabs away from the field, validate the entered value, and if there is a problem, outline the field and display an icon immediately. The error tooltip is only visible when positioned in the error field or while hovering over the error icon.

Note! While the general guideline is to display the contextual error message as early as possible there could be use cases when this behavior may not be practical. Such as in the case of the date and time picker where the valid input combinations can become pretty excessive. In order to avoid user frustration with continuous display of error messages while typing into the field/control – or, on the other hand – wait for the user to hit the submit button to validate the input, the validation should occur once the user has stopped typing (2 seconds pause) or left the field/control by tabbing or clicking out.

The input fields and controls should be examined by application developers on a case by case basis to decide which validation approach is the most appropriate.

It may not be possible or desirable to immediately display contextual error messages for dependent or interdependent fields. For example, in order to minimize frustration at data entry time, the order in which the Start Date or End Date is changed should not be critical. A mismatched date range can be caught and displayed to the user when the user attempts to submit the form.

The only time an error should occur for checkboxes or radio buttons is on an aggregate basis when selecting at least one is required. Otherwise, application logic should control whether a selection can be made or not: the choice should be disabled if it is not appropriate given other selections and entries.

If the user makes an error in a field that is validated upon typing or leaving the field, the user can still navigate away from the current erred field in order find other information to fix it, or to fill out other fields first.

If errors are made that are hidden (such as within an anchored overlay in the repeater), errors are propagated upward so the user can see where the errors are and return to them to fix them prior to submitting the form.

Interaction Sequence

For fields where validation occurs upon leaving the field:

1. The user makes an error in the field.
2. Upon leaving the field, it is outlined in red and the error icon appears
3. The user can hover over the error icon and see the error tooltip.
4. If the user clicks in an error field, the error tooltip is displayed and remains displayed while in the field.
5. If the user does not fix the errors, the Save or Submit button is disabled.

6. The user can hover over or click the grayed out save/submit button to display a tooltip: “Some of the fields on this page contain errors. Navigate to each field to view and correct the errors.” [ok]

For fields where validation occurs while typing (e.g. numeric fields):

1. The user types an alpha character in a numeric field.
2. While still in the field, the field is outlined in red, an error icon and a tooltip are displayed.
3. The user fixes his/her error or clears the field.
4. The field outline, error icon and tooltip disappear immediately.
5. If the user does not fix the errors and navigates to another field, the field remains outlined in red, the error icon remains displayed, but the tooltip is hidden.
6. If the user clicks in an error field, the error tooltip is displayed and remains displayed while in the field.
7. If the user does not fix the errors, the Save or Submit button is disabled.
8. The user can hover over or click the grayed out save/submit button to display a tooltip: “Some of the fields on this page contain errors. Navigate to each field to view and correct the errors.” [ok]

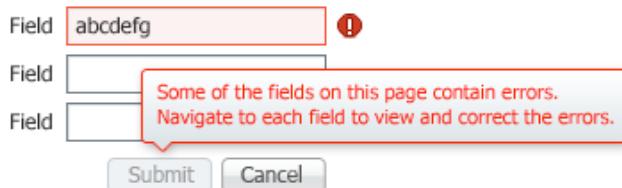


Figure 15. Submit/Save Button Tooltip with Errors on Page.

For fields that are validated upon submit:

1. The user makes an error in a field and moves to the next field.
2. No outline, icon or tooltip is displayed because the field hasn't been validated yet.
3. Upon submission of the form, a page-level slide-down error message is displayed with words to the effect: “Some of the fields on this page contain errors. Navigate to each field to view and correct the errors.” [ok]
4. The Submit button is enabled, since some errors may not be re-validated until submit is selected again.
5. The fields with errors are outlined and appended with error icons.
6. The user can hover over any error icon to display the associated error tooltip.
7. If the user clicks in an error field, the error tooltip is displayed and remains displayed while in the field.

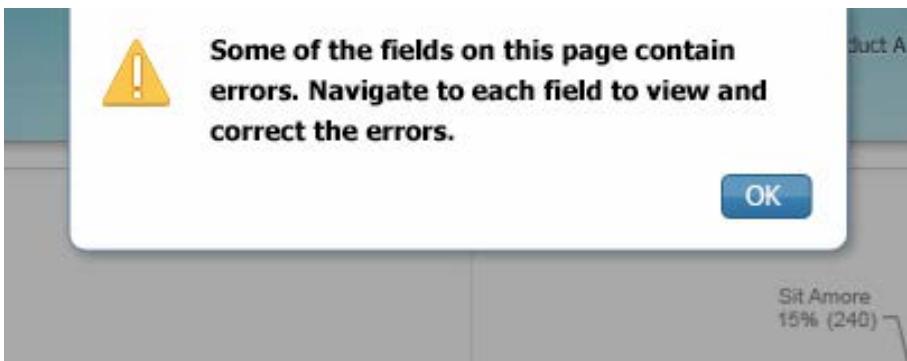


Figure 16. Slide-down Error Message after Submit

For tables:

- Parent cells or rows that have child cells with errors are **outlined**
- Rows that contain errors are **shaded**.
- Individual cells with errors are **outlined and shaded**
- The user can hover over any error field to display the associated error tooltip.
- The user can also position the cursor in the error field to display the associated error tooltip. If the user clicks in an error field, the error tooltip is displayed and remains displayed while in the field, until the contents is changed.
- For rows that contain errors or child with errors, drag and drop is disabled.

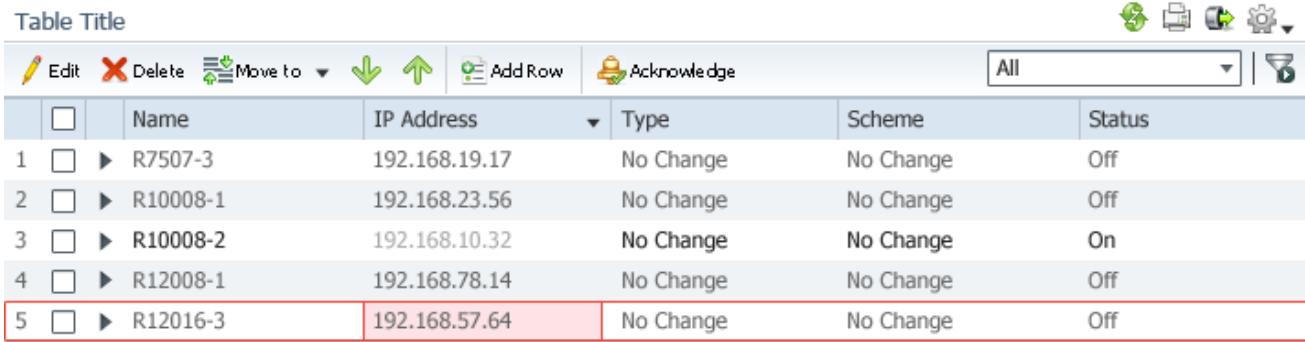
Contextual Error indication
for a cell in focus

Table Title						
		Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On
4	<input type="checkbox"/>	R12008-1	192.168.78.14	Save Cancel	No Change	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off

Contextual Error indication
for a cell not in focus

Figure 17. Contextual Error indication in a table for a row not in focus, cell in focus and cell not in focus

Table Title



	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On
4	<input type="checkbox"/>	R12008-1	192.168.78.14	No Change	No Change	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off

A parent row with an error child and a cell error on the parent level. Both outlined. The cell is also shaded.

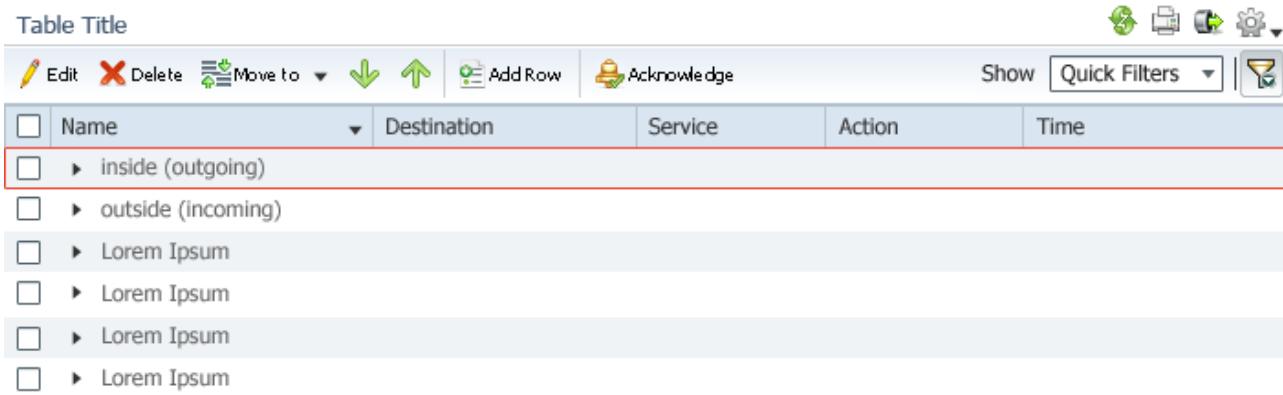
Note that in this case the cell outline border on top and bottom is shared with the row border.

Figure 18. Contextual Error indication for a parent row that contains errors (outlined) and a cell in error on the parent level

For tree - tables:

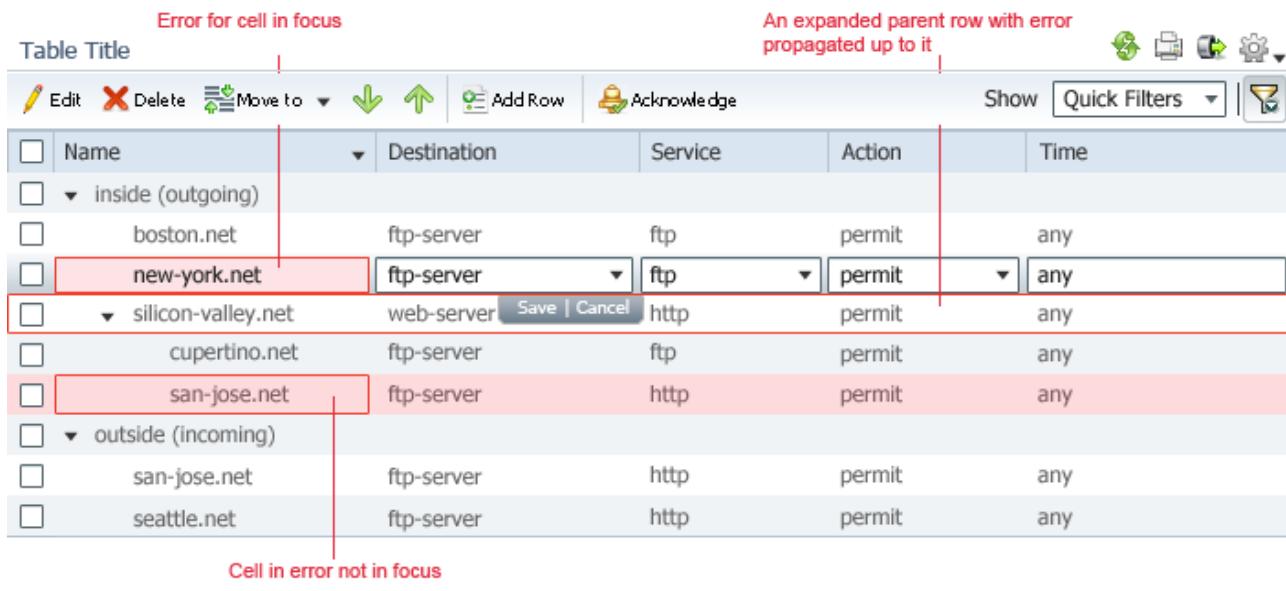
- Leaf rows that contain errors are **shaded**. The cell that contains the error is **shaded and outlined**. All parents of a row that has an error are **outlined only**.
- Individual cells with errors are **outlined and shaded**.
- The user can hover over any error field to display the associated error tooltip.
- The user can also position the cursor in the error field to display the associated error tooltip. If the user clicks in an error field, the error tooltip is displayed and remains displayed while in the field, until the contents is changed.
- Note!** The parent row highlight propagation does not appear until after the user moves away from the child row with the error. As soon as the error is corrected the error indication will disappear simultaneously from both child and parent.

Table Title



	<input type="checkbox"/>	Name	Destination	Service	Action	Time
	<input type="checkbox"/>	▶ inside (outgoing)				
	<input type="checkbox"/>	▶ outside (incoming)				
	<input type="checkbox"/>	▶ Lorem Ipsum				
	<input type="checkbox"/>	▶ Lorem Ipsum				
	<input type="checkbox"/>	▶ Lorem Ipsum				
	<input type="checkbox"/>	▶ Lorem Ipsum				

Figure 19. Contextual error indication in a tree table for a parent row that has children with error(s).



Error for cell in focus

An expanded parent row with error propagated up to it

Cell in error not in focus

Table Title					
		Destination	Service	Action	Time
<input type="checkbox"/>	Name				
	▼ inside (outgoing)				
<input type="checkbox"/>	boston.net	ftp-server	ftp	permit	any
<input type="checkbox"/>	new-york.net	ftp-server	ftp	permit	any
<input type="checkbox"/>	▼ silicon-valley.net	web-server	Save Cancel	http	permit
<input type="checkbox"/>	cupertino.net	ftp-server	ftp	permit	any
<input type="checkbox"/>	san-jose.net	ftp-server	http	permit	any
	▼ outside (incoming)				
<input type="checkbox"/>	san-jose.net	ftp-server	http	permit	any
<input type="checkbox"/>	seattle.net	ftp-server	http	permit	any

Figure 20. Contextual Error indication in a tree table

For repeaters:

- Rows in tables or repeaters that contain errors are **shaded**
- Parent cells that have child cells with errors are **outlined**.
- Rolling over the err'd cell or row displays an error tooltip.
- Individual fields which contain the error entry are **shaded** and **outlined**.
- The user can also position the cursor in the error field to display the associated error tooltip. If the user clicks in an error field, the error tooltip is displayed and remains displayed while in the field, until the contents is changed.



First Match Applies

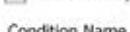
<input checked="" type="radio"/> 802.1X Password-based Authentication	: If	802.1X Password	+	allow protocols	Permit Access	+	and...	
<input checked="" type="radio"/> San Francisco Users	: If	User-Name @sf-biz...	-	Use	SF_AD-Server	+		
<input checked="" type="radio"/> Copy of San Francisco	: If							
<input checked="" type="radio"/> Default Identity Source	: If	Condition Name	Attribute	Invalid Domain				
<input checked="" type="radio"/> Default Rule	: Us...	RADIUS: User-Name	ends with	@sj-biz.com				

Figure 21. Contextual Error indication in a repeater

Failure to Load Errors

Location of Failure to Load Error Messages

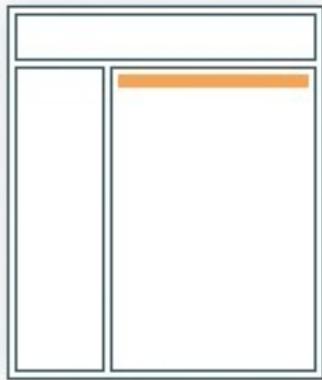


Figure 22. Location of Failure to Load Error Message

Toaster Notifications

Toaster Notifications stack without any padding between them, in order to preserve screen real estate. They can be dismissed by the user, but are automatically dismissed after a predetermined amount of time if not manually dismissed. As each notification is automatically or manually dismissed, any notifications above it slide down.

Toaster notifications may include a link embedded by the application team that would allow users to navigate to a related area in order to take action or to view further information.

We recommend that application teams provide end-user preferences for the following options:

- (mandatory) Provide a user preference to turn toaster pop-ups off if desired.
- Provide a preference to anchor the pop-ups in one of four corners.
- Provide a user preference to configure which types of alarms appear in toaster pop-ups

Location of Toaster Notifications

Toaster Notifications should be positioned in the lower-right, with padding below and to the right of the set of notifications, but not in-between them to conserve screen real estate.

UPDATE

It has been requested from several dev teams to accommodate lengthy messages (more than 3 lines). It also has come to our attention that overflow case has not been addressed according to Notification Center (future releases). Therefore, we are recommending the following modifications:

- The toaster default values for max characters have been increased to 100, to accommodate around 3 lines. The duration accordingly has been updated to 600ms. Along with animation time taken, it results in around 5 sec display before the message disappears.
- There is no existing way in toaster to set a max limit. Also, given that the max might vary for different applications, it is left to dev teams to override the default values that are mentioned above to whatever their use-case demands.

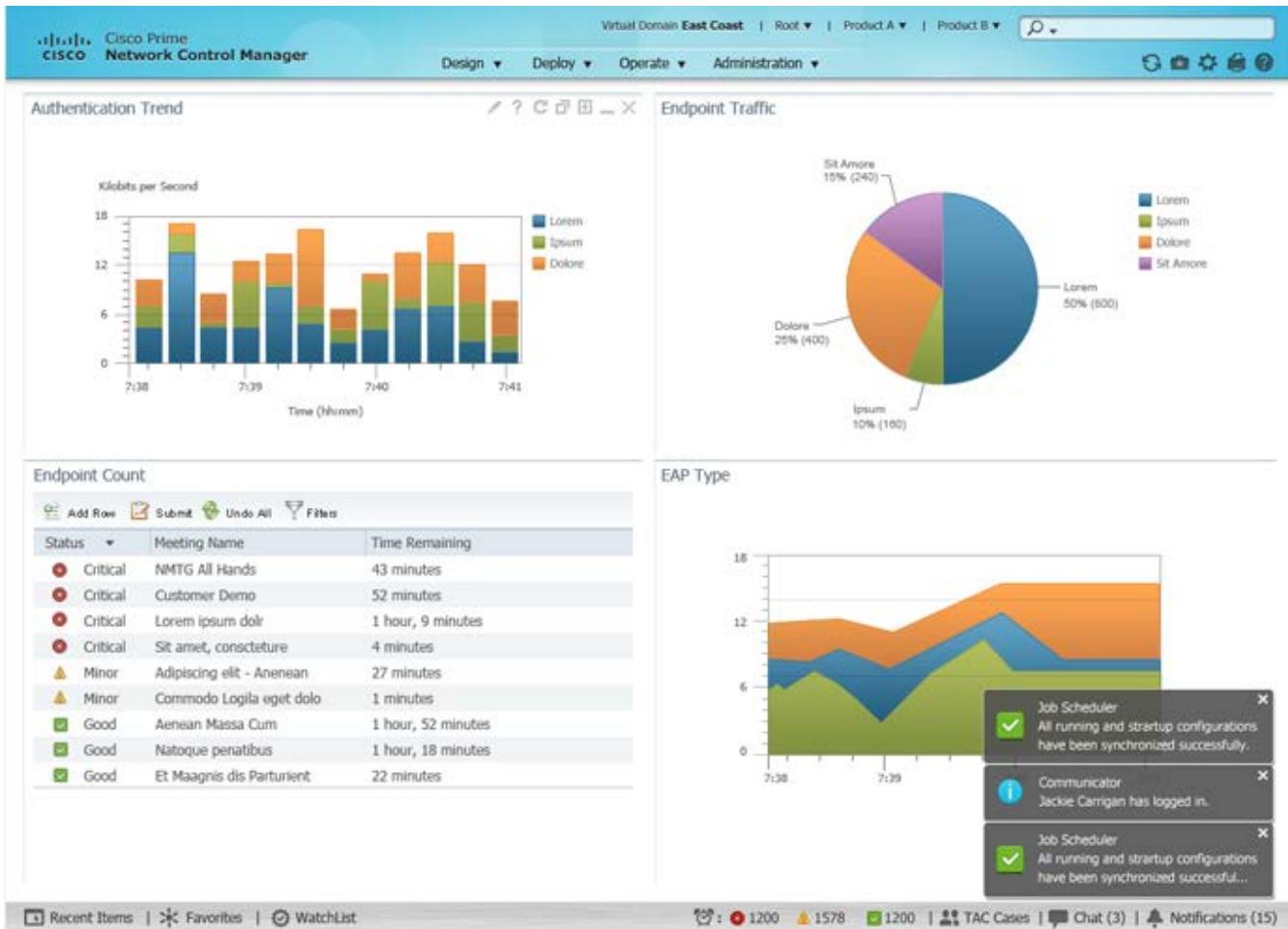


Figure 23. Location of Toaster Notifications

OBJECT SELECTOR

Description

The object selector replicates much of the same functionality as a standard tree control, and is used in many of the same use cases where a tree would be. But the object selector has been designed to overcome several long-standing usability issues inherent in tree controls. The new presentation and interaction design of the object selector reduce the cognitive load of working with hierarchical information, allowing the user to more quickly and easily browse, search, or filter for their desired needle in the hierarchical haystack.

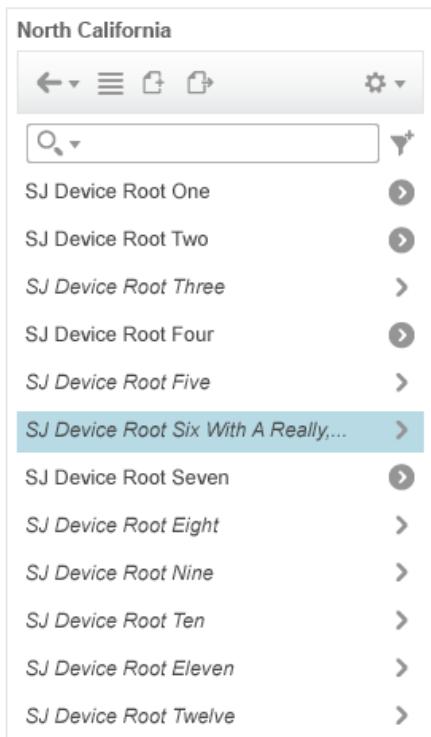


Figure A. Object selector in list view and single-select mode.

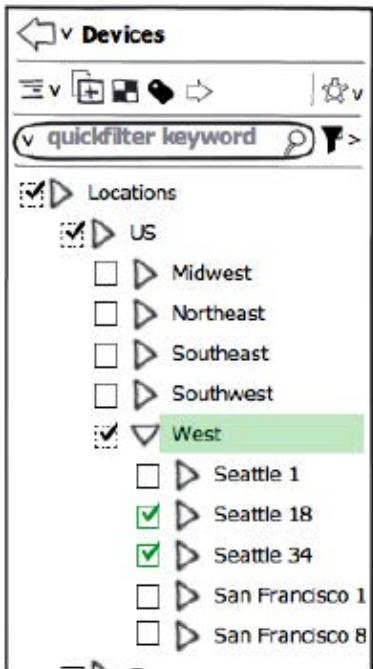


Figure B. Object selector in multi-select mode, tree view.

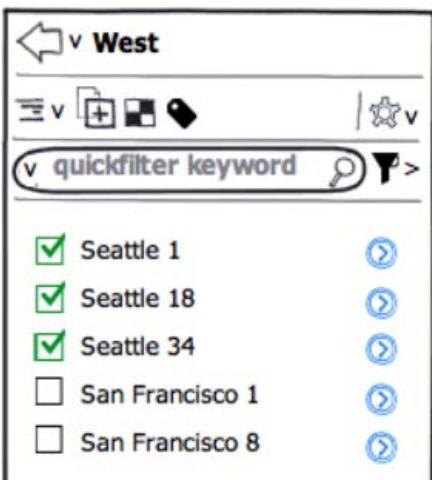


Figure C. Object selector in multi-select mode, list view.

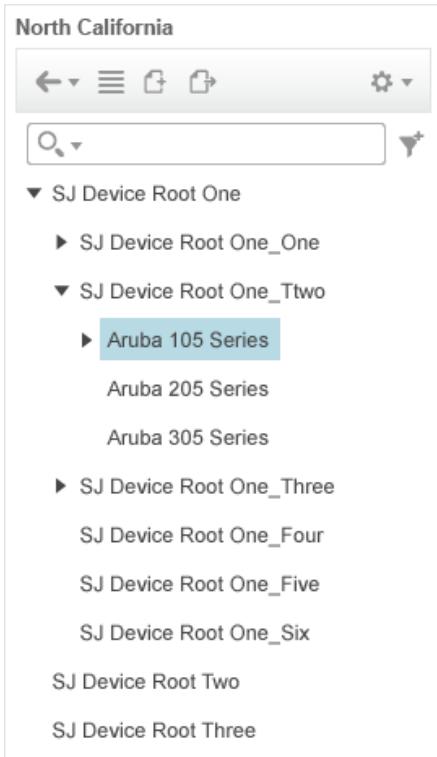


Figure D. Object selector in single-select mode, tree view.

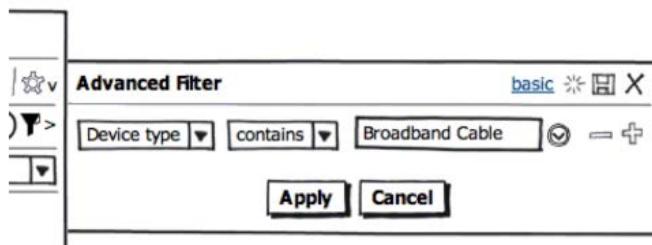


Figure E. Filter pop-over.



Figure F. Flat List, multi-select showing selection bar.

Usage Guidelines

When to use

- Use the object selector when you need to present your user with a method for selecting one or more objects in a nested hierarchy.
- The object selector can also be used for flat lists requiring multi-select or filtering utilities.

Do not use this component when...

- Do not use for displaying simple flat lists that do not require multi-select or filtering utilities.

Default View of the Object Hierarchy

- The object selector is set to list view by default. App developers can choose to override the default and set it to tree view. Since deep hierarchies in the tree view may require horizontal scrolling, reserve the tree view for shallow hierarchies and/or where comparison of items from one part of the hierarchy to another is required.
- The object selector is set to single-select mode by default. App developers can choose to override the default and set it to multiple-select mode.

Visual Specifications

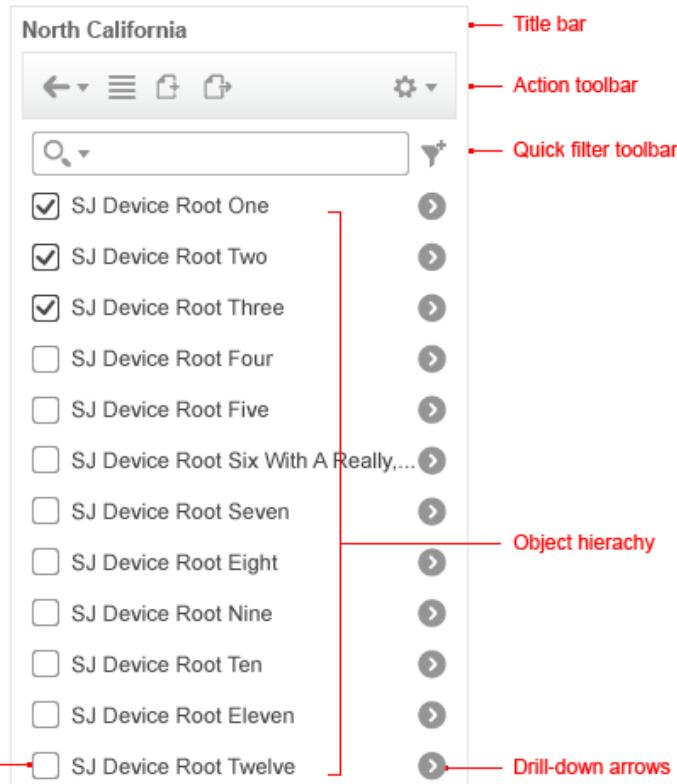


Figure 1. Object selector elements.

Elements Defined in the Object Selector

Element	Description	Inclusion
Title Bar	Displays the name of the parent of the objects currently displayed in the object selector, the back button for moving back up the object hierarchy and the hide (or close) button.	Optional
Action Toolbar	Contains all of the actions defined by the app developer pertaining to the current object or group selection(s) as well as non-contextual actions available regardless of selection. Also contains the view switch toggle for list and tree views, and the transfer or update display button for displaying selected items in the content (or other) areas. (Note: the object selector only publishes selections for the app developer to subscribe to)	Optional
Quick Filter Bar	Contains the keyword search field, tied to a small subset of attributes of the objects displayed in the object selector. Users will use the quick filter to locate known items in the object selector. Also contains the filter pop-over icon button.	Optional
Selection Display Bar	Contains a drop-down for the multi-select display options. (Show All, Show Selected, Show Unselected) The multi-select display options are only available for a flat list currently.	Optional
Object Hierarchy	Displays the contents of the currently viewed node, or the entire tree as far as expanded. Users use the object hierarchy to drill down through the object hierarchy and to select objects for further information or action.	Mandatory
Hover Hint	When a user hovers over an individual object in the object hierarchy, the hover hint that invokes the quickview is displayed.	Optional

Filter Pop-over

Contains advanced filter criteria.

Optional

Table 1. Elements in the object selector.

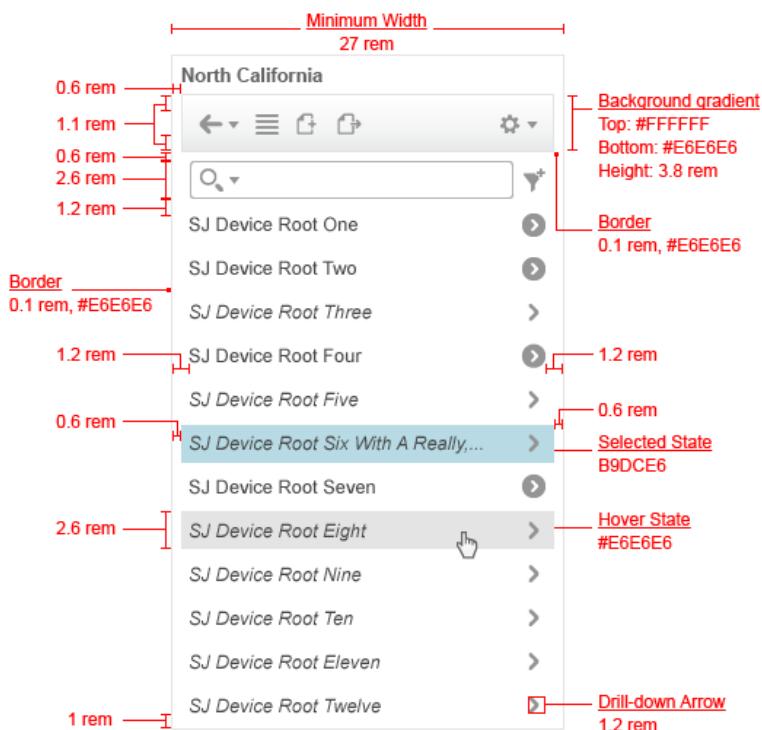


Figure 1-1. Mockup of the object selector.

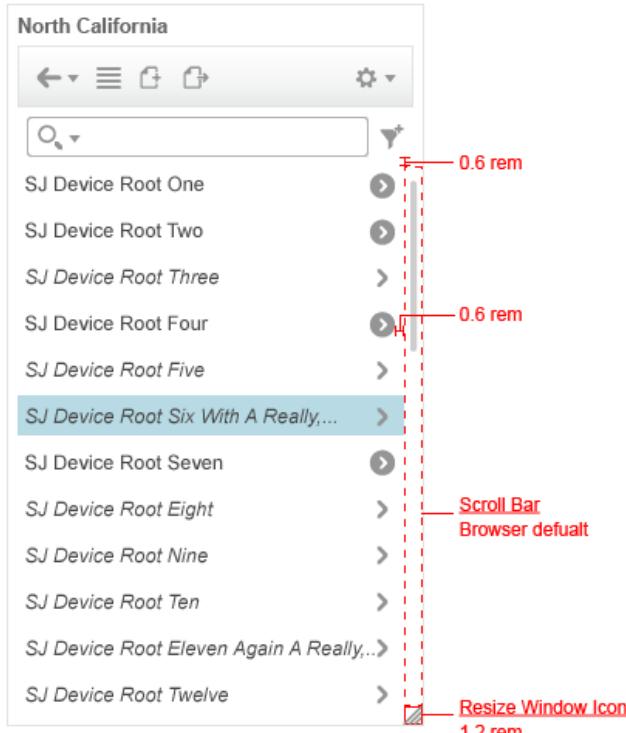


Figure 1-2. Object Selector Specifications.

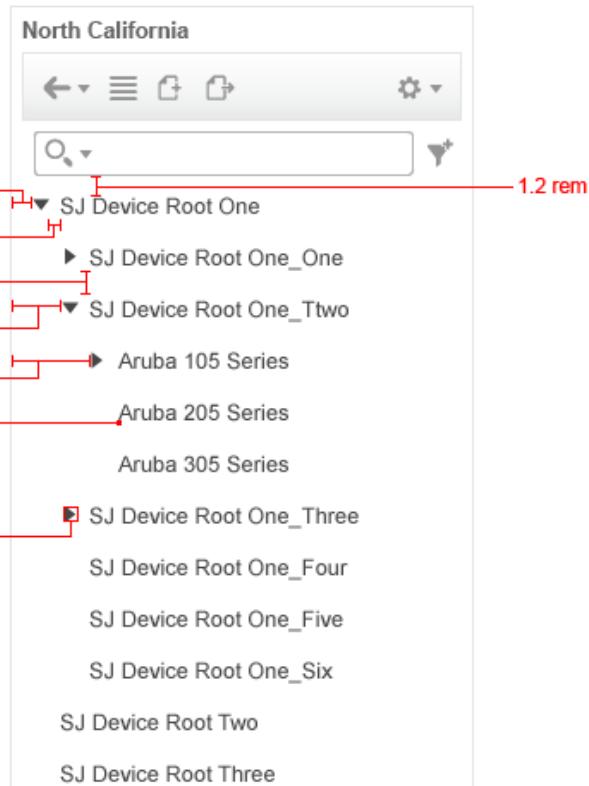


Figure 1-3. Object Selector Hierarchy Specifications.

Title Bar

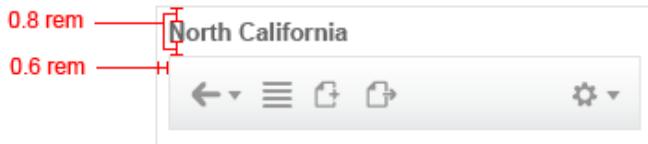


Figure 2. Object Selector displayed in an embedded container.

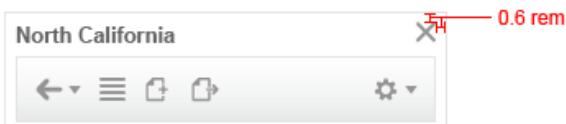


Figure 3. Object Selector displayed in an Overlay or Popup container.

Action Toolbar



Figure 4. Object-selector action toolbar.

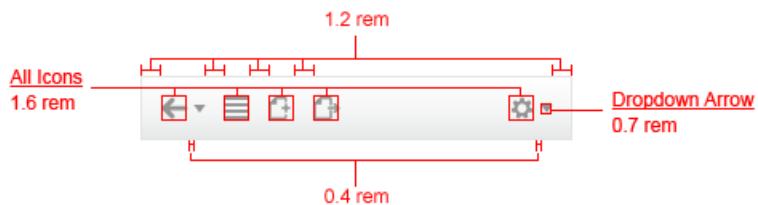


Figure 4-1. Action Toolbar specification.

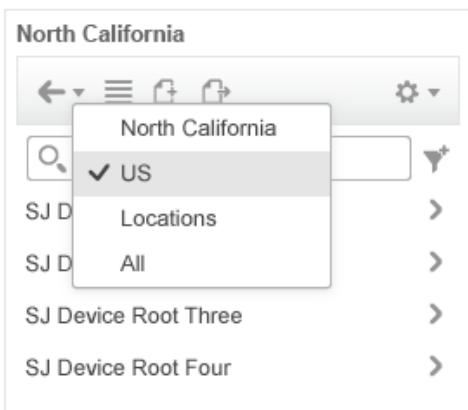


Figure 5. Back-button menu.

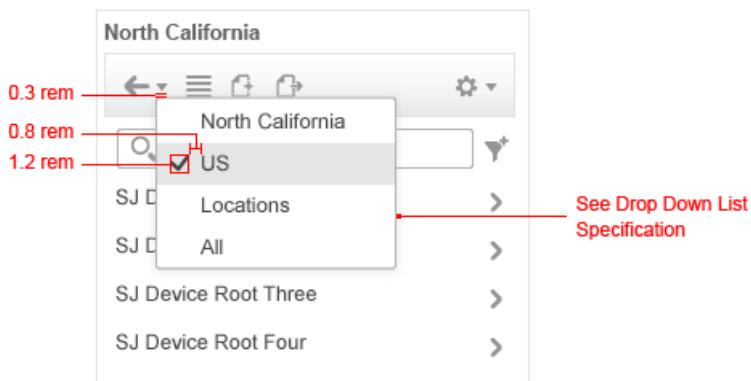


Figure 5-1. Back-button Menu Specification.

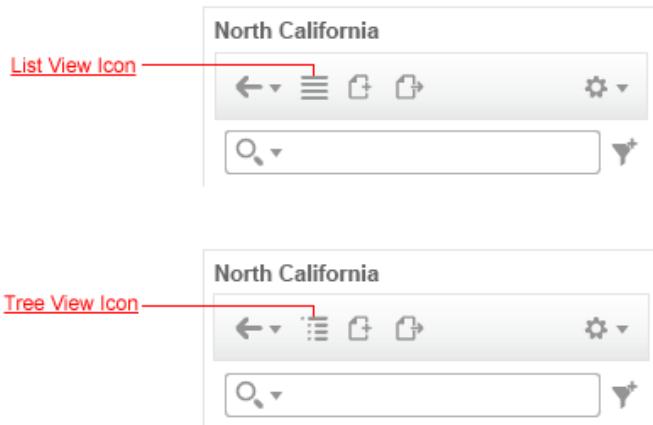


Figure 6. View-Switcher menu.

Quickfilter Toolbar



Figure 7. Filter Toolbar, default state.

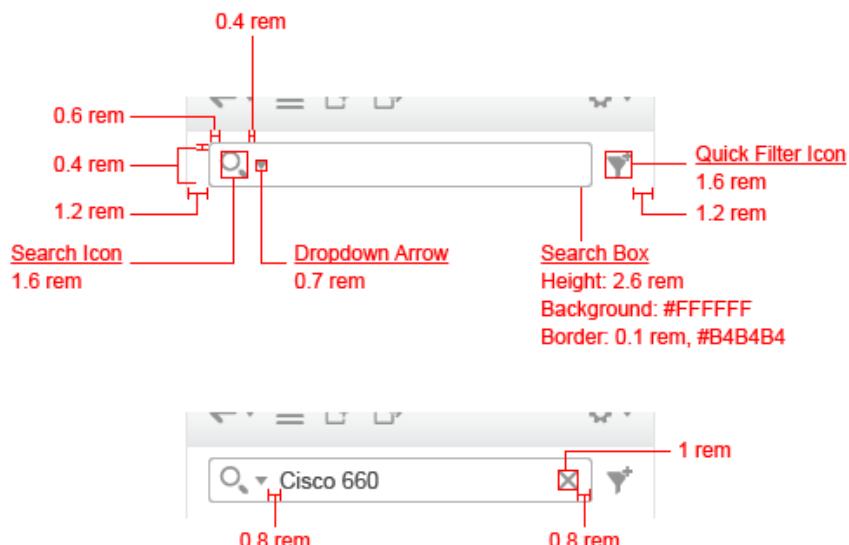


Figure 7-1. Quickfilter Toolbar specification.

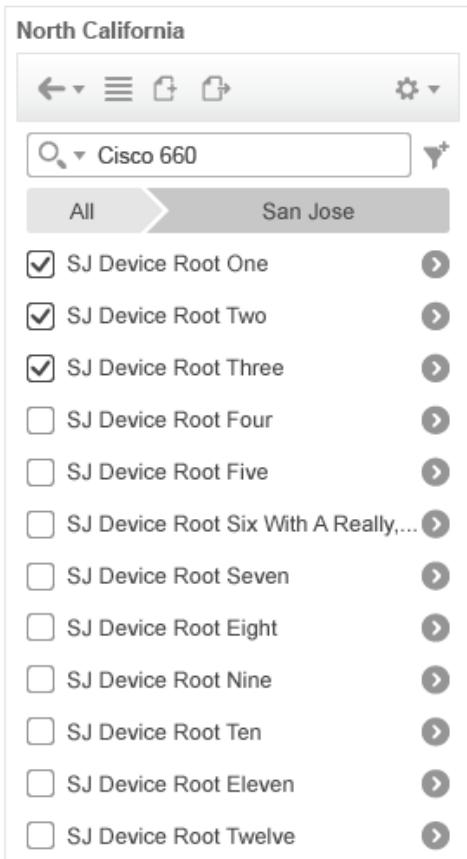


Figure 8. User has entered some text in the quick filter text field and the filter context tabs are displayed.

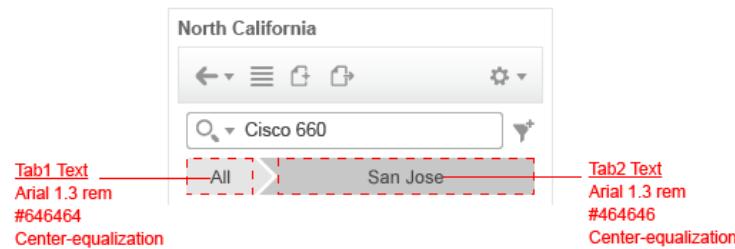
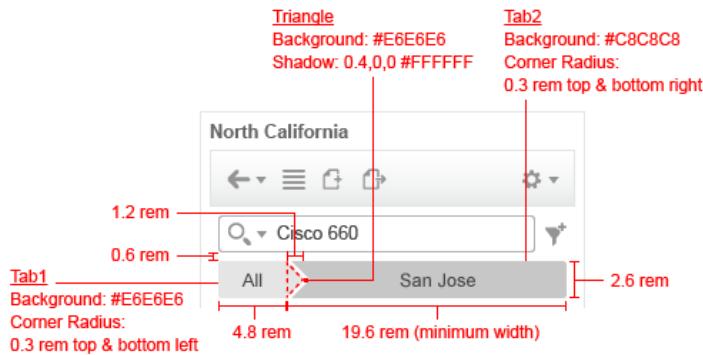


Figure 8-1. Filter Context Tab Specification.

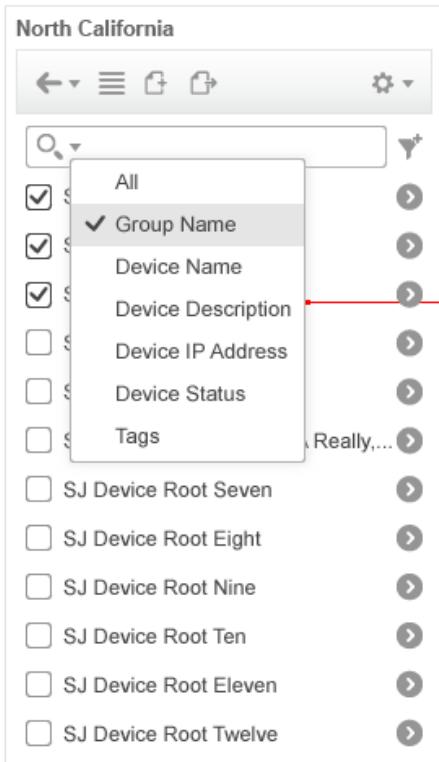


Figure 9. User has clicked on the attribute picker menu. (Refer to figure 5-1 for Drop Down Menu visual spec.)

Font and Color Specification

Element	Font	Size	Style	Color
Object Selector Title	Arial	1.3 rem	Bold	#646464
Content	Arial	1.3 rem	Normal	#464646
Filter Context Tab	Arial	1.3 rem	Normal	#646464

Table 3. Font and Color Specifications for Slide-down Alerts.

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Back Icon	→		icon_rotate-180 (for rotation)	1.6 rem	#969696	#74bad1	#379bbe
List View Icon	☰			1.6 rem	#969696	#74bad1	#379bbe
Tree View Icon	☷			1.6 rem	#969696	#74bad1	#379bbe
Create Icon	✚			1.6 rem	#969696	#74bad1	#379bbe
Move Icon	✖			1.6 rem	#969696	#74bad1	#379bbe
Gear Icon	⚙			1.6 rem	#969696	#74bad1	#379bbe
Search Icon	🔍			1.6 rem	#969696	#74bad1	#379bbe
Advanced Filter Icon	▼			1.6 rem	#969696		
Dropdown Arrow	▶		icon_rotate-90 (for rotation)	0.7 rem	#969696		
List Box Check	✓			1.2 rem	#464646		
Check Box Check	✓			1 rem	#464646		
Check Box Partial Check	■			1 rem	#464646		
Tree View Drawer Arrow	▶			0.9 rem	#464646		
Drill-Down Only Icon	➤			1.2 rem	#969696		
Drill-Down & Select Icon	⌚			1.6 rem	#969696		
Popover & Quick View Icon	ⓘ			1.6 rem	#969696		
360 View Icon	ⓘ			1.6 rem	#969696		
Search Close Icon	✖			1 rem	#969696		

Table 2. Icons Specifications

Object Hierarchy



Figure 11. Object Hierarchy in List view.

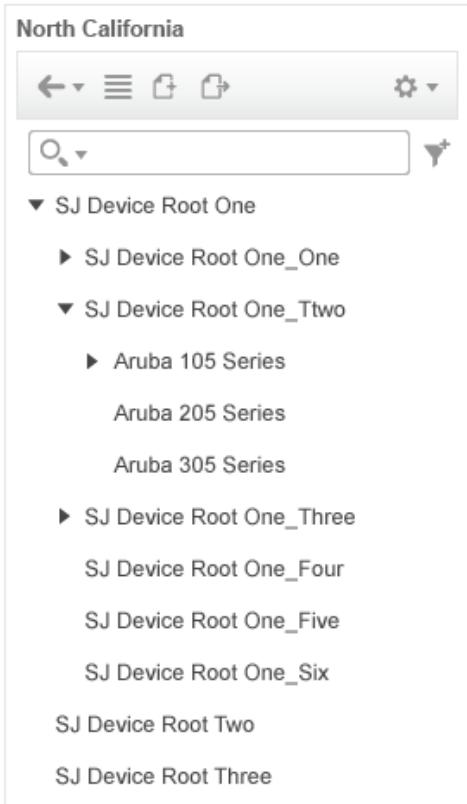


Figure 12. Object Hierarchy in Tree view.

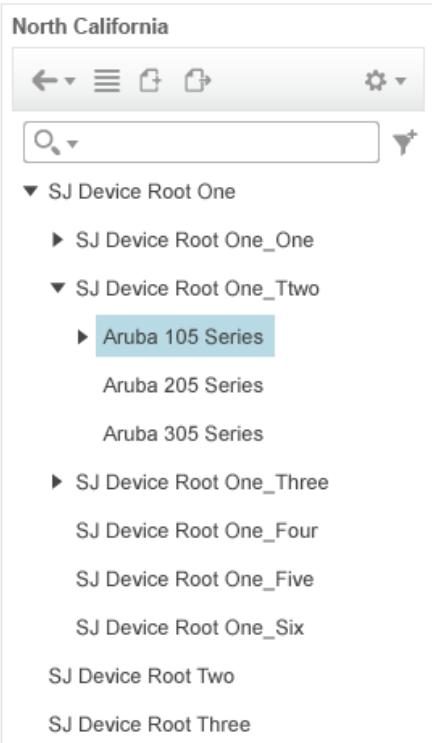


Figure 12-1. Object Hierarchy in single-select mode, tree view.

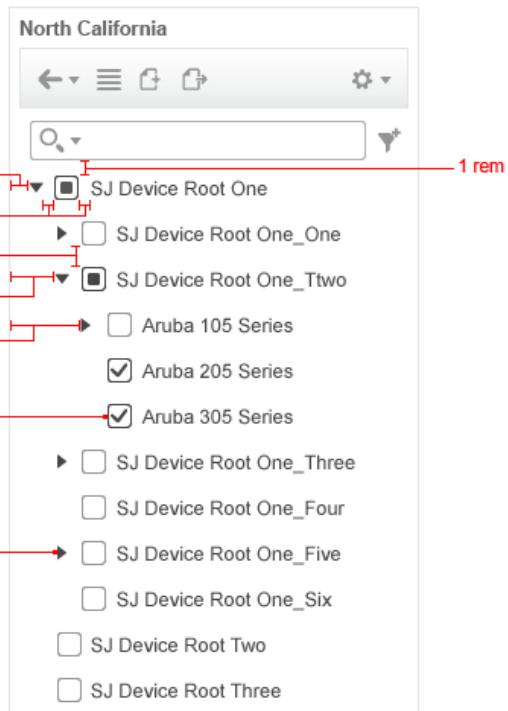


Figure 13. Object Hierarchy in Multi-select mode.

Popover/Quick View & 360 View

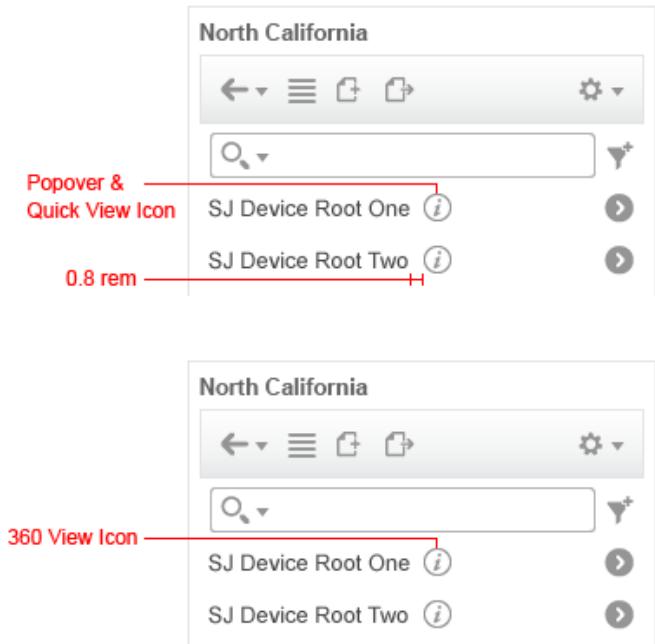


Figure 14. Popover/Quick View& 360 View in the object-selector.

Filter PopOver

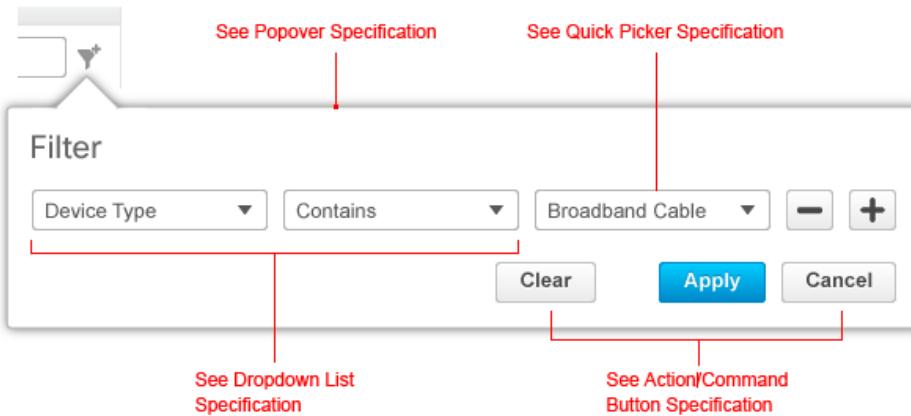


Figure 15. Filter pop-over.

Object Selector Form Factors

Overlay

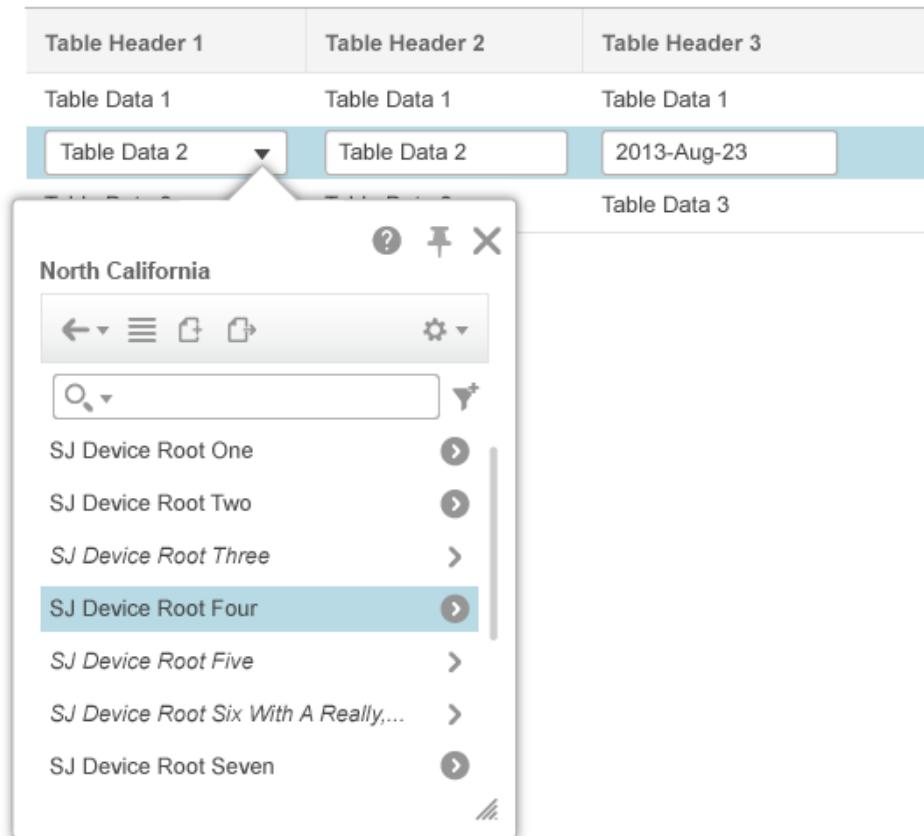


Figure 16. Object selector contained in an overlay

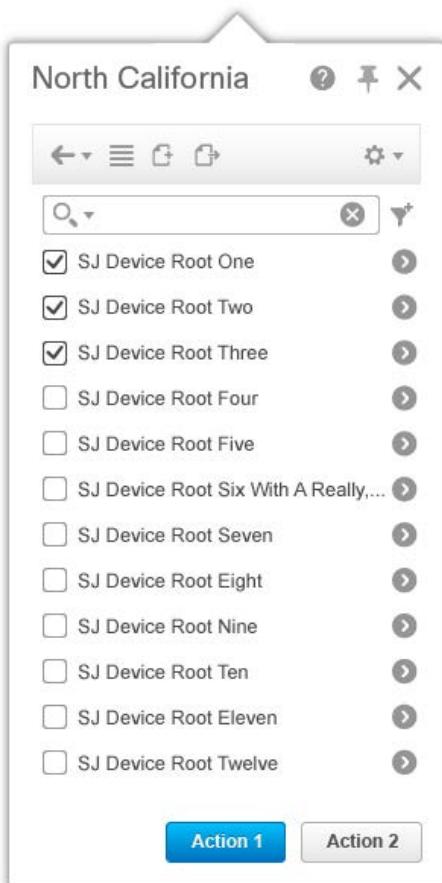


Figure 17. Object-selector with multi-select in an overlay.

Embedded

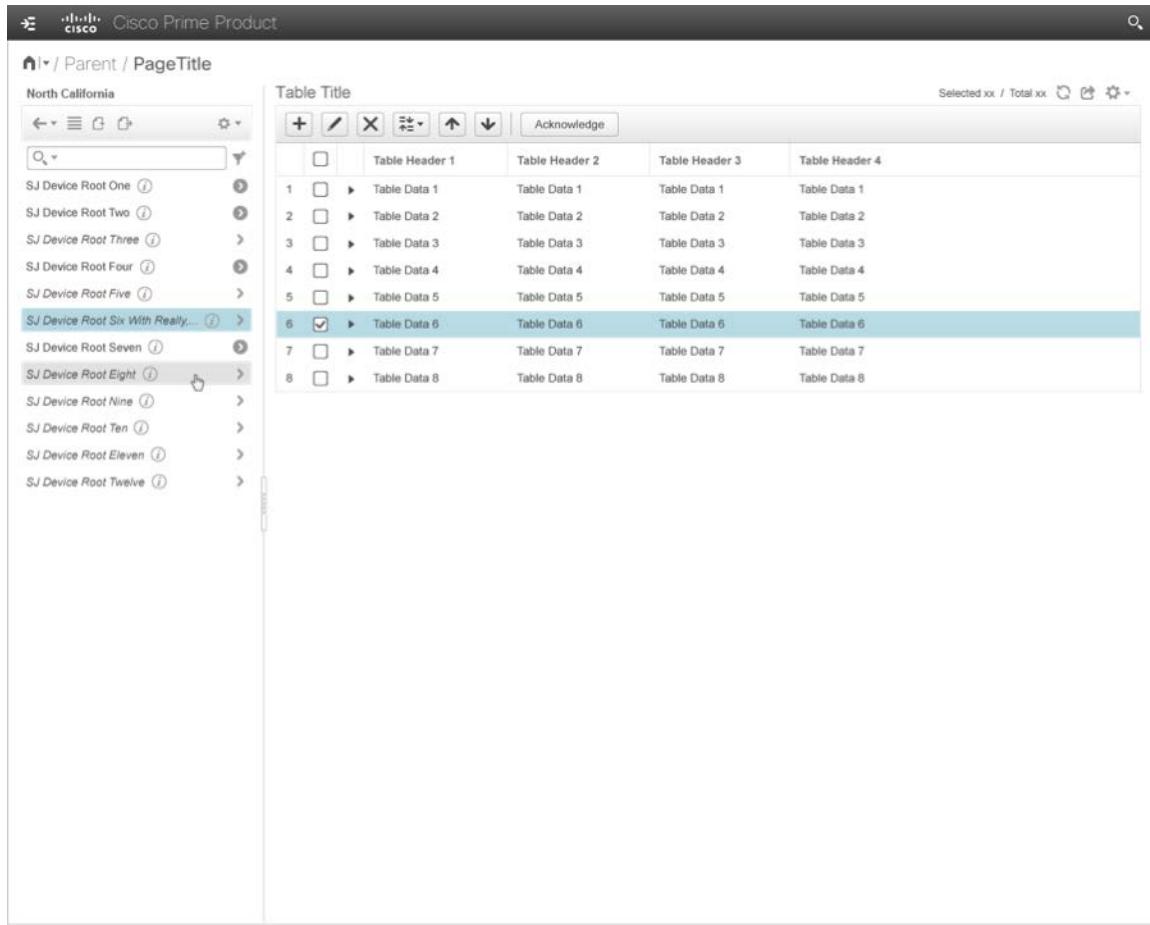


	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/> ► Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/> ► Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/> ► Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/> ► Table Data 4	Table Data 4	Table Data 4	Table Data 4
5	<input type="checkbox"/> ► Table Data 5	Table Data 5	Table Data 5	Table Data 5
6	<input checked="" type="checkbox"/> ► Table Data 6	Table Data 6	Table Data 6	Table Data 6
7	<input type="checkbox"/> ► Table Data 7	Table Data 7	Table Data 7	Table Data 7
8	<input type="checkbox"/> ► Table Data 8	Table Data 8	Table Data 8	Table Data 8

Figure 18. Object-selector embedded on the page.

No Data View

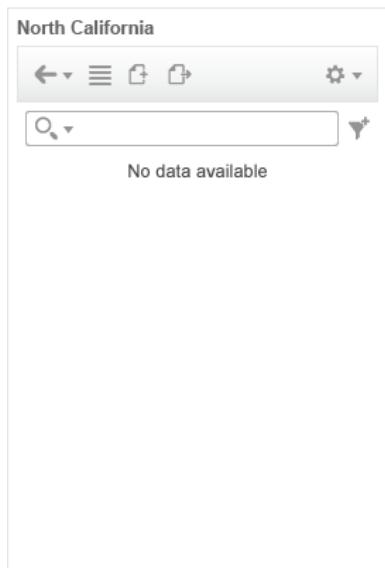


Figure 20. No data shown in object selector.

Resize Handler View

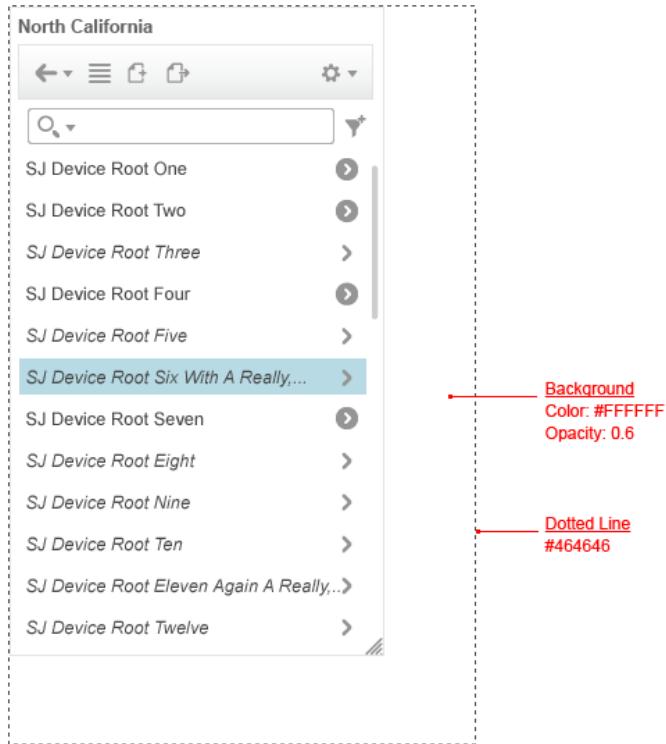


Figure 21. Resize Handler Avatar specifications.

- The resize handle avatar is necessary in order to provide the end-user a visual cue that the object-selector is being resized.

Note: Upon resize of the object selector, the minimum width must be at least 240 px, to allow enough space for the icons and textual content.

Interaction Behavior

Title Bar



Figure 22. Object-selector left-nav title bar or embedded title bar.



Figure 23. Object selector overlay or pop-up title bar.

- The object selector is not aware of its container, so depending on the container that the app team intends to hold the object selector, the app developer needs to choose the appropriate icon: no icon for a left-pane or embedded object selector, X for an overlay or pop-up object selector.
 - The container needs to be wired by the app team to listen for hide/show events.
 - The user can use the slider bar to size down the object selector to the left when used in the left pane or when embedded in the page. Note: the object selector must not be sized below the minimum width of 240 pixels in order to retain the text readability and icon display.
 - Clicking the X close icon removes the object selector from view when used in an overlay or pop-up.
- If the object selector is resizable, the title bar resizes to the same width as the object selector.
- If the name of the parent object displayed in the titlebar is too long to fit in the current width, the parent object's name is truncated and ellipses (...) are displayed at the end of the title. On mouseover of the title name, a tooltip displays the full title.

Note: there is currently no ellipsis support for Firefox.

Action Toolbar

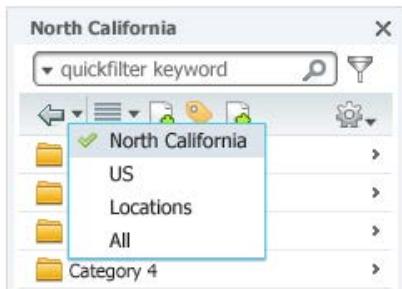


Figure 24. Back-button menu.



Figure 25. Object-selector action toolbar.

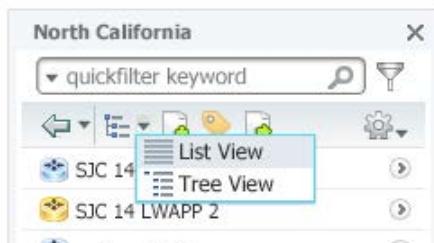


Figure 26. View-Switcher menu.

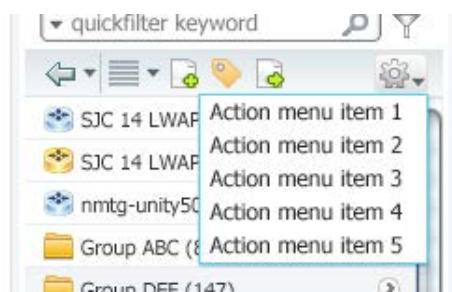


Figure 27. Tool menu.

- The action toolbar will be used to display icon buttons that can be used for actions related to any or all items in the object selector. It can also contain buttons that are specific to a particular level and/or node. When a user selects a different level in the hierarchy, the items in the Action button menu can change without the user selecting a node.
- All buttons have enabled, hover, pressed, and disabled states.
- The only buttons that are supplied by the object selector are the Back, View Toggle and Gear.
- The action toolbar follows the standard toolbar specification, except for no overflow for buttons.
- The view-switcher button acts as a toggle set to switch between List and Tree views.
 - The user can click the list/tree view button to toggle between them or they can select the drop-down to select them explicitly.
 - The list view button is selected by default, but users can choose to view the object hierarchy in a tree view.
 - When the tree view is selected, the Back button is disabled.
 - All buttons have enabled, hover, pressed, and disabled states.
 - If only one view is allowed for an object selector instance (either tree OR list view, not both) then the toggle button is removed.
- The Action Toolbar contains the back button for moving back up the object hierarchy when in list view.
 - Clicking the back button causes the object hierarchy to be refreshed with content from the parent node.
 - Clicking on the down arrow next to the Back button reveals a flat list of all the parent nodes above the current group with the current node at the top and the root node at the bottom. Users can select any parent node in this list to jump to the contents of that node.
 - Back button states: enabled, hover, pressed, disabled.

- The Back button is disabled when the user is viewing the root node, or when the object selector is in tree view.
- Note: The Back button is included by default, and is optional but should ONLY be removed if:
- NO hierarchy is present (no parents, no children) or
- NO list view is possible: only tree view is provided

App developer guidelines

- All buttons are optional and can be hidden by developers. Also, the entire action toolbar may be hidden at design time.
- There are three standard buttons provided with the object selector: Back button, List view/Tree view toggle and the Tool menu button.
- The Tools menu button will allow app developer to add menu items.
- Avoid more than 6 total icons in the action toolbar.
- The developer can supply only as many buttons as will fit within the minimum width (240 pixels). If desired, app teams can choose to use drop-down icons and make more use of the Actions drop-down menu in order to accommodate all the desired actions.
- The user's view preference should be automatically saved across sessions -- the object selector should always be displayed in the view last selected by the user.
- App developers can set the default view at construction time.
- App developers can choose to not show the view button or not to show a particular view in the selection list of the view-switcher button.

Quickfilter Toolbar



Figure 28. Filter Toolbar, default state.

North California	
Cisco 660	
All	San Jose
<input checked="" type="checkbox"/> SJC 14 LWAPP 1	(1)
<input checked="" type="checkbox"/> SJC 14 LWAPP 2	(1)
<input checked="" type="checkbox"/> nmtg-unity50	(1)
<input type="checkbox"/> Group ABC (8)	(8)
<input type="checkbox"/> Group DEF (147)	(147)
<input type="checkbox"/> SJC 14 LWAPP 1	(1)
<input type="checkbox"/> SJC 14 LWAPP 2	(1)
<input type="checkbox"/> nmtg-unity50	(1)
<input type="checkbox"/> Group GHI (2)	(2)
<input type="checkbox"/> Group JKL (17)	(17)
<input type="checkbox"/> Group MNO (8)	(8)

Figure 29. User has entered some text in the quick filter text field and the filter context tabs are displayed.

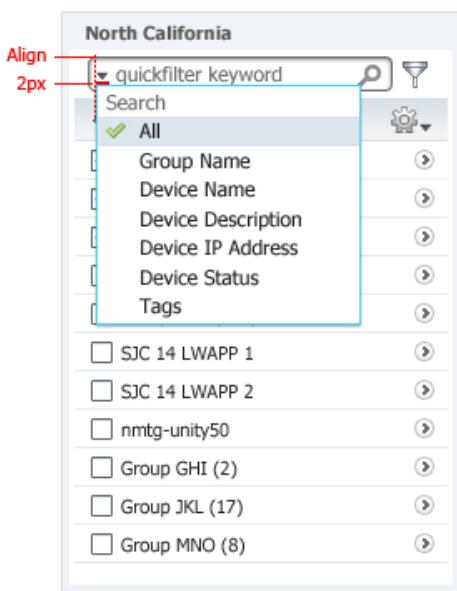


Figure 30. User has clicked on the attribute picker menu.

Quickfilter Purpose: Allows users to quickly search for objects, in order to view more information or perform actions on them.

- The quick filter is a text field where the user can enter a keyword that will be matched against a subset of the attributes for the objects in the object selector. For example, when the object selector is used to display devices, the quick filter might support searching on the device name, IP address, MAC address, and device status.
- When the user begins typing, after the first two characters are entered, the list begins to be filtered to show only those items that match the search term.
- Whether in tree or list view, entering a search will display the search results list view, which is displayed until the search is cleared.
- Initiating searches based on keystrokes is the default method; however, if the performance of this method is unacceptable (if the progress ball must be displayed for longer than 20 seconds) due to the size or complexity of the dataset, app developers can choose to only initiate a search after the user hits the enter or return key.
- Both objects and object groups may be returned in the search results, which are displayed the same as the standard object hierarchy. It should appear as if the user is filtering the current list to show only those items that match the search term.
- When displaying the search results, the object hierarchy displays the same set of features and actions as in the unfiltered list, so users can hover over items in the result set and see the quickview. Also, since groups are represented in the filtered list, users can drill down into the group to see its members.
- The filtered list acts like a mode; it represents the new root node of the object selector until the user cancels the search by clicking the "x" on the right side of the search field. Any multi-selections made are retained.
 - The root node displayed in the menu for the Back button should say "Search Results."
 - As users drill down through the search results, the levels are tracked by the Back button.
 - If the user modifies any text in the text field, they are effectively starting a new search.
 - A search where the user has entered search mode by typing two or more characters, then deleting all but one character, is still considered to be "in search mode".
 - The search will display results only from the current parent node on down in list view, or the currently selected node on down for tree view. This will speed up search results, reduce the load on the server, and is generally what the user wants to do anyway. Note: list view searches on the currently visible level and disregards the selection; which is different than tree view that searches on the current selection.

- After a search term has been entered, a set of "scope" tabs slides into view below the quickfilter.
- When a search is performed at any level except the root level of the hierarchy there will always be two scope tabs: The first shows "All," the second shows the current parent node the user is viewing (same as that displayed in the title bar).
- The user can change the scope of the search to the root node or down by choosing the "All" tab.
- More detail on search behavior:
- Search modes have two basic contexts.
- The root of the entire hierarchy
- The "ad hoc" root level. The current parent node is the root of this subtree. (default context)
- The folder where the user is currently positioned is the starting point (ad hoc root) of any new search:
- Eg. User drills down to folder Bar, then enters search mode. Bar will become the context of the search. (trivial case)
- Eg. A user enters search mode, then drills down into folder Foo and enters a new search (see first bullet). Foo will be the new "ad hoc" root.
- If a user enters search mode from the root level, the left scope tab will not be used; the right scope tab will contain "All".
- search from root: | | all |
- search from other: | all | all |
- Whenever the user toggles the scope tabs, the context is set to the root of the entire tree (if they click "All"), or the place where the user had entered the search.
- Example:
 1. A user drills down into folder Foo
 2. User enters search mode.
 3. User changes the context to "All" by clicking the "All" scope tab.
 4. User drills down into the folder Bar
 5. User changes the context by clicking the other scope tab (Foo). (tab appears selected)
 6. The context will be Foo (and she'll see the same results she had when she first entered search mode).

NB: the only time that the text for the right scope tab changes is when a new search is entered; therefore, while the user is navigating during this scenario, the scope tab will always say Foo.

- Search mode is distinct from normal navigation. So, when a user enters search mode, they cannot use the back button to navigate out of search mode. In addition, the normal back menu is cached and replaced with the search back menu. The search back menu will always contain "Search Results" as the root (even while changing contexts between "All" and the "ad hoc" root). The back menu represents a hierarchy as opposed to a history. Therefore, when a user drills down, the back menu will be populated in the same fashion as being out of search mode, but it doesn't show any parents above the search results root.
- Changing between the contexts of "All" and the "ad hoc" root will cause all but the "Search Results" item in the back menu to be removed.
- If the search takes more than 2-3 seconds to return results, the busy indicator will be displayed.
- The progress ball will be displayed in a semi-transparent layer on top of the Object hierarchy. The progress ball should be displayed in the middle of this semi-transparent layer. This acts like a mode, preventing the user from interacting with the object hierarchy while we fetch new results.
- Users can limit their search to specific attributes by choosing one or more attributes from the multi-select dropdown on the left side of the search field.
- By default, "All" is selected.

- Teams should typically only include 5-9 attributes, with a maximum of 20 attributes allowed.
- When users click the "x" on the right inside of the quick filter field, the search term is erased, the scope bar is removed, and the contents of the object hierarchy and Back button return to their previous state.
- If a user deletes all the text in the text field, this is the same as clicking the **x** icon.
- When a user exits search mode, she is left at the last place she navigated to in the full hierarchy. The back menu is updated to show parents above the current level in the hierarchy.

Navigate-in Search Mode Example:

- User navigates to folder "foo"
- User enters search
- User navigates to folder "bar"
- User clears search
- User is returned to the place where she entered: "foo"

All, then Navigate in Search Mode Example:

- User navigates to folder Foo,
- User enters search mode,
- User changes the context to "All",
- User drills to folder FooBar,
- User clears the search
- User is in the folder she began the search from: Foo
- There are many cases where the object selector will not have the path to the current node cached. The object selector will have an API that product teams must use to properly populate the back menu to show all parents above the current level.

Selection Display Bar

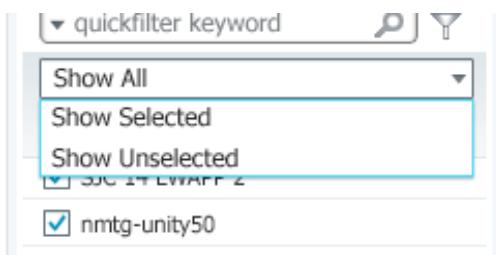


Figure 31. Selection Display bar with multi-select.

- The app team may choose to include the selection display bar. Currently, the selection display bar can only be used with flat lists: no parents, no children.
- If used as a display selector for multi-select items, the choices are limited to Show All, Show Selected, Show Unselected.
- The selection display bar is only applicable when the object selector is in multi-select mode.
- See the Multi-Select section for a description of the Show All, Show Selected/Unselected behavior.

- See the Filtering the Object Hierarchy section for information on how the selection display bar interacts with the quickfilter and filter pop-overs.

Object Hierarchy



Figure 32. Object Hierarchy in list view.

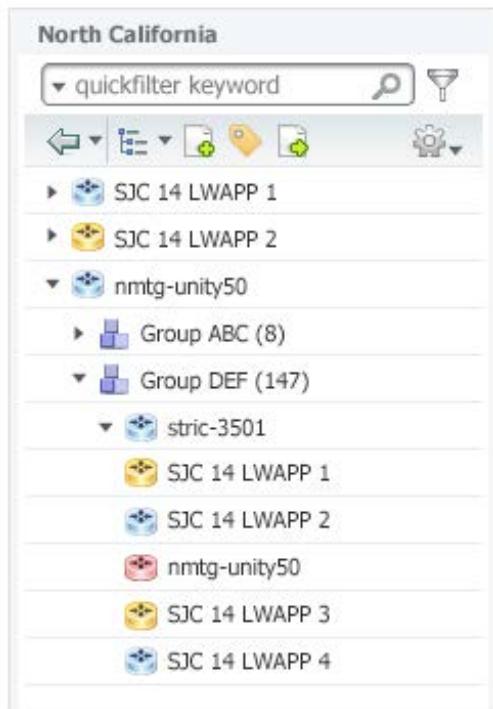


Figure 33. Object Hierarchy in tree view.

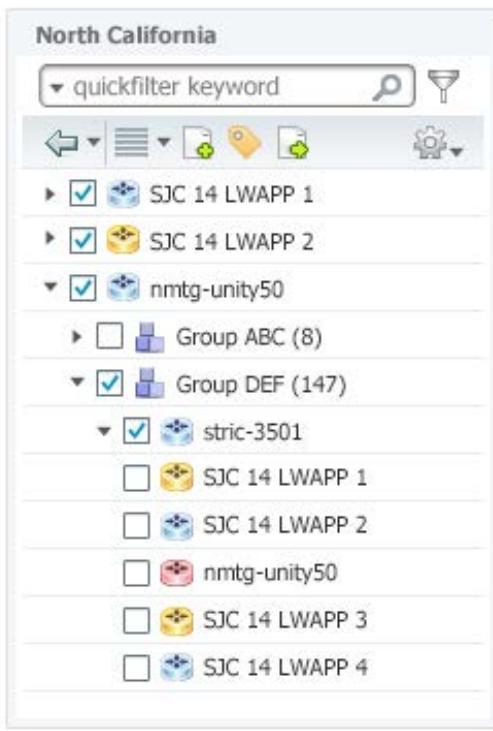


Figure 34. Object Hierarchy in Multi-select mode.

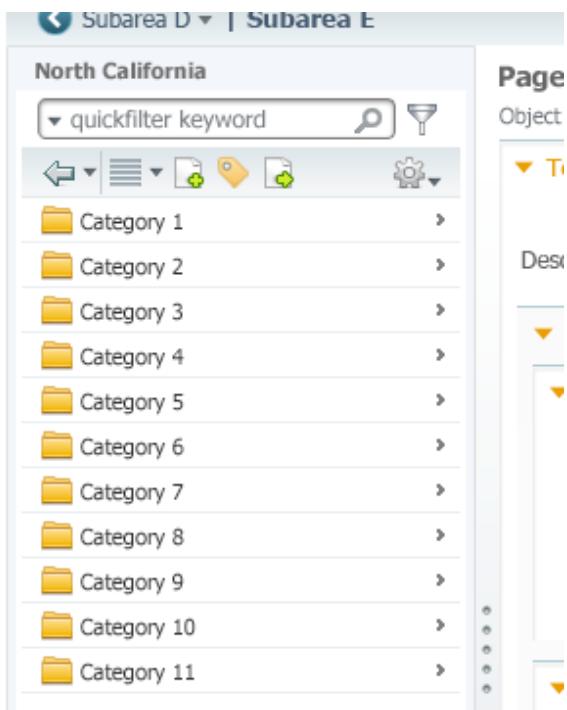


Figure 35. Object Hierarchy with category / navigate-only items.

- The Object Hierarchy is where the main contents of the object-selector are displayed.
- The object hierarchy supports two primary views: list and tree.

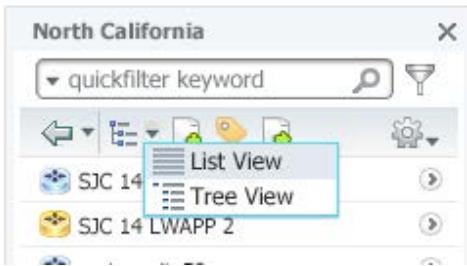


Figure 36. View-Switcher menu.

Differences between List and Tree View

- The list view supports virtual scrolling; the tree view does not, and probably will not in any future version. The ability to gracefully handle thousands or tens of thousands of nodes in a single level is a feature that sets the list view apart from the tree view. If virtual scrolling is turned on, the tree view is not available in the object selector at run-time.
- Each view has its own appropriate transitions. In the list view, each successive level "slides" into view; in the tree view, a node progress ball is shown while the contents of a node are loaded.
- Searches can be initiated from either the list or tree view. However, the search results are displayed only in the list view. Users cannot switch to the tree view while interacting with search results.
- Clicking anywhere in the row on category-only items will drill-down to the next level only in list view. Tree view does not support single-click to expand.

Common List and Tree View Interactions

- Other than the actions described above, both list & tree views behave identically; the only difference is that the tree view supports the traditional display of multiple levels of hierarchy at the same time, while the list view only shows the contents of a single node at a time. Hover and selected states, single-select model and multi-select all behave identically in all views.
- Both views can support multi-select.
- Certain items in the object hierarchy may be used strictly as categories and do not have associated detail records. Users may choose these items for navigation, but cannot select these items for viewing their content. (see Figure 35 above). The purpose of these items is for navigation to the next level only.
- When there are no items to display at any level of the object hierarchy, the object hierarchy displays informational text. This string can be set by product teams at design time (see Figure 38 below).

App Developer Guidelines:

The object selector displays all records that are sent to it. Therefore, the app developer is responsible for ensuring the following display interactions.

- In some usage scenarios, the object selector may display a simple non-hierarchical list. In this scenario, all items should simply look and behave like terminal nodes. The object selector will display the data that is received.
- The underlying data for the object hierarchy may change during run-time to become hierarchical. Dev teams should be able to trigger a refresh of the object hierarchy to display the updated hierarchical data. (See Figure 38 animation below)

- The user's view preference should be automatically saved across sessions -- the object selector should always be displayed in the list or tree view last selected by the user.
- If the user does not have privileges to view an object, it should not be displayed in the object hierarchy (hide the object, don't show it disabled).
- If the user has privileges to view but not edit an object, the user can see the object in the object hierarchy and can select it. However, there may be no actions available from the quickview.
- If a node or set of nodes is for navigation purposes only (cannot be selected and have something displayed in the content pane) the App Developer needs to specify this. Then the appropriate behavior and icon will be assigned to it, per Figure 35.

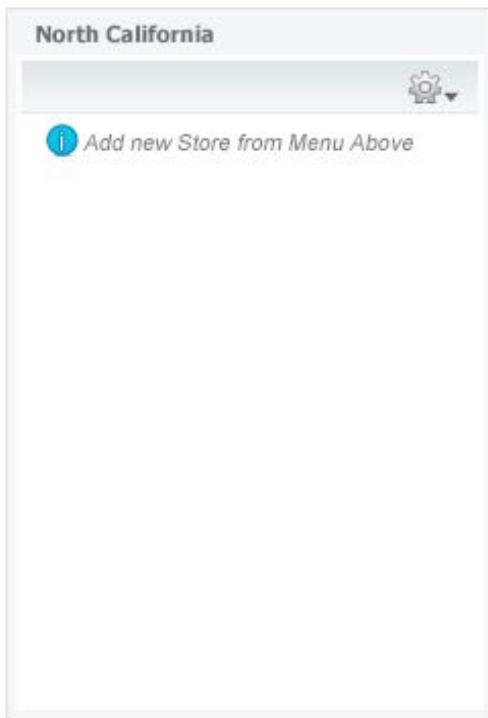


Figure 37. Empty Object hierarchy.

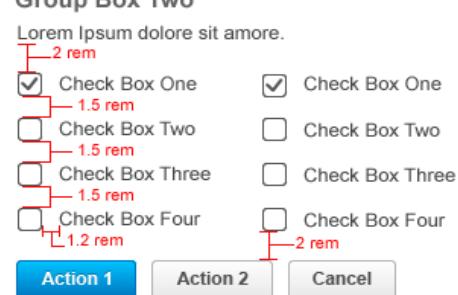
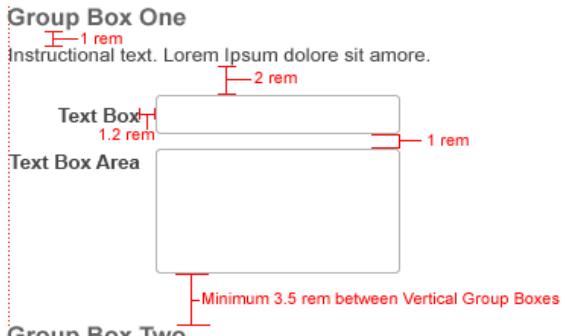


Figure 38. Transition from List View to Tree View.

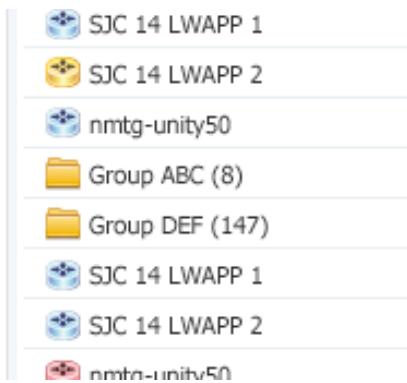


Figure 39. Object selector hierarchy with icons next to items.

Icons on Object Hierarchy Items

- Icons can be used to communicate information about each item in the list. For example, in a device selector, icons could be used to indicate the type of device.
- Icons can have different badges or states to indicate additional information. Again, in the device selector example, a badge could be added to the device icon to indicate the reachability status of each device. Cisco standard icon badges do not rely on color alone to distinguish between device states, since some users may be colorblind.
- The icons can be updated by the application when the status for that node changes. The object selector will supply APIs to permit this.
- To avoid clutter of the object hierarchy, only one badge per item is displayed. The precedence for one badge over another is dependent on the application-specific use case.
- If icons are used, they must be used consistently for all adjacent nodes in a peer level.
- Icon and icon badging can easily become overwhelming. Therefore, do not rely on icon badging to convey multiple sets of information.

List View

- The list view only shows the contents of a single node at a time.
- The list view supports virtual scrolling. It can be configured to load only a small number of items at each level; as the user scrolls down, the OS fetches more data from the back-end. In this way, the list view can support several thousand items at any level in the hierarchy.
 - The interaction design for virtual scrolling will mimic that of the table widget.
 - Note that virtual scrolling is only supported in the list view and is not available in the tree view. This is a design-time selection; if virtual scrolling is turned on, the tree view will not be available in the object selector at run-time.
- Selection and navigation are two distinct operations in the object selector. They are distinctly separated in list view:
 - The Back button is used to navigate to higher-level nodes. When navigating back, the animation is reversed.
 - To browse or drill down into a node, the user clicks the arrow icon to the far right of any node which contains a navigation arrow.
 - When the user drills down, there is an animated transition from one level to the next level down. The current list view slides to the left, while it is being replaced by the new content that slides in from the right.
 - For animation reference, see the navigator at www.deviantart.com or look at the hierarchical list views on the iPhone or iPod Touch.
 - Terminal nodes, or leaves, do not display the arrow icon.
 - For category-only nodes, clicking anywhere on the row will drill-down to the next level.
- In single-select mode:
 - User clicks the item label to highlight and trigger a "selection" event
- In multi-select mode:
 - User clicks the checkbox to add the item to the list of selected items and trigger a "check/uncheck" event
 - Clicking a checkbox alone does not trigger a "selection" event.
 - User clicks the label to highlight and trigger a "selection" event as well as toggling the checkbox selection and triggering a "check/uncheck" event (in keeping with table interaction)
 - Multi-select is also supported via ctrl- or shift-click to quickly select multiple rows.
- To select a node, the user clicks the text label of the node.
- Multi-select is supported via checkboxes as well as ctrl- or shift-click to select multiple rows.
- Deselecting the node does not deselect the checkbox.
- To deselect a node, the user clicks the text label of the node again (it acts like a toggle, similar to a checkbox).
- Hovering over any node displays the node in a hover state and reveals the hover toolbar if hover content is available (see Hover Toolbar section below).
- If any label within the list view is too long to fit at the current width of the object selector, the label should be truncated just before the right margin of the object selector and ellipses (...) appended to the end of the label.
-

App Developer Guidelines

- Selecting a node in the object selector may cause content to refresh in the content pane of the UI shell. This is determined and implemented by the app team and is not in the control of the object selector. The object selector will provide an API or connection point to allow app developers to know when an item has been selected.
- Icons can be provided by product teams. They can also be updated by the application based on the needs/business logic of that application.
- When the object selector is displayed as a pop-up or overlay, selecting a node may automatically cause the object selector to return to its minimized state. This is determined and implemented by the app teams, based on their individual use cases.

Tree View

- The tree view shows a standard hierarchical tree view, with expandable/collapsible nodes. The visual design of the tree view will match the [tree component](#).
- Selection and browsing are two distinct operations in the object selector. In tree view it is handled this way:
 - Users browse the hierarchy by expanding/collapsing the container nodes.
 - The expand/collapse arrow appears next to each container node (nodes that have children). The arrow points to the right when the node is collapsed. The arrow points down when the node is expanded.
 - Tree elements and expand/collapse arrows can be clicked independently.
 - Clicking a rightward-facing arrow (of a collapsed node) shows the node's children. The icon changes to a downward-facing arrow (to indicate an expanded node).
 - Clicking a downward-facing arrow (of an expanded node) hides the display of the node's children. The icon changes to a rightward-facing arrow (to indicate a collapsed node).
 - Expanding or collapsing a container node does not affect the expanded/collapsed state of other tree nodes.
 - Multiple container nodes may be expanded at the same time.
 - Clicking a container node's label selects the node and loads the node's data into the content pane (if there is a content page defined for this container node). The node's children are not expanded/collapsed. The object selector will provide an event and API which can be used by the app developer to implement this interaction if desired.
 - Double clicking a container node's label expands/collapses the container node. This has the same result as clicking the expand/collapse arrow. (NOTE: Currently, there is no way to separate the action of a single click from the action of a double click: a double click first selects the node and then expands the node.)
 - If expanding results in displaying content that exceeds the real estate of the tree view, scroll bars should appear automatically
 - To select a node, the user clicks the text label of the node.
 - When the node is selected, it appears in a selected state
 - In single-select mode, this is indicated via a highlight of the row
 - In multi-select mode, this is indicated via selection (or deselection) of the checkbox as well as highlight of the row.
 - It is possible to select a checkbox without changing the current node selection by clicking only on the checkbox
 - Multi-select is supported via multi-select checkboxes as well as ctrl- or shift-click to select multiple rows.
 - Selecting a node can cause content to refresh in the content pane of the UI shell. (NOTE: The object selector will provide the event and API only; the app team will need to implement the content pane usage)
 - When the object selector is displayed as a pop-up or overlay, selecting a node may automatically cause the object selector to return to its minimized state. This is determined and implemented by the app teams, based on their individual use cases.

- Hovering over any node displays the node in a hover state and reveals the hover toolbar (see Hover Toolbar section below).
- Users can drag and drop one node to another. The object selector will provide events and API's which the app developer can use to effect changes on the server.

App Developer Guidelines: Tree View

- Whenever the tree view is available and group nodes are selectable, do not use "close-on-select" overlays because double-clicking has the effect of closing the overlay before the user can view the children.

Multi-Select Mode

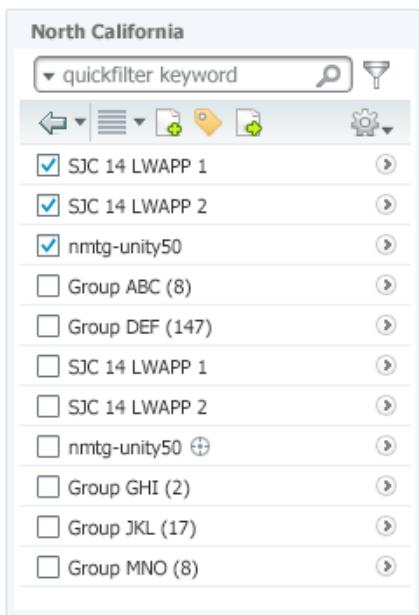


Figure 40. Object-selector list in multi-select mode.

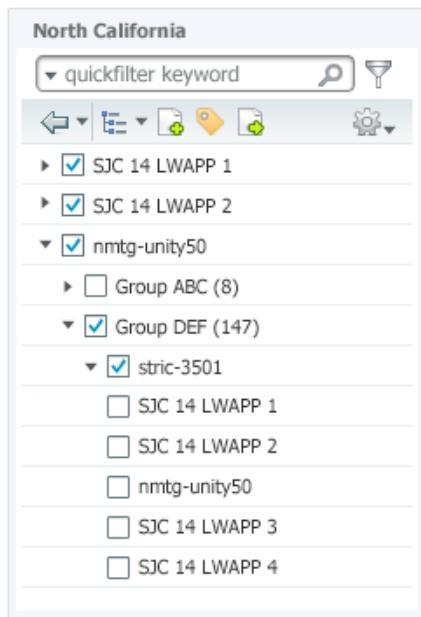


Figure 41. Object-selector tree in multi-select mode.

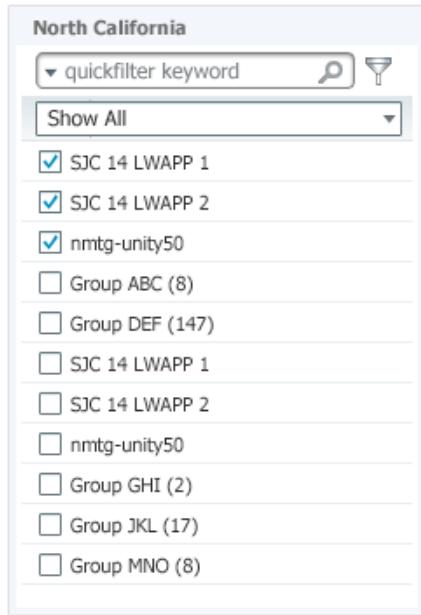


Figure 42. Object selector list in multi-select mode, showing only selected rows.

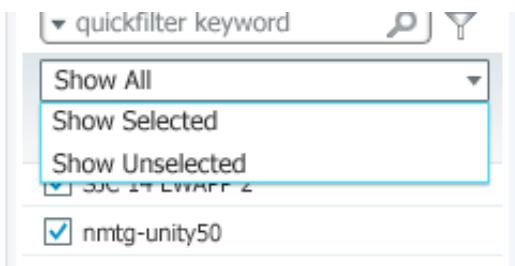


Figure 43. Multi-select display options.

- By default, the object selector is in single-select mode. The product team may choose to override the default and set the multi-select mode
- If the product team has chosen to support multi-select, the hierarchy is assumed to support it.
- The multi-select display filter (selected, unselected) drop-down is optional and can only be used with flat lists (no parents, children)
- When the object selector supports multi-select, the object hierarchy is positioned slightly to the right and checkboxes are displayed. Scrollbars are displayed as needed.
- Checkboxes follow the standard checkbox paradigm, including mixed selection indication for child item selections:
 - Selecting a parent selects everything underneath it
 - Deselecting a parent deselects everything under it
 - Deselecting all children deselects the parent.
 - Checkboxes behave identically between List and Tree view.
- Shift + select is supported for quick large, contiguous set selection.
- For this release, all items must have checkboxes if multi-select is present.
- There are two primary use cases for using multi-select in the left nav: (design patterns)
 - Act on objects in the object selector
 - Act on objects in the content (or other) area

Show All, Selected, Unselected

- Show All, Selected, Unselected are currently only available in a flat list. (no parents, no children)
- In multi-select mode, the selection display drop-down is available for flat-lists only. (Show Selected/Unselected is not currently supported for hierarchies) The selections are Show All, Show Selected and Show Unselected.
- When the user selects Show Selected, only selected items are shown in the UI.
- When in Show Selected or Show Unselected mode, any selections or deselections the user makes remain visible in the lists until the user switches the display drop-down selection.
- The user can select Show All or Show Unselected to go back to making selections.
- Like multi-select in the table, multi-select in the object selector is preserved across some actions and dismissed upon others. This is a design-time decision, for example, if the app team chooses to use the Update Display button as an "Add Selections" button, they may want to clear all of the selections upon clicking of the button.
- There is no "Select All" function.
- The selection display option is omitted during a search.
- Multi-selections are maintained if the user enters a search. Any selections or deselections made during a search will also be maintained upon exiting search mode.

App Developer Guidelines: Select and act on multiple objects in the object-selector

- In this mode, the app team chooses to keep the content area static while the user is making checkbox selections.
- If desired, the app developer needs to include the Update Display arrow icon in the action toolbar so the user can update the content area with the selections she has made.
 - The behavior of this button is supplied by the app team because it may vary according to the case and acts upon areas outside the object selector.
 - The Update Display button should be the farthest right icon prior to the Tools icon.
- When the user selects the text of an object, the object the checkbox is selected, but the content (or other) area is not updated until the user clicks the Update Display arrow icon in the action toolbar.
- The object selector will provide the select/deselect events and API's for the app developer to display whatever information is desired in the content (or other areas).

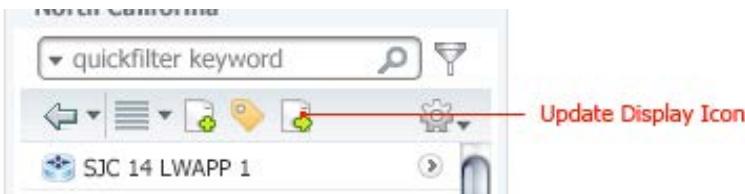


Figure 44. Update Display icon in Action Toolbar.

App Developer Guidelines: Select multiple objects and act on them in the content (or other) area

- In this mode, every checkbox selection automatically updates the content area as it is made. No Update Display button is present in the Action Toolbar.
- The object selector will provide the select/deselect events and API's for the app developer to display whatever information is desired in the content (or other areas).
- There may also be cases where the multi-select object selector is used not to filter or select scope, but rather to make attribute selections (see embedded and overlay examples)
- Once the Update Display button has been clicked, it can be disabled to indicate that the content area is up-to-date with the multi-selections. Once another selection is made, the button becomes available again.
- The object selector will provide the events and API's necessary to disable the button, but it is a design-time decision and app developer task to implement this behavior if desired for the app's specific use.
- If the user drills-down on an object in the central area, it is possible to re-display the multiple-selections by pressing the "Display Selections" button again. The object selector will provide the button-click event and API for the app developer to display the desired information.
- The "Update Display" tooltip is modifiable by the app developer. In some cases it may make more sense to label it "Add Selections" or "Apply Selections". It is a design-time decision whether or not to clear the multiple-selections after the button is clicked. (e.g. for Add Selections)
- The object selector will provide the events and API's for the app developer to implement this.

Unions vs. Intersections in Multi-Select

Using the multi-select in the example above, if a user wanted to view: "all the routers and switches in Seattle sites 18 & 34" they would make the following selections:

Any selections made across folders organized around the same attribute (e.g. device type or location, etc) in a hierarchy are assumed to be a union:

- Show me all routers and switches = (switches OR routers)
- Show me devices in Seattle 18 and Seattle 34 = (Seattle 18 OR Seattle 34)

When two or more orthogonal hierarchy selections are made, (organized around different attributes) an intersection with the prior selections is assumed, while still maintaining unions within the homogeneous groups:

- (switches OR routers) AND (Seattle 18 OR Seattle 34)

The object-selector will provide the select/deselect events and API's for the app teams to use in creating the above queries. The actual search results will be returned from the server using the selection criteria provided.

Tree View Scale -Enhancement

Design Background

The goal here is to minimize the chances that the user will be working in tree view and be exposed to a system limitation. In the future, we would like to address this by providing functionality where we gracefully handle large records by incorporating some on-demand loading/unloading into the tree view. For now, the following is the specification for the desired UX behavior in light of the current system limitations. We are aiming to anticipate when tree view will be problematic, and if it is determined to be so, to remove the option for the user to switch to tree view entirely from the first instantiation of that object selector. This should be combined with a fallback in the rarer case that the object selector is allowed to be in tree view and a limitation is reached during run-time.

The primary recommendation is to avoid overloading the object selector with too many items. It works much better to expose the detail in the content area, reserving the object selector to the group level in the case it is used for navigation. However, it may be necessary in some cases - "Alarms" might be a good example, since the content pane table needs to be reserved to handle a large number of events per device.

If you do need a large number of objects under each node, such as when the object selector may be used as a picker selection widget, then our fallback is the following, in combination with a well-functioning filter in the OS.

Interaction

Design time combined with SQL level evaluation, with fallback for on-demand evaluation.

If an app team knows ahead of time that this instance of the object selector is designed to handle a large number of nodes (over N) and the tree view will very easily hit limits as the user expands a few nodes in the course of his typical interaction, the tree view toggle should be removed at design time - only the list view should be exposed. If the app team cannot determine to remove tree view at design time, they should have in place a basic SQL level evaluation (which would automatically enforce RBAC distinctions) when the object selector is created on the page. This SQL level evaluation would not need to necessarily traverse the entire tree, but rather parse a representative sample to approximate the number of nodes likely in the data set. If the number of objects returned in this evaluation is too large (over N), then the tree view will be hidden in this instance of the object selector as well.

In both the previous instances, the user only has list view available. If both of these checks pass and the user has both list view and tree view available, then there should a fallback option if the user is working in tree view and a limitation is reached. This should happen only rarely - we should try to avoid this whenever possible, but need to account for the possibility. If the tree view approaches a limit that it cannot handle as a result of the user expanding a node in the tree, the UI will present the user with a contextual message indicating that the number of objects to display is too large for tree view. The user will then be informed and provided with an on-demand affordance to switch to list view to view those objects, or he can remain in tree view with the records truncated (in the case of level-based limit) or with the node unexpanded (in the case of overall limit). This determination of being "too large for tree view" is a level-based maximum limit as well as an overall max limit based on the

number of nodes in the browser cache. If the user chooses to flip to list view, he should be able to switch back to tree view, as it would return him to the state that he would have been in had he stayed in tree view.



Figure 46. Tree view hidden as a result of design-time or SQL level evaluation.

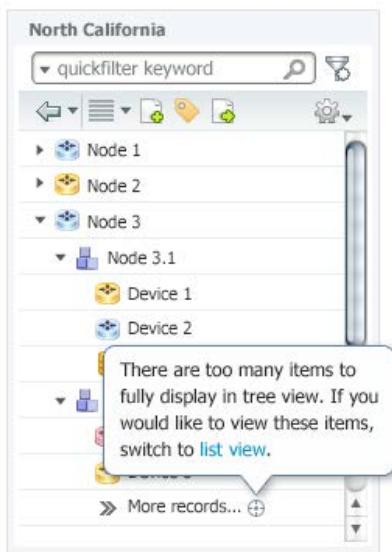


Figure 46A. Fallback (should happen infrequently) showing that level-based limitation (and/or overall limit) has been reached in tree view - records truncated.

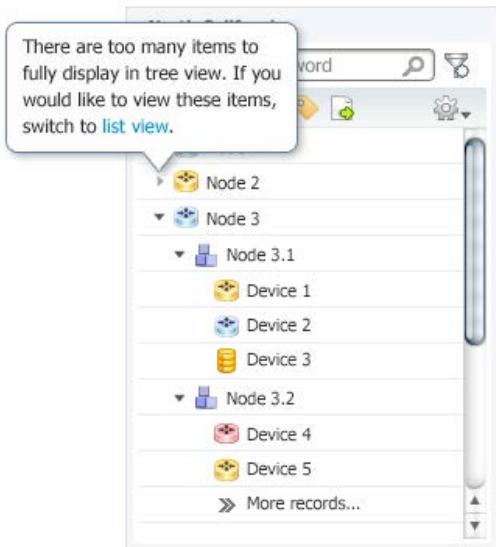


Figure 46B. Fallback (should happen infrequently) showing that overall limit has been reached in tree view - node remains unexpanded.



Figure 46C. Showing the level-based message at the end of the truncated records in the middle of the tree.

Hover Hint



Figure 47. Hover icon.

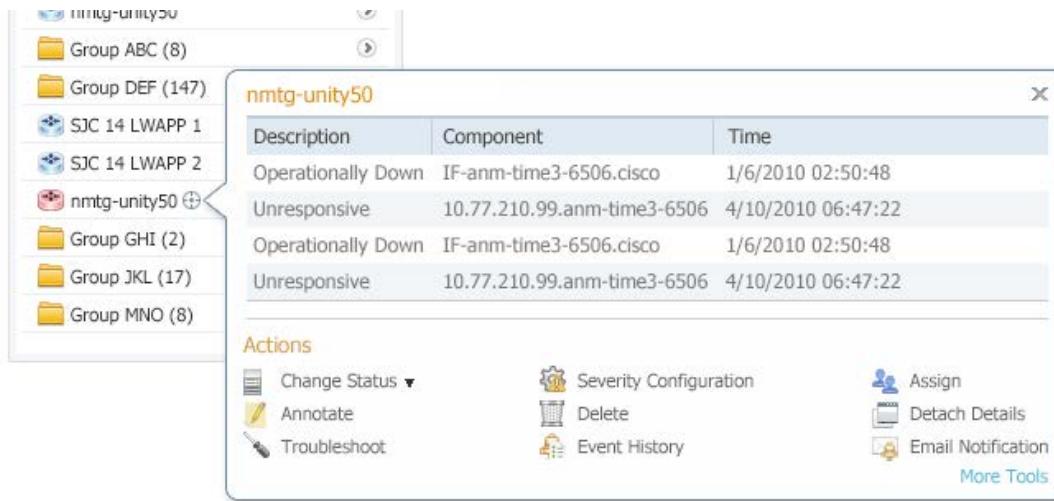


Figure 48. Quickview displayed.

- The hover hint appears on any node when the mouse cursor hovers over it.
- As elsewhere within the application, the hover hint indicates the presence of a quickview panel. Hovering over the hover hint will reveal the quickview panel for the current node.
- The hover hint may contain either a quickview or a pop-over icon, but not both, depending on the use case and content. This is a design-time decision. (See respective specifications for these components) The object selector will provide events and API's which will allow the app developer to display associated information and actions in the quickviews or pop-overs.
- The app teams can determine whether or not the hover hint is present in the object selector for their specific use cases.
- If no information is provided for a particular node, a "disabled" hover hint icon will be shown and no pop-up will be shown.
- A tooltip explaining that no details are available is displayed upon hover.

Filtering the Object Selector



Figure 49. Advanced filter pop-over.

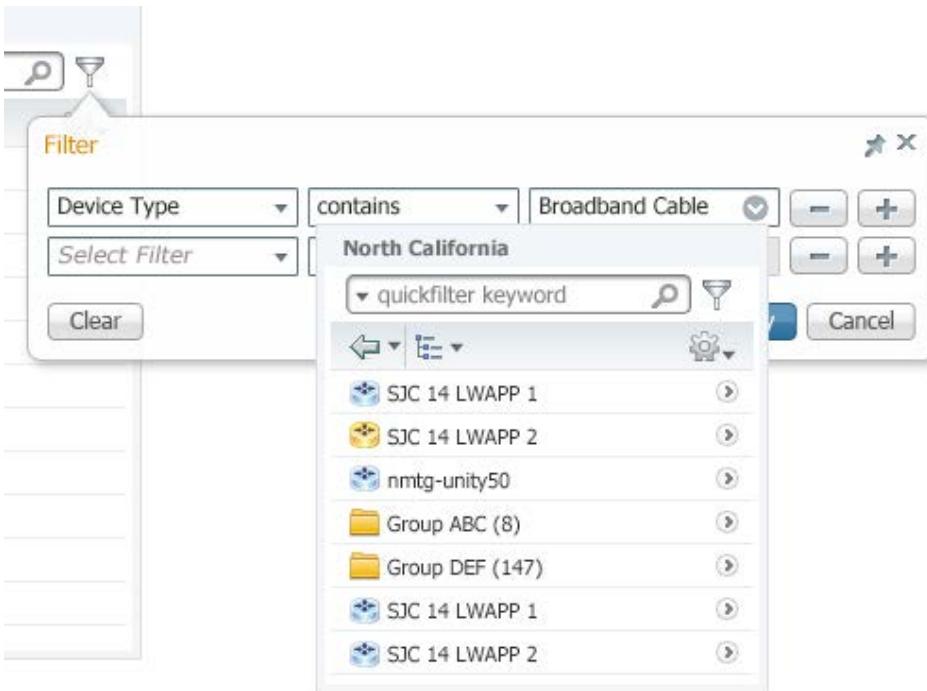


Figure 50. Object-selector with object-selector in an overlay drop-down from filter pop-over.

- The advanced filter behaves like the search or table advanced filters
- It is a design-time decision which criteria attributes and associated operators and values are provided
- If desired, the app developer can define default selections for the first criteria row. (only one criteria row can be defaulted for this release) This will include:
 - Field name selection
 - Operator
 - Field value (optional)

If no default selections are defined then the first field will display "Select Filter" and the others will be disabled until a selection has been made. When the advanced filter is cleared, all filter criteria will be removed and the first criteria row will return to "Select Filter" or to a default selection if one is defined.

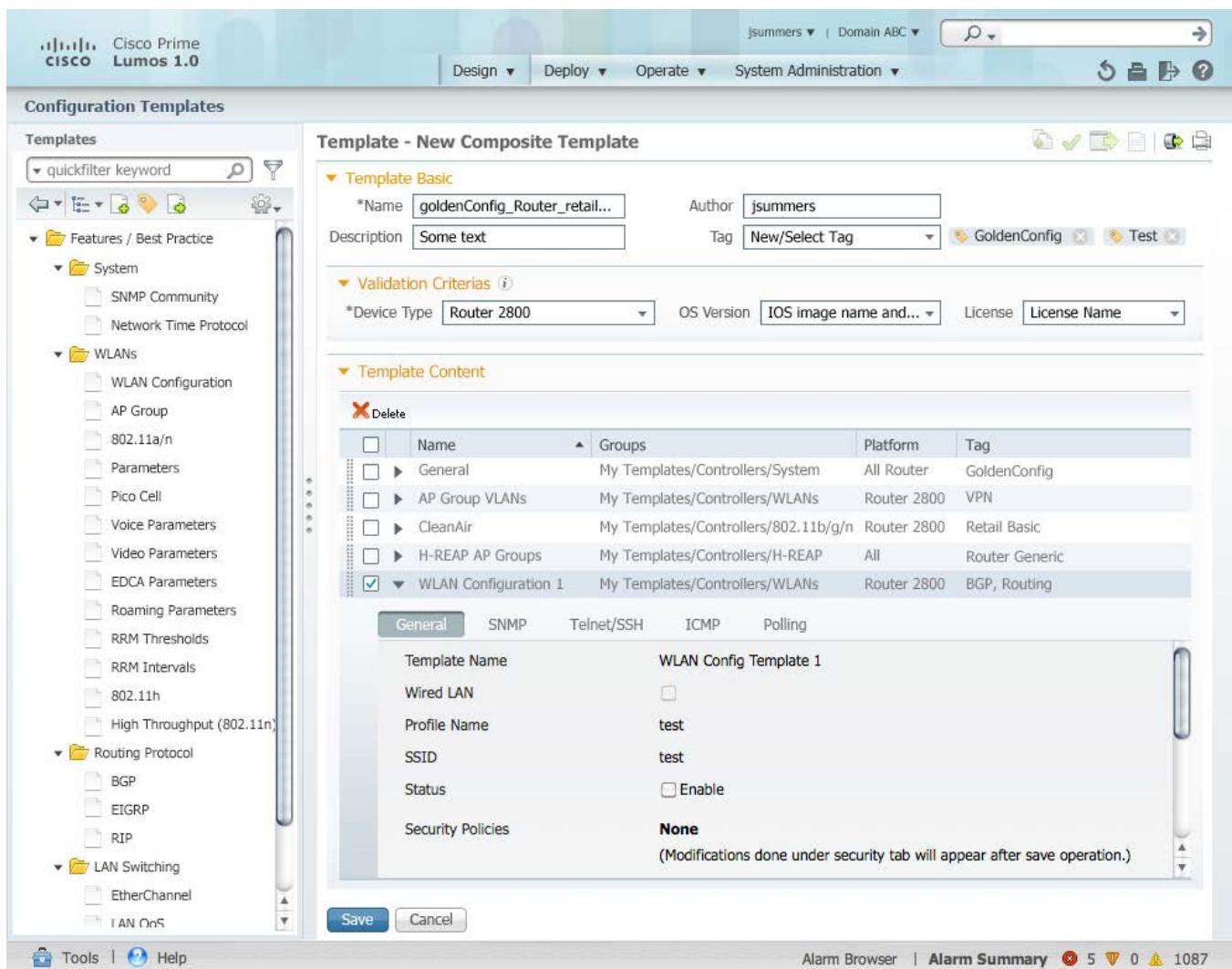
- The object selector filters provide the events and API's, but not the actual filtering. The filters will be provided to the server and the filter results must be returned to the Object Selector from the server.
- The advanced filter should behave similar to quickfilter, with the following differences/enhancements:
 - Advanced filter maintains the current scope selection and provides scope tabs for current and all.
 - If the user has already entered search mode via quickfilter, advanced filter maintains the current scope selection from the quickfilter search.
 - Conversely, if the user has applied an advanced filter and enters a quickfilter search without exiting search mode, the current scope selection is maintained from advanced search.
 - Quickfilter search results remains unchanged until the user hits apply in advanced filter.
 - Whenever advanced filter is open, quickfilter is disabled.
 - Apply closes the advanced filter, if not pinned, and applies the specific filter criteria. At this time, any previous entry in quickfilter is cleared. The filter icon indicates the filter is "active".

- Pressing Cancel maintains any prior filter criteria selections, but does not retain any of the latest (unapplied) changes. If any quickfilter was applied, the quickfilter search results remain unchanged. If an advanced filter was applied, the filter icon would still show as active; otherwise, it would not.
- Pressing the Clear button clears all the advanced filter items and applies the Clear. The popover remains open and the filter icon shows as inactive. If any quickfilter was applied (and not replaced by an advanced filter), the quickfilter search results remain unchanged.

Object Selector Form Factors

The object selector can be displayed in many form factors. It can be embedded in a page, displayed in a pop-up, overlay or as an alternative to a drop-down, when multiple selections are required. The object selector is not aware of its placement or container, but it will provide events and API's that allow the app developer to make use of its information as required.

Embedded



The screenshot shows the Cisco Prime Lumos 1.0 interface. The top navigation bar includes 'Cisco Prime Lumos 1.0', 'Design', 'Deploy', 'Operate', 'System Administration', and user information ('jsummers | Domain ABC'). Below the navigation is a search bar and a toolbar with various icons. The main area is titled 'Configuration Templates' and shows a 'Template - New Composite Template' dialog. On the left, there is a tree view of configuration categories: 'Features / Best Practice' (selected), 'System' (SNMP Community, Network Time Protocol), 'WLANS' (WLAN Configuration, AP Group, 802.11a/n, Parameters, Pico Cell, Voice Parameters, Video Parameters, EDCA Parameters, Roaming Parameters, RRM Thresholds, RRM Intervals, 802.11h, High Throughput (802.11n)), 'Routing Protocol' (BGP, EIGRP, RIP), and 'LAN Switching' (EtherChannel, LAN On). The right pane displays the 'Template Basic' section with fields for Name ('goldenConfig_Router_retail...'), Author ('jsummers'), Description ('Some text'), Tag ('New/Select Tag'), and a 'GoldenConfig' icon. Below this is the 'Validation Criterias' section with Device Type ('Router 2800'), OS Version ('IOS image name and...'), and License ('License Name'). The 'Template Content' section contains a table for 'Delete' with rows for General, AP Group VLANs, CleanAir, H-REAP AP Groups, and WLAN Configuration 1 (selected). The 'General' tab of the configuration pane shows 'Template Name' ('WLAN Config Template 1'), 'Wired LAN' (checkbox), 'Profile Name' ('test'), 'SSID' ('test'), 'Status' ('Enable'), and 'Security Policies' ('None'). A note at the bottom says '(Modifications done under security tab will appear after save operation.)'. At the bottom of the dialog are 'Save' and 'Cancel' buttons. The footer of the interface includes 'Tools', 'Help', 'Alarm Browser', 'Alarm Summary' (with 5 critical, 0 major, 0 minor, 1087 notifications), and the date 'March 30, 2014'.

Figure 52. Object selector embedded in a view.

- The multi-selections here are for persistent attribute-selection purposes, rather than for filtering content area contents.
- In this example, the currently selected node's details are reflected in the pane to the right.

- It is possible to select a checkbox without changing the current node selection by clicking only on the checkbox
- The object selector itself is not aware of its location or container; it will provide events and API's for the app developer to use as needed.

The object selector can be embedded as part of the page. One configuration of the UI Shell includes the object selector embedded on the page. Product teams can decide whether to keep the object selector as a fixed part of the page or let users show/hide it on demand. **Note!** It is recommended to avoid embedding the object selector into a title pane as the title pane has its own margins and its own title. Therefore, embedding an object selector into a title pane will result in an awkward display using the margins of both the title pane and the object selector. In case you do embed the object selector into a title pane the object selector title should be turned off.

Overlay

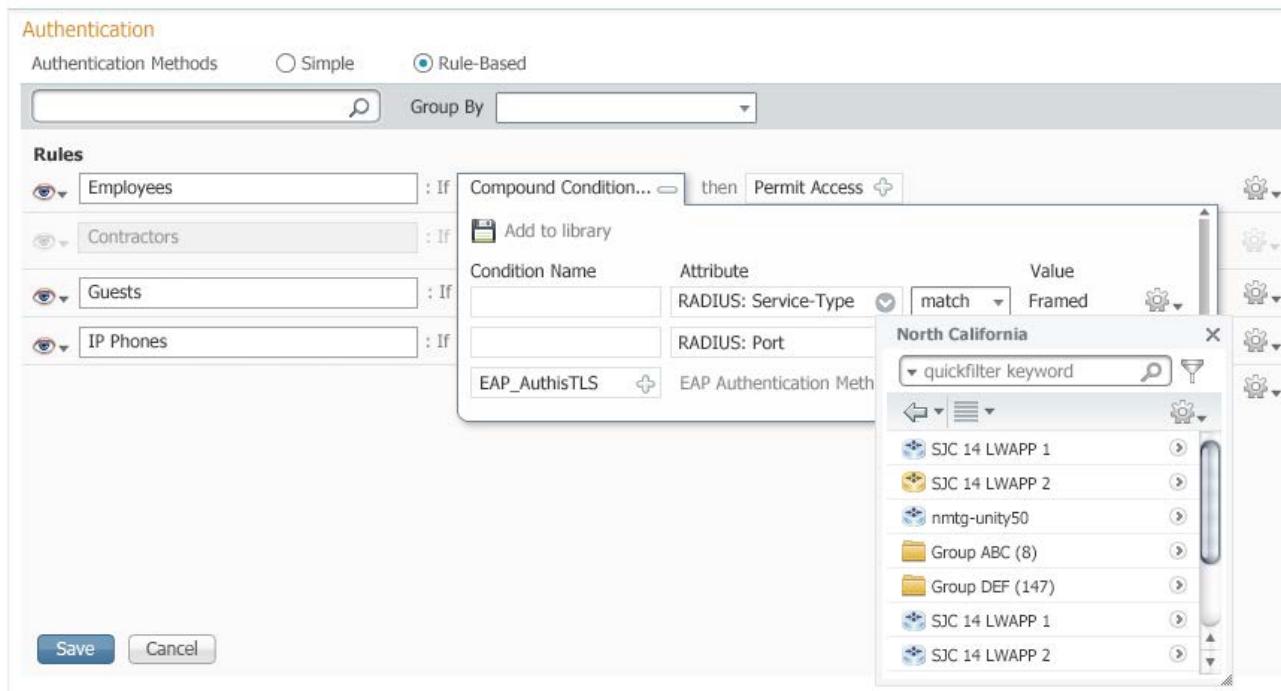


Figure 54. Overlay example with a small form factor object selector.

The object selector can be displayed on demand as an overlay. In this form factor, the object selector is revealed when a user clicks or hovers on some affordance. Because it is an overlay, and not a dialog, the object selector cannot be dragged around the page, but remains fixed in one place until the user dismisses it using the X icon or by clicking outside the overlay. The display or dismissal of an overlay or pop-up is outside the control of the object selector.

- Product teams can define the height and width of the object selector when displayed in an overlay, but the minimum height and width restrictions still apply.
- Depending on which container the app developer uses, the object selector overlay automatically positions itself relative to the launching control. However, product teams should have ability to specify the position of the overlay relative to the launching control using either offset x,y values or as compass points (N, NE, E, SE, S, SW, W, NW.) In all cases, the control should detect the edge of the browser window and adjust its position accordingly so that the entire overlay is always visible in the browser's viewport (don't make the user scroll to see the contents of the object selector).
- Product teams can choose to show or hide a resize control for the object selector when displayed in an overlay. By default, no resize control is shown.

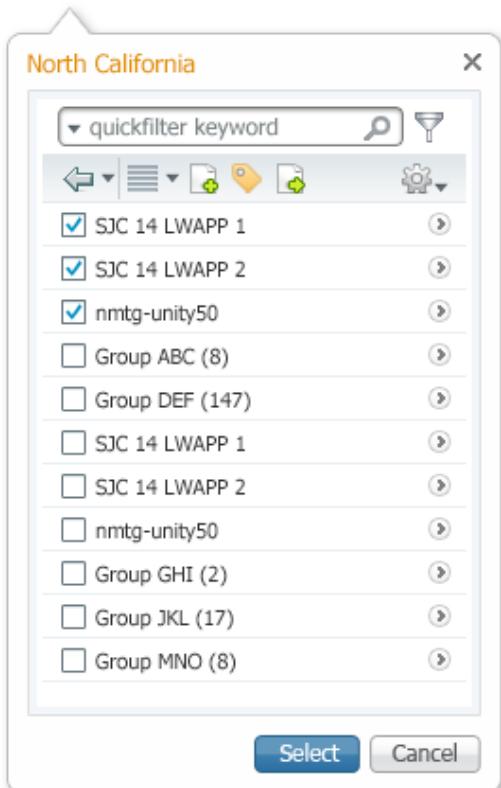


Figure 55. Multi-select object selector in an overlay.

- API's to interact with the action buttons are provided as part of the object-selector, but the action buttons themselves are not part of the object-selector.

Pop-up

The object selector can be displayed in a pop-up. This is convenient when users only need transient access to the object selector, such as the first step in a guided process. If users need to interact frequently with the object selector, consider embedding it or displaying it in an overlay.

- By default, users can drag the pop-up around, but product teams may choose to turn off this feature. Again, this is dependent on the container, and the object selector is not aware which container it is placed in.
- Product teams can define the height and width of the object selector when displayed in a pop-up but the minimum height and width restrictions still apply.
- By default, the object selector pop-up automatically positions itself relative to the launching control. However, product teams should have the ability to specify the position of the overlay in absolute coordinates, centered in the browser viewport, or relative to the launching control using either offset x,y values or as compass points (N, NE, E, SE, S, SW, W, NW.) In all cases, the control should detect the edge of the browser window and adjust its position accordingly so that the entire overlay is always visible in the browser's viewport (don't make the user scroll to see the contents of the object selector).
- Product teams can choose to show or hide a resize control for the object selector when displayed in a pop-up. By default, no resize control is shown.
- The object selector pop-up has two modes: multi-select and single select.

- When in multi-select pop-up mode, "Select" and "Cancel" buttons are displayed at the bottom of the pop-up. Any buttons included as part of the pop-up are not provided by the object selector.
- When in single-select pop-up mode, selecting a node automatically causes the object selector to return to its minimized state. This is up to the app developer; the object selector will provide selection events and API's only.

Invoking the Object Selector

There are two primary methods by which users can display the object selector when it is not embedded directly on a page.

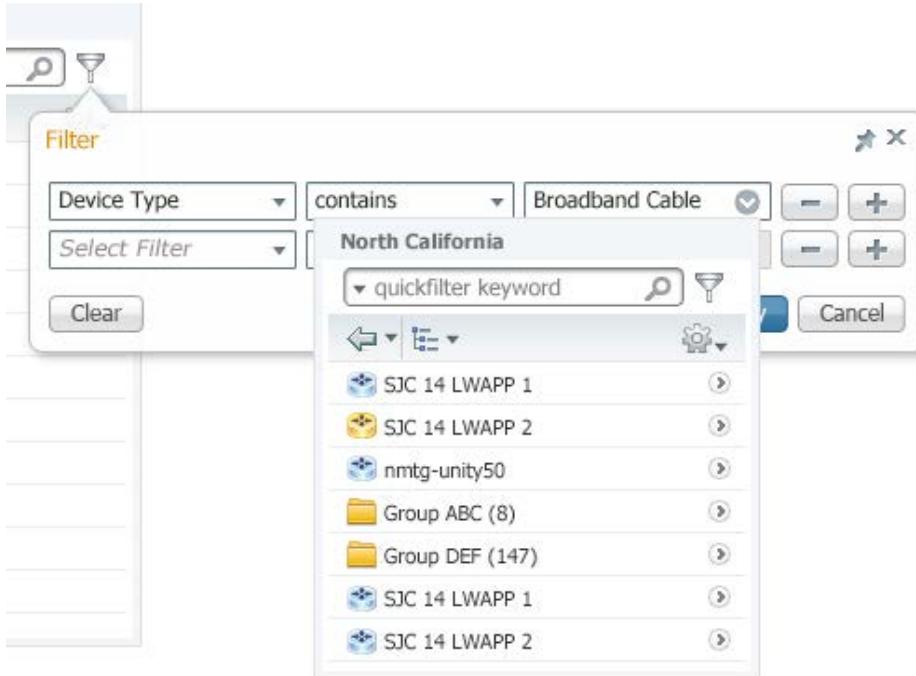


Figure 58. Quick Picker fields shown with an overlay object selector.

- The Quick Picker only supports a single selection, so can only be used with a single-select object selector overlay.

Multi-select Pickers (Not XMP Widgets)

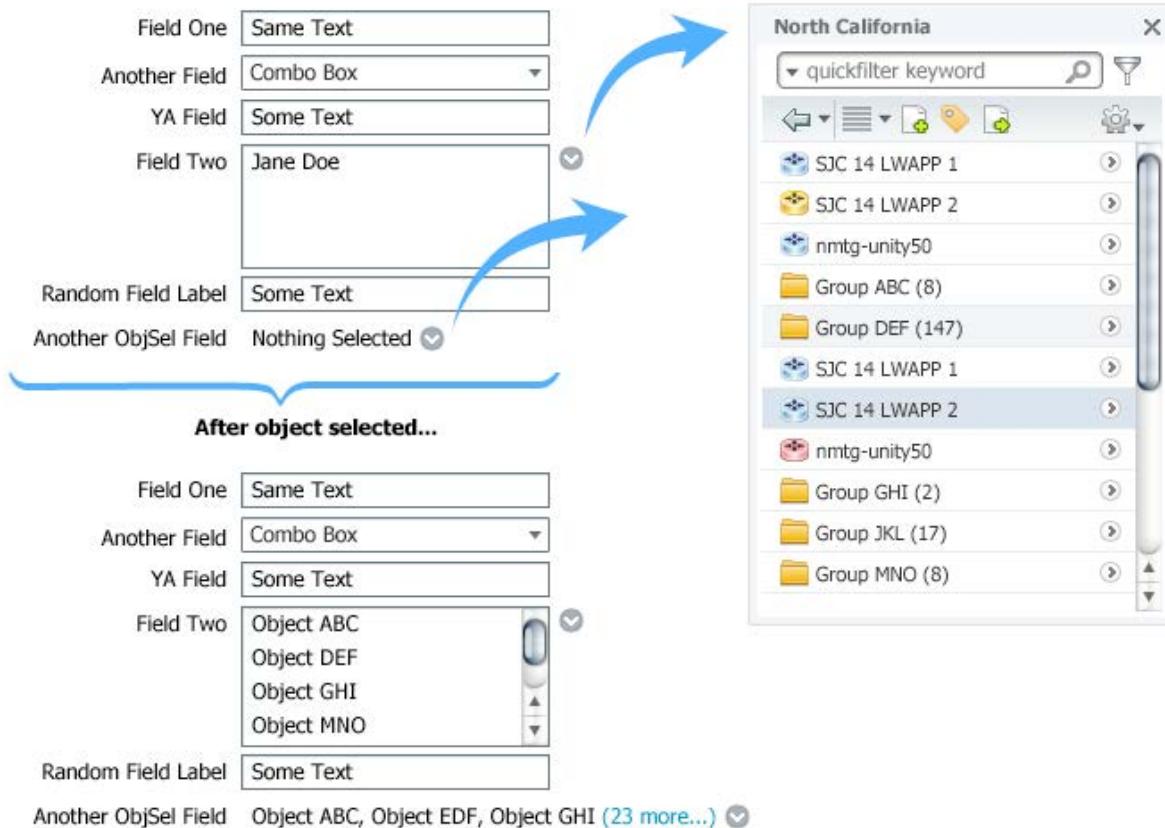


Figure 59. Multi-select Picker fields could launch a multi-select object selector

If you need to allow users to choose an object as a step in a form or guided process, use the quick picker icon next to either a listbox or text field.

- Invoking the object selector is implemented by the app developer; it is possible to use the quickpicker widget (`xwt.widget.form.TextboxPicker`)
- The quickpicker (TextboxPicker) is restricted to a single selection. If multi-select is required, the app developer can borrow the quickpicker icon and implement a multi-select alternative as shown above.
- Clicking the quickpicker icon displays the object selector in a pop-up.
- After the objects have been selected and the dialog closed, the form should give some indication of the items that were chosen.
 - If using a listbox, display all items chosen.
 - If using a text field, display the first few items, and then an (n more...) message. Hovering over the hyperlink will display dialog with all items in a scrolling listbox.
- If the user clicks on the quick picker icon subsequent times, the items that have previously been selected should appear in the Selected Items cart.

Object Selector Z-Index & Dismissal Rules

The Back button drop-down should be dismissed upon clicking outside it:



Figure 60. Back button drop-down.

The List/Tree toggle should be dismissed upon clicking outside it:

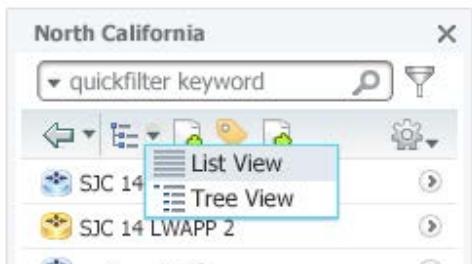


Figure 61. List/Tree toggle drop-down.

The Tool drop-down should be dismissed upon clicking outside it:

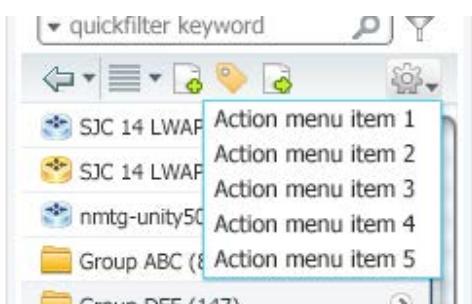


Figure 62. Tools button drop-down.

The Quickfilter attribute drop-down should be dismissed upon clicking outside it:

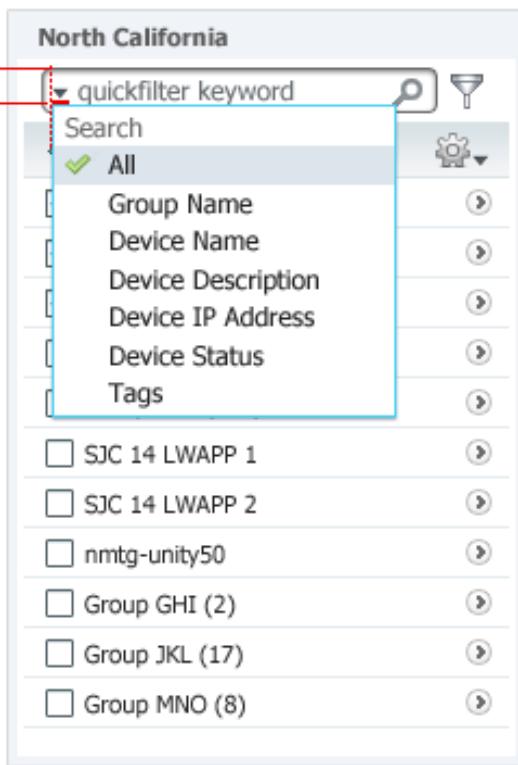


Figure 63. Quickfilter attribute drop-down.

The filter pop-over should not be dismissed upon clicking outside the drawer, only once Apply, Cancel, **x**, or the filter icon has been pressed should the drawer be dismissed. Clicking the filter icon to close the drawer behaves like the **X** or Cancel button and does not apply the filter.



Figure 64. Advanced filter drawer.

The overlay object-selector launched from a quickpicker should be dismissed upon clicking outside the overlay:

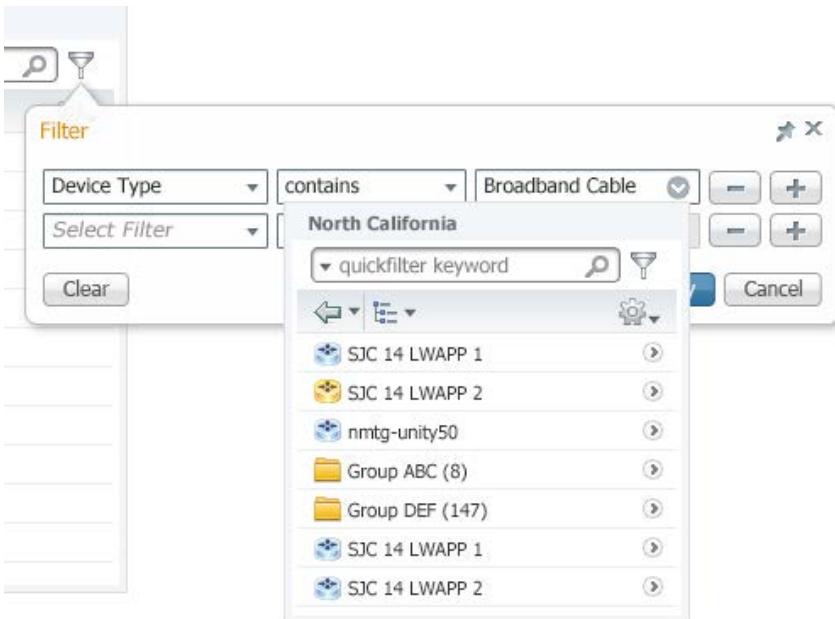


Figure 65. Object selector in overlay from quickpicker

The multi-select object-selector overlay should not be dismissed upon clicking outside it-only once Select, Cancel, x, or the filter drawer has been dismissed.

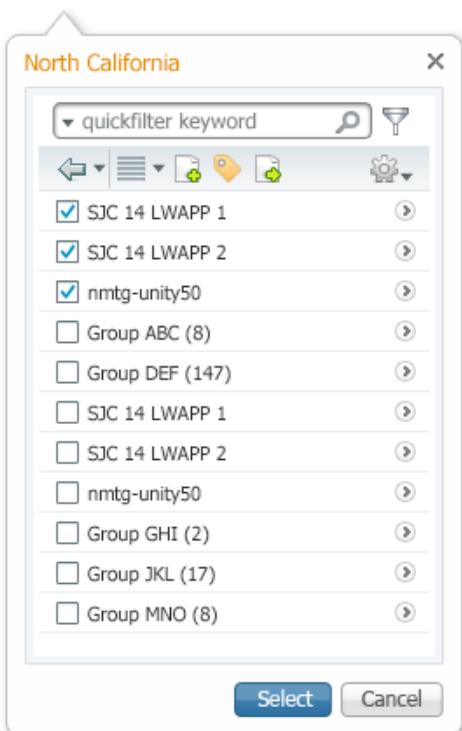


Figure 66. Multi-select object selector overlay

Non-Selectable Mode for OS Nodes

Object Selector (OS) node can be in a non-selected state to restrict operations such as displaying information in details pane upon a selection of a OS node in master pane or in certain use-cases (example - some devices in OS are non-selectable as the device is down or connectivity is lost).

To indicate a non-selectable OS node, italicized style is used for the node label.

If an OS node label is in italics, it indicates that the node cannot be selected:

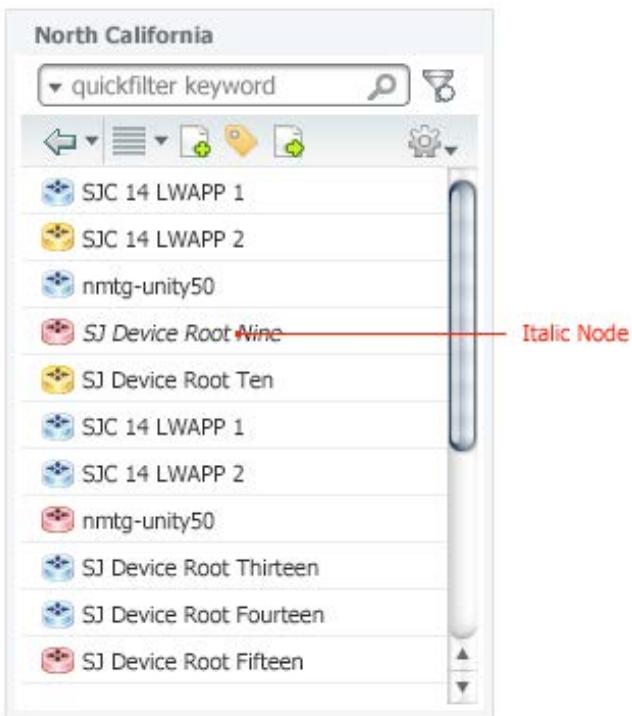


Figure 67. Italic node label-unselectable

If an OS node is non-selectable (i.e., node label in italicized style) and has children, then the following navigation icon  is used. In a normal selectable mode, the navigation icon  is used.

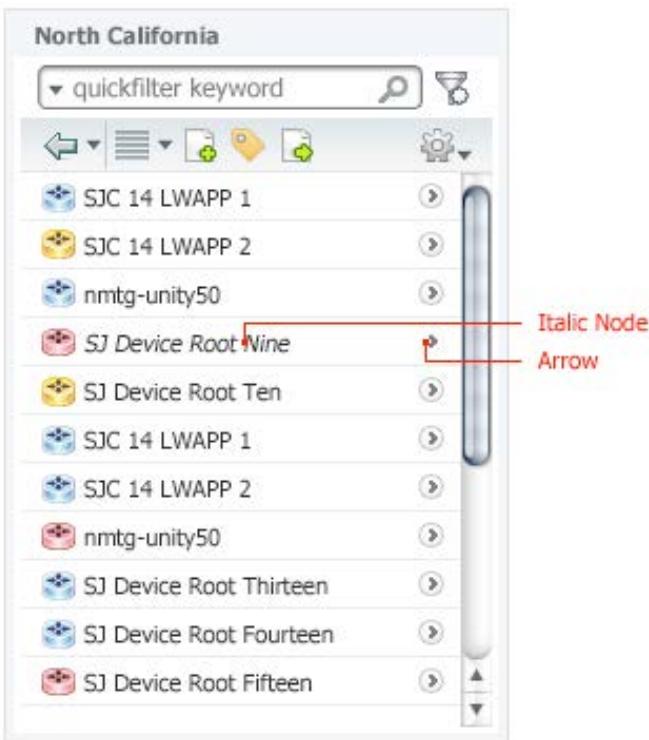


Figure 68. Italic node label-unselectable but can access children using arrow

In a multi-select OS, the checkbox associated with the non-selectable OS node is disabled:

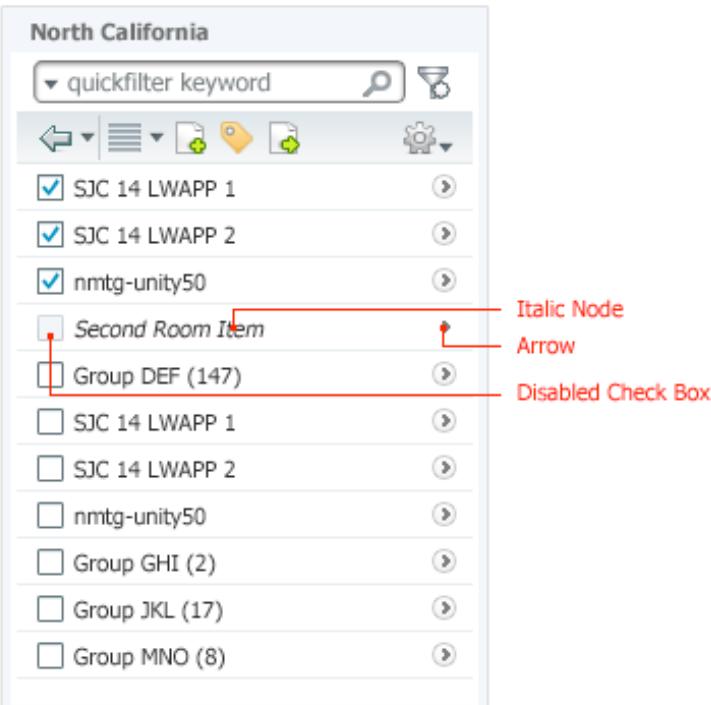


Figure 69. Italic node label-unselectable with disabled check box but can access children using arrow

OVERLAYS / POP-UPS

360 VIEW

Description

A 360-degree view is an information tree built around a primary network object (e.g., user, endpoint, network device or site/branch). Each level in the tree includes real-time, recent and historical status. The 360-degree view can be used for a wide variety of reporting, troubleshooting, compliance, security and policy-based applications.

Usage Guidelines

Use the 360° View as an intermediate step to help the user decide the next actionable steps to resolve an issue. It's not meant to be a detailed view or a form to enter data.

Visual Specifications

Figure 1. 360° View Overview

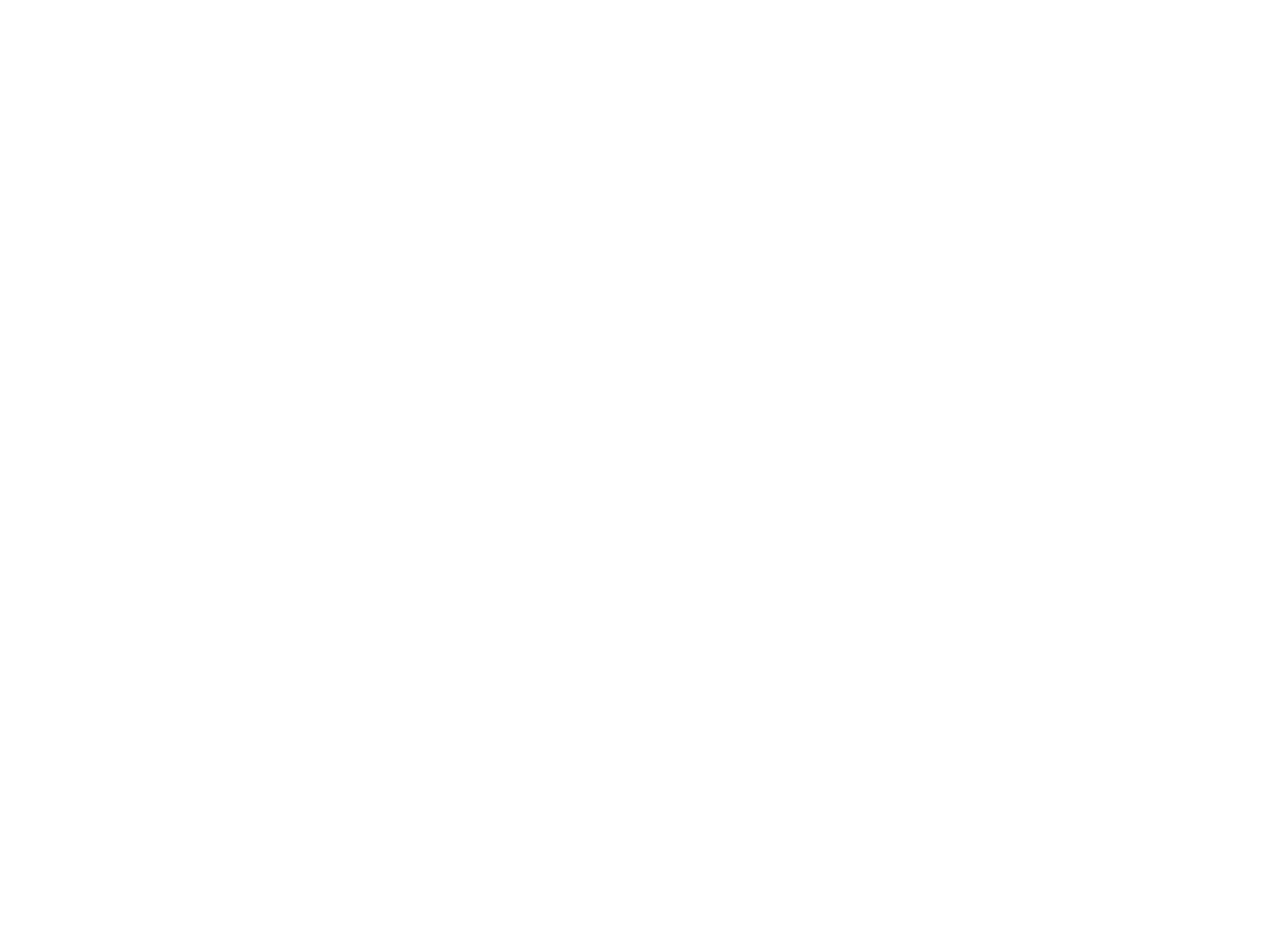
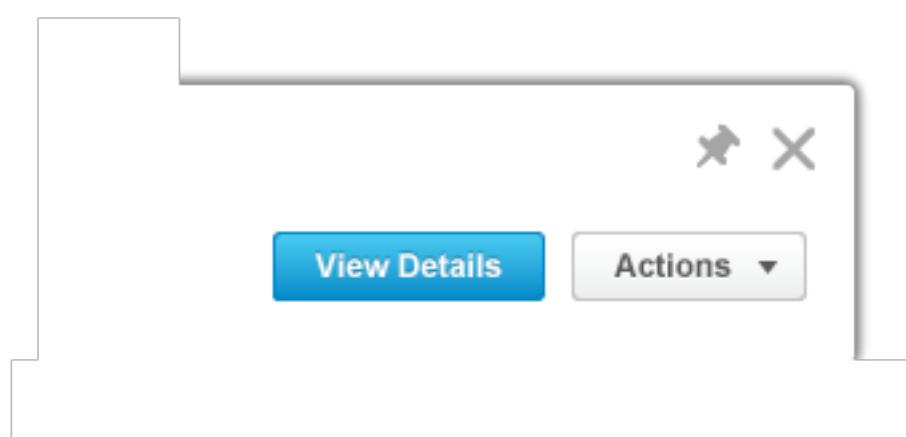
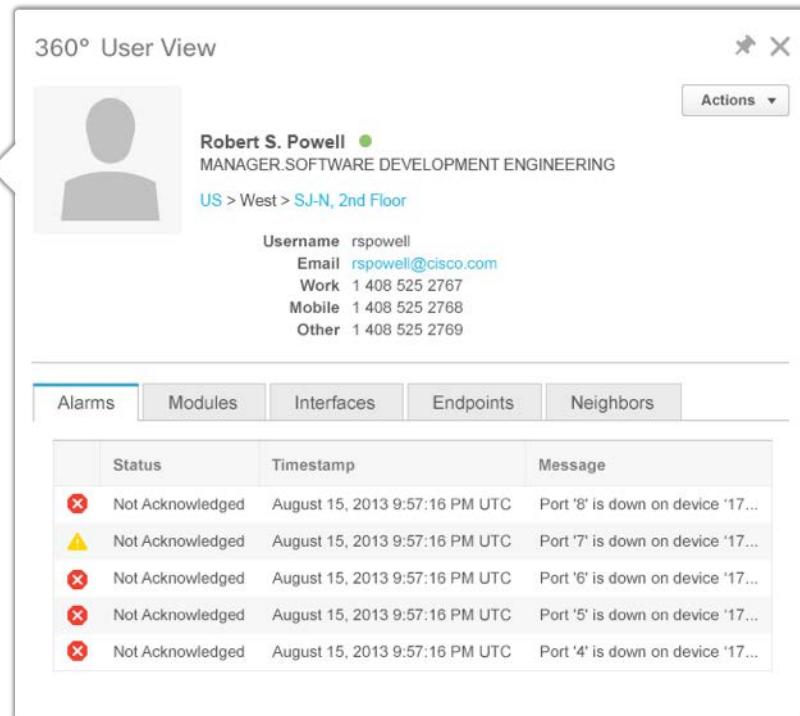


Figure 2. 360° View Overview





The screenshot shows the '360° User View' for Robert S. Powell. At the top, there's a profile picture placeholder, the user's name, title ('MANAGER.SOFTWARE DEVELOPMENT ENGINEERING'), and location ('US > West > SJ-N, 2nd Floor'). Below this, a section displays contact information: Username (rspowell), Email (rspowell@cisco.com), Work phone (1 408 525 2767), Mobile phone (1 408 525 2768), and Other phone (1 408 525 2769). A horizontal navigation bar below contains tabs for 'Alarms' (selected), 'Modules', 'Interfaces', 'Endpoints', and 'Neighbors'. The 'Alarms' tab is active, showing a table with five entries. The table has columns for Status (with icons for red, yellow, and green), Timestamp (all August 15, 2013, 9:57:16 PM UTC), and Message (all indicating a port is down on device 17). The status column includes small red 'X' icons next to the first four entries.

	Status	Timestamp	Message
1	Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '8' is down on device '17...
2	Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '7' is down on device '17...
3	Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '6' is down on device '17...
4	Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '5' is down on device '17...
5	Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '4' is down on device '17...

Figure 3. 360° View with View Details Option

Figure 4. User 360° View Overview

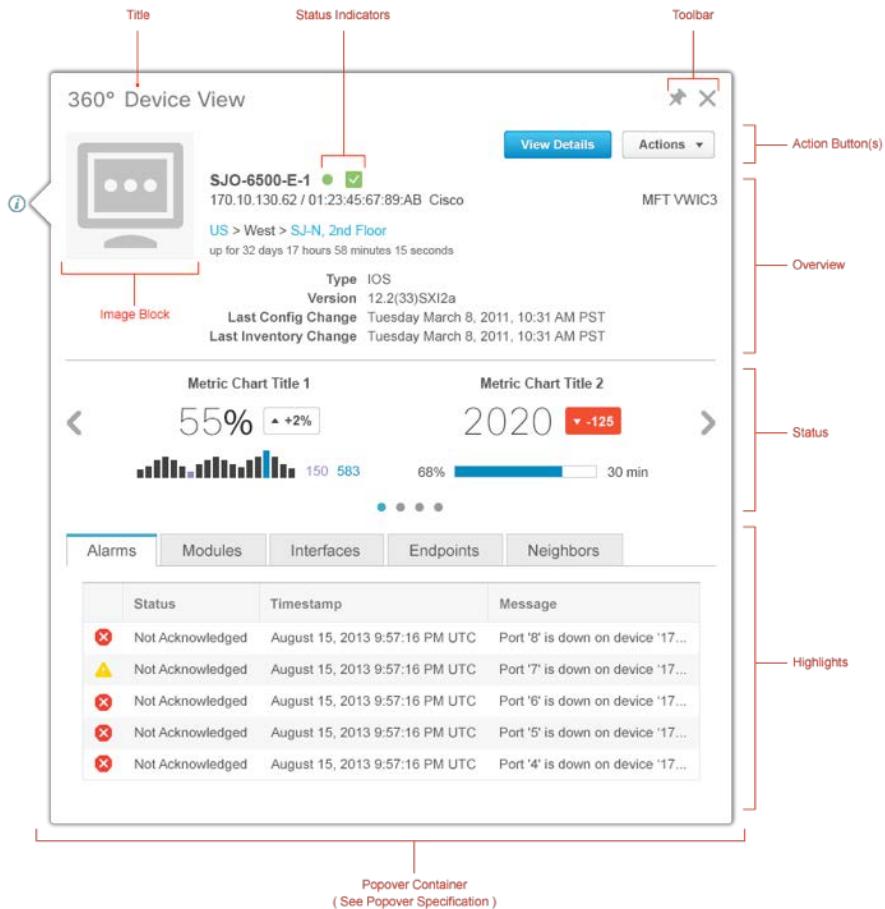
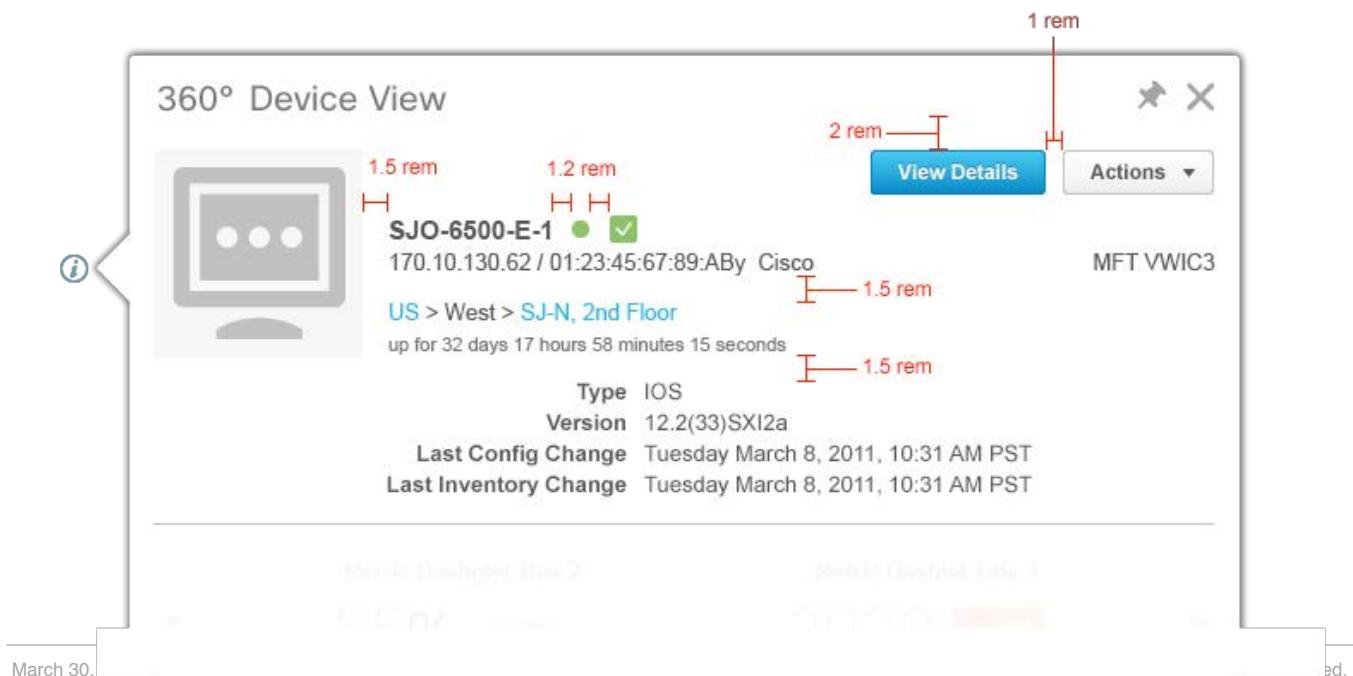


Figure 5. User 360° View Elements



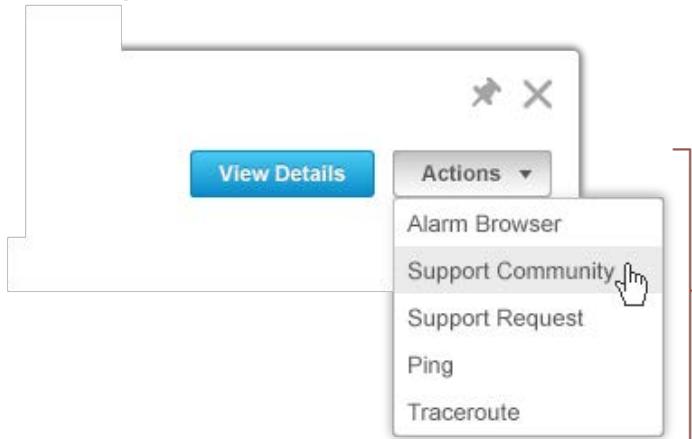


Figure 6. User 360° View Overview Specifications

[See Action Button Specification](#)

Figure 7. User 360° Action Button Specification

360° Device View

SJO-6500-E-1 • ✓
170.10.130.62 / 01:23:45:67-89:AB Cisco
US > West > SJ-N, 2nd Floor
up for 32 days 17 hours 58 minutes 15 seconds

Type: IOS
Version: 12.2(33)SXI2a
Last Config Change: Tuesday March 8, 2011, 10:31 AM PST
Last Inventory Change: Tuesday March 8, 2011, 10:31 AM PST

0.1 rem, #B4B4B4

MFT VWIC3

Metric Chart Title 1: 55% +2%
Metric Chart Title 2: 2020 -125

Alarms: 150 583

Endpoints: 68% 30 min

Neighbors:

Status	Timestamp	Message
✗ Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '8' is down on device '17...'.
⚠ Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '7' is down on device '17...'.
✗ Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '6' is down on device '17...'.
✗ Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '5' is down on device '17...'.
✗ Not Acknowledged	August 15, 2013 9:57:16 PM UTC	Port '4' is down on device '17...'.

Figure 8. 360° View Optional Panel Specifications

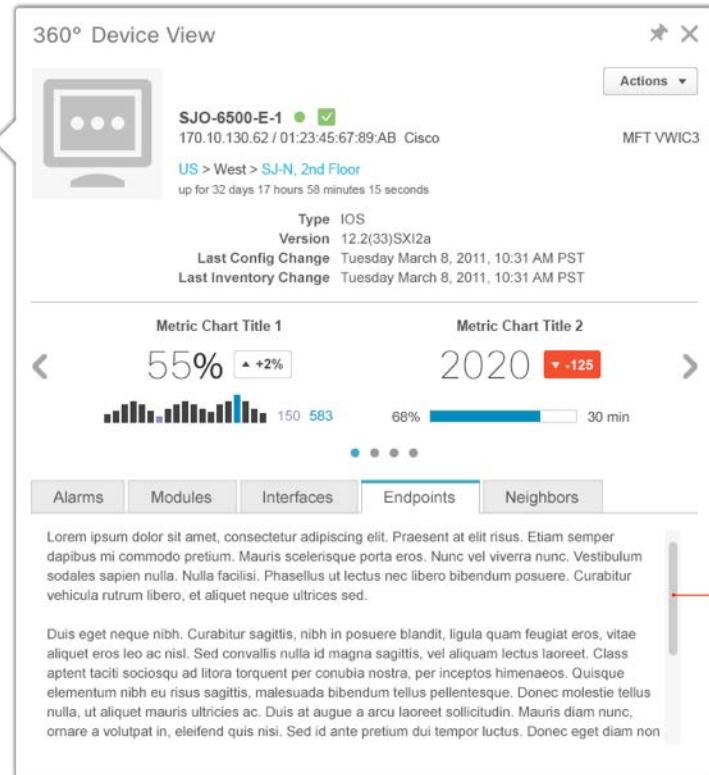


Figure 9. 360° View with Scrollbar

Font and Color Specification

Element	Font Family	Size	Style	Color
360° View Title	CiscoSansRegular, Arial	2 rem	Normal	#646464
Action Area Title	Arial	1.6 rem	Normal	#323232
Action Area Links	Arial	1.3 rem	Normal	#28AAD7
Action Area Links (Hover)	Arial	1.3 rem	Normal, Underline	#686868

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
360° View Indicator				1.6 rem	#969696	#74BAD1	#379BBE
Close				1.6 rem	#969696	#74BAD1	#379BBE
Pin				1.6 rem	#969696	#74BAD1	#379BBE
Pinned		icon_rotate-45 (for rotation)		1.6 rem	#969696	#74BAD1	#379BBE
Pinned (Disabled)		icon_rotate-45 (for rotation)		1.6 rem	#C8C8C8		

Help			#969696	#74BAD1	#379BBE
Status - Online		1 rem	#7CBB59		
Status - Unreachable		1 rem	#BDBDBD		
Table 2. Icon Specifications					

Interaction Behavior

The 360° View contains the following sections: Basic Info, Performance Metrics, and Associated Info.

Basic Info

Provides information to help identify the object and is directly related to the main object: Name, Status, Location, Properties, etc.

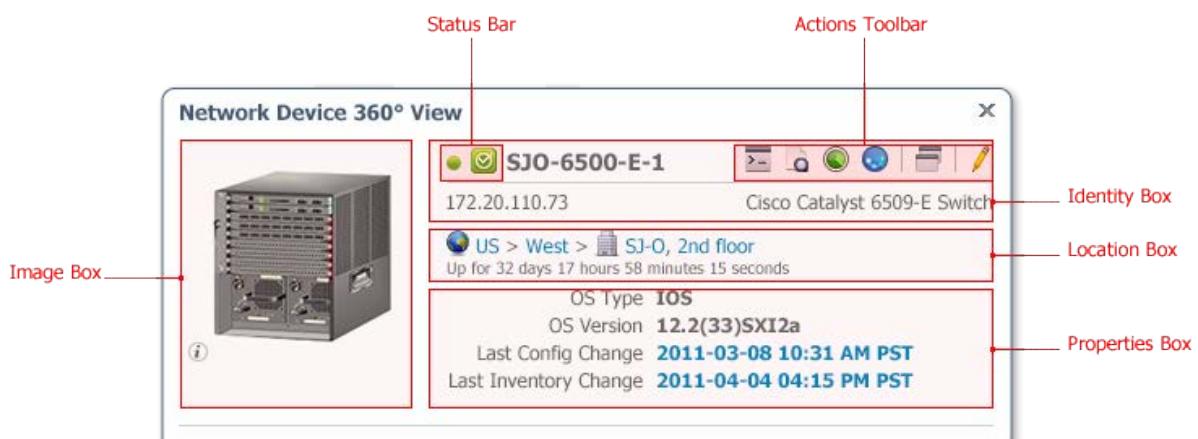


Figure 8. Basic Info Overview

Status Bar

- Object Status (optional) — There are two types: Connectivity Status and Operational Status.
 - Connectivity Status — On (Reachable), Off (Unreachable), On with Error.
 - Operational Status — Depends on the object type: devices (Managed, Managed Critical, Unmanaged, Unknown, and so on) or users (On Phone, Off Hook, and so on).
- Object's Name — Name can be hyperlinked. For example, a device name can be hyperlinked to the Device Details view. Long names are truncated with an ellipsis.

Action Toolbar

Action Toolbar has the following elements and options:

- **X-Launch Actions** — Icons for actions that load another screen or x-launch to open another application in a new browser window. In the latter case, the 360° View does not close.
- **Inline Actions** — Icons for actions that are superimposed on top of the Performance Metrics and Associated Info areas. For example, selecting the Ping action slides out a drawer panel from the bottom and pings the device using Telnet.

- **Grouping** — Related or similar actions can be grouped as a drop-down. For example, a device can be managed by a number of available domain managers (Device Management tools). Instead of displaying all the available DMs on the Action Toolbar, the actions are grouped into a single action icon called Device Details.
- It's recommended that components inside 360° view should not be updated in real time as it's bandwidth intensive and can produce a sluggish performance. It's optional to have a refresh action so users can refresh the entire 360° View.
- **Divider** — Actions can be separated by dividers.

View Details Button (Optional)

- The View Details button dismisses the 360 view and navigates to a full page Detail view. This Detail view contains all of the information related to the object that was shown in the 360 view.

Identity Box

- IP Address (Job Title for User).
- System Name (optional) — For Customer (Corporate) 360° View, System Name can be stock symbols.

Location Box (optional)

- **Hierarchical Path** — The path is hyperlinked where possible. It can be used to display a screen with an actual map of the physical location of the device. There should not be any icon on this path. Use the following format to deal with long path: #start# > ... > #currentLocation#
- **Uptime** — Device uptime since last reboot/power on.

Properties Box

- Properties are shown as strings of name-value pairs.
- Property strings are read-only.
- Property value strings may be displayed as static text or as hyperlinks.
- No more than 4 name-value pairs may be displayed. If users need more details, they can drill to a related Details page.

Performance Metrics (Optional)

Follow the [Metric Dashlet Strip specification](#). If system performance of this widget is an issue, the Dashlet Strip data should not be in real time.

- Performance Metrics section is housed by the [Carousel widget](#).
- Charts inside Carousel can be either Charts widget (resize to fit inside the predetermined dimension) or Metric Dashlet Chart (preferred).
- If using Metric Dashlet Chart please follow Metric Dashlet Strip specs for title alignment.
- If using the Chart widget, please follow Carousel specs for title alignment. In the next release, it's preferred to have chart's title aligns to upper left corner of the chart for consistency with the Metric Dashlet Chart.
- If the Performance Metrics section is omitted, the Associated Info section claims the remaining real estate.

Associated Info

This section provides useful information related to the main object. For example: alarms with high severities, endpoints of the main object, resource statistics associated with the main object (Customer). This section can use the following widgets (follow the widget specs):

- Content Tabs — Use Content Tabs to group separate sets of associated info data. It can contain the following widgets:
- Data Grid
- Form — Only in Read-Only or Display mode. Not editable.
 - Use Data Grid instead of Table in the 360° View. Tables have robust filtering/searching capabilities that do not fit well in this tiny space.

- Data Grid Title/Summary (optional) — This area can be used to add a single line summary of the data set. For example, Outstanding Alarms Count.
- QuickFilter (optional) — Right Aligned on the opposite end of Table Title/Summary. It's used to provide a quick filter to the data set. For example, Alarms in the last 60 min., 24 hrs. etc. Assuming the data is available.
- Due to tight space in the 360° View and the objective of 360° view, provide only the most important data set (subset). For example, instead of all alarms, display only critical and major alarms.
- Charts — Do not use the Carousel widget inside the Content Tabs container. For multiple charts, use the chart's filter links instead. [[Charts Basic Specification](#)]

Pinning 360° View (Optional)

Pinning should generally only be removed in cases of the 360° View content being a contained, isolated task that is irrelevant of other information on the page (e.g. in-context change of a password next to label/value pair). In this case, the 360° View is not likely to potentially obscure information which the user would need simultaneously, and thus the user would not need to pin for moving or comparison purposes.



Figure 9. 360° View With Pin Option

Variations

Network Device 360° View

 **SJO-6500-E-1**
172.20.110.73 Cisco Catalyst 6509-E Switch

 US > West >  SJ-O, 2nd floor
Up for 32 days 17 hours 58 minutes 15 seconds

OS Type **IOS**
OS Version **12.2(33)SX12a**
Last Config Change **2011-03-08 10:31 AM PST**
Last Inventory Change **2011-04-04 04:15 PM PST**

CPU Utilization **55%**  **Memory Utilization** **65%** 

Alarms **Modules** **Interfaces** **Endpoints** **Neighbors**

Top 5 Utilized Interfaces **Last 60 Minutes**

Interface	Top 3 Applications
sjo-65ke1-tp	Cisco TelePresence, Video, Voice
sjo-65ke1-n	Authentication, Name Services
sjo-65ke1-d	Oracle
sjo-65ke1-a1	SAP ERP, CRM, Content Management
sjo-65ke1-a2	Web, Email, Messaging

Network Device 360 View

Figure 10. Network Device 360 View Overview

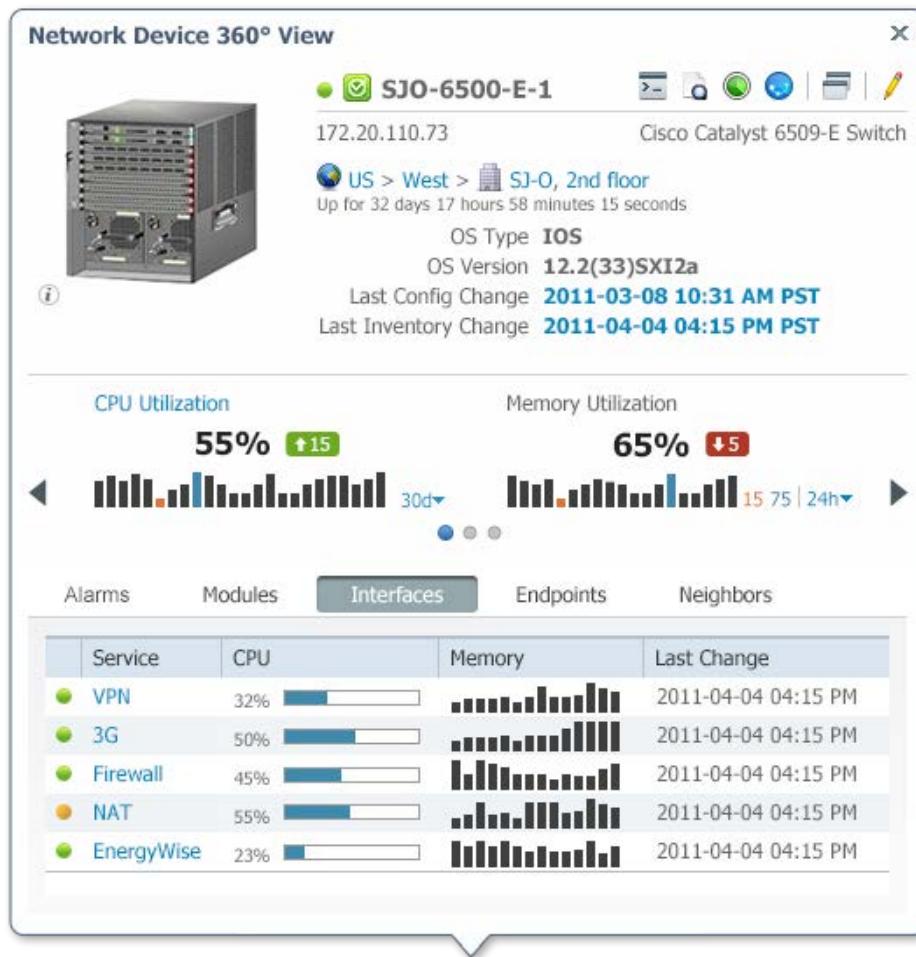


Figure 11. Enhanced Network Device 360 View Overview

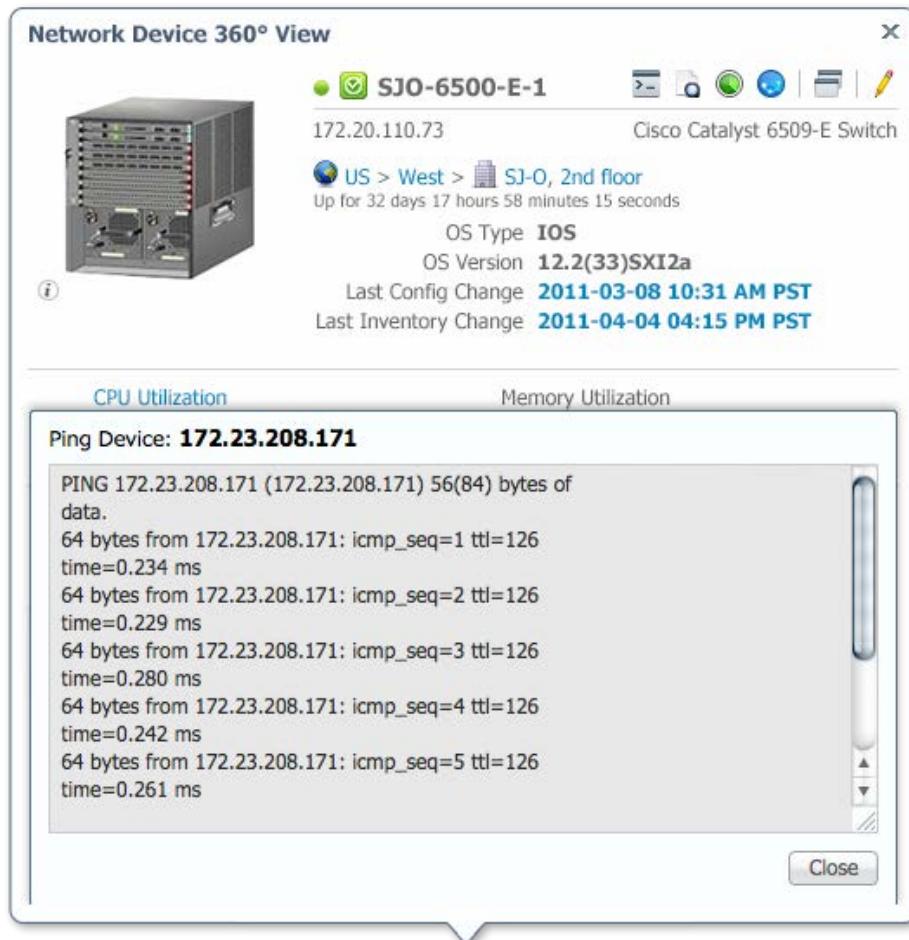


Figure 12. 360 View with Alarm Drawer

Interface 360 View

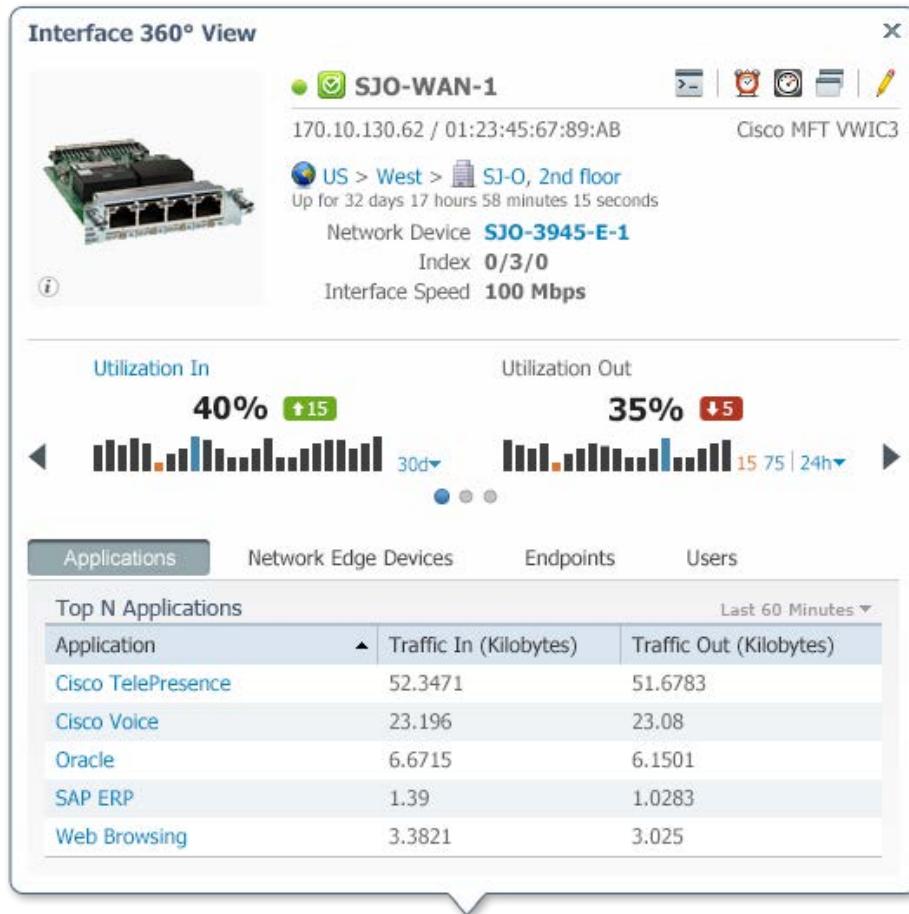


Figure 13. Interface 360 View Overview

Application 360 View

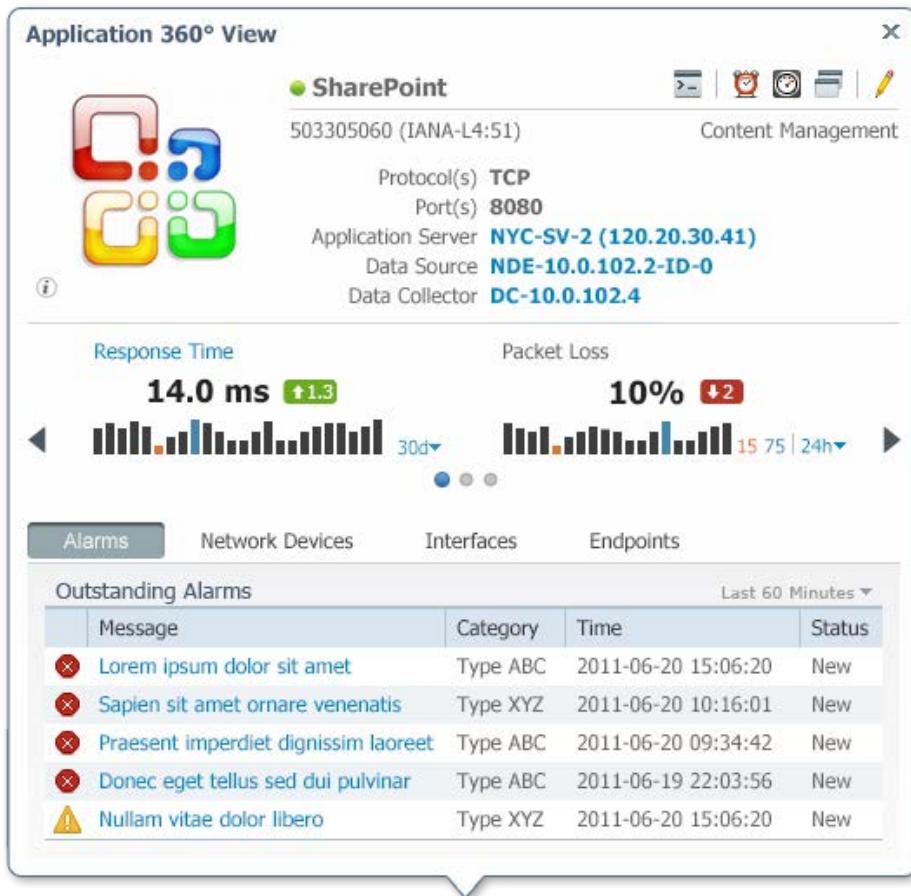
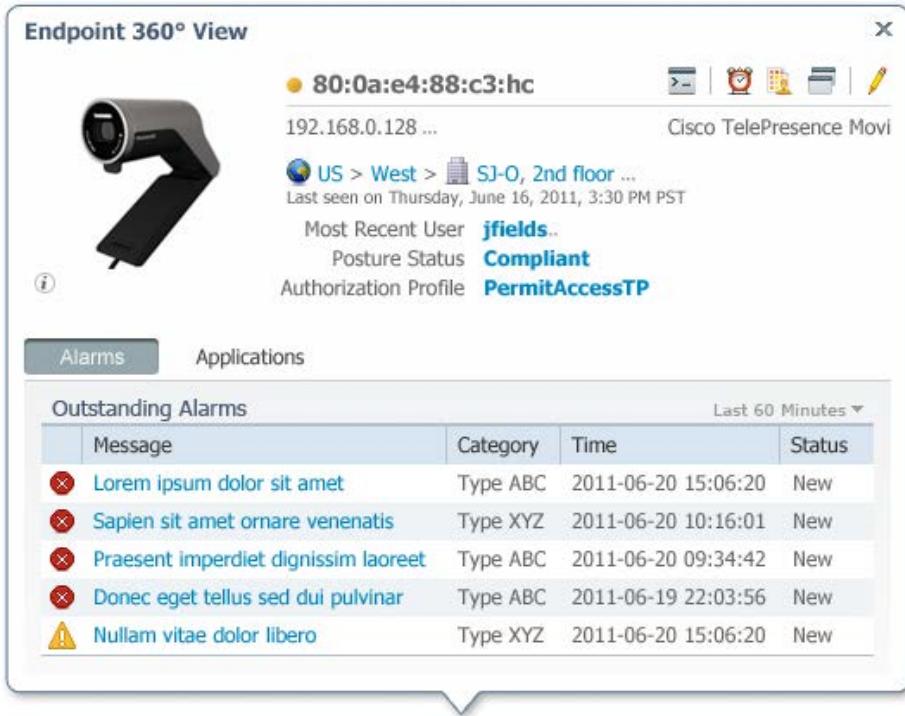


Figure 14. Application 360 View Overview

Endpoint 360 View



The screenshot shows the 'Endpoint 360° View' window. At the top, it displays the MAC address **80:0a:e4:88:c3:hc**, IP address **192.168.0.128 ...**, and the device name **Cisco TelePresence Movi**. Below this, there's a thumbnail image of a Cisco TelePresence Movi camera. To the right of the image, it shows the location as **US > West > SJ-O, 2nd floor ...** and the last seen time as **Thursday, June 16, 2011, 3:30 PM PST**. It also indicates the most recent user as **jfields..**, posture status as **Compliant**, and authorization profile as **PermitAccessTP**.

Below this information, there are two tabs: **Alarms** (which is selected) and **Applications**. The **Outstanding Alarms** section shows five entries:

	Message	Category	Time	Status
×	>Lorem ipsum dolor sit amet	Type ABC	2011-06-20 15:06:20	New
×	Sapien sit amet ornare venenatis	Type XYZ	2011-06-20 10:16:01	New
×	Praesent imperdiet dignissim laoreet	Type ABC	2011-06-20 09:34:42	New
×	Donec eget tellus sed dui pulvinar	Type ABC	2011-06-19 22:03:56	New
⚠	Nullam vitae dolor libero	Type XYZ	2011-06-20 15:06:20	New

Figure 15. Endpoint 360 View Overview

User 360 View

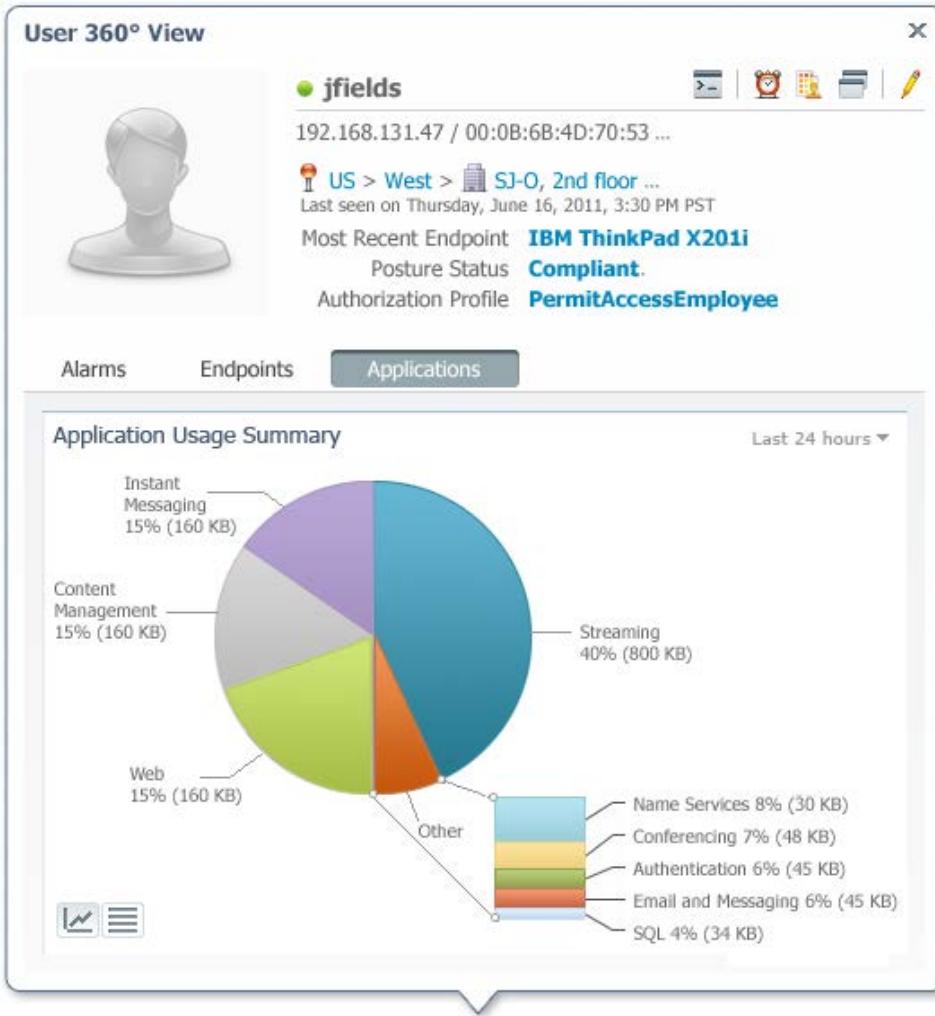
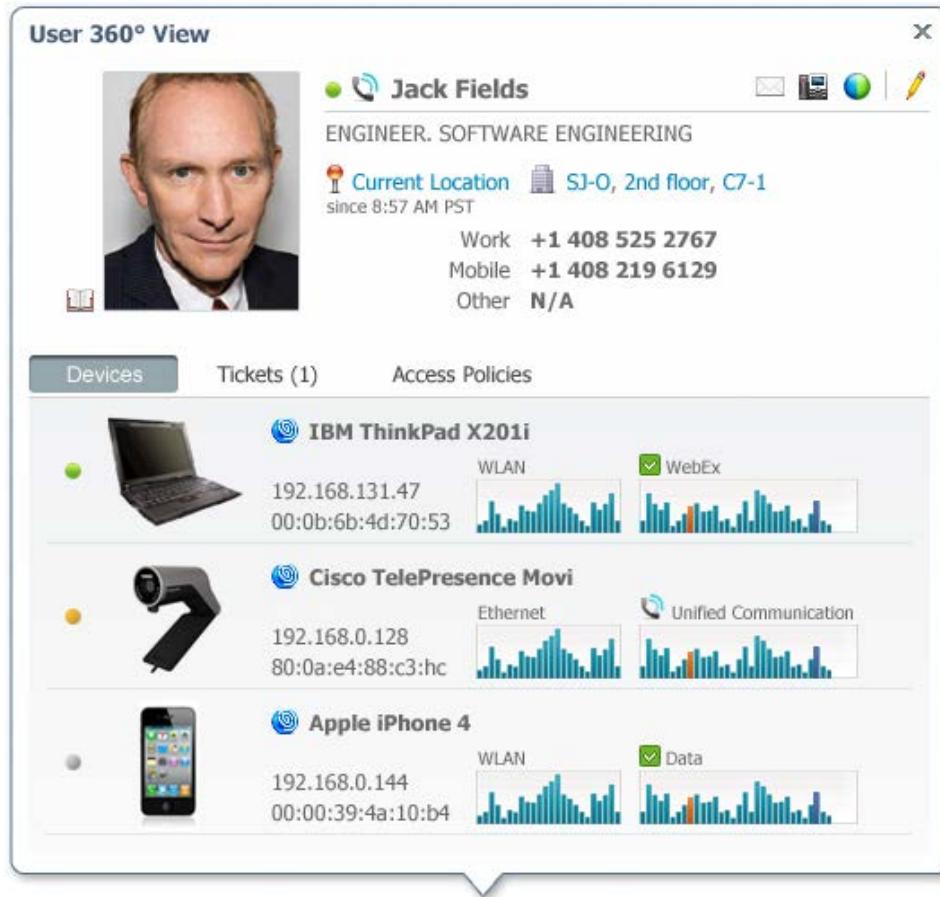


Figure 16. User 360 View Overview

User 360° View



Jack Fields
ENGINEER. SOFTWARE ENGINEERING
Current Location SJ-O, 2nd floor, C7-1
since 8:57 AM PST
Work +1 408 525 2767
Mobile +1 408 219 6129
Other N/A

Devices Tickets (1) Access Policies

Device	IP Address	MAC Address	WLAN	Unified Communication
IBM ThinkPad X201i	192.168.131.47	00:b6:4d:70:53		
Cisco TelePresence Movi	192.168.0.128	80:0a:e4:88:c3:hc		
Apple iPhone 4	192.168.0.144	00:00:39:4a:10:b4		

Figure 17. Enhanced User 360 View Overview

ANCHORED OVERLAY

Description

The Anchored Overlay is a composite component embedded in content as a token field (text string), which allows progressive disclosure of information and in-context completion of tasks. The Anchored Overlay is independent from the actual items which are contained within. The application developer defines/controls the behavior of these item.

- This Anchored Overlay is a "global" widget and can be used anywhere appropriate and within any container which allows it.
- The contents of the Anchored Overlay can contain tokens which open other nested objects -- more Anchored Overlays, Repeaters, etc.
- The Anchored Overlay is not modal (the grayed backgrounds in the spec figures are simply to highlight the Anchored Overlay). No part of the underlying UI needs to be protected.



Figure A. Anchored Overlay (collapsed view)

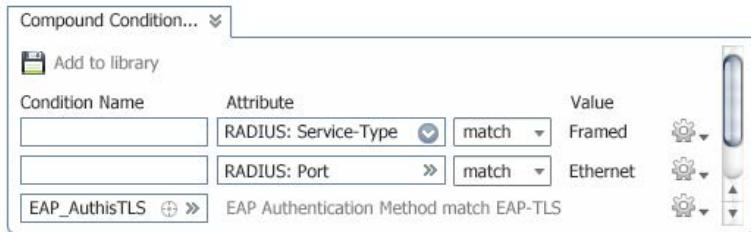


Figure B. Anchored Overlay (expanded view)

Usage Guidelines

Use this component when...

- It is necessary to allow the user perform a task without leaving the current context.
- It is necessary to allow progressive disclosure of information about an object.

- Screen space is available.

Do not use this component when...

- Screen space is limited.
- It creates unnecessary complexity.
- Do not nest anchored overlays within other anchored overlays. Use drop-downs, quickpickers, pop-overs, or other overlays instead.

Keyboard and Accessibility

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications



Figure 1. Anchored Overlay (collapsed view)

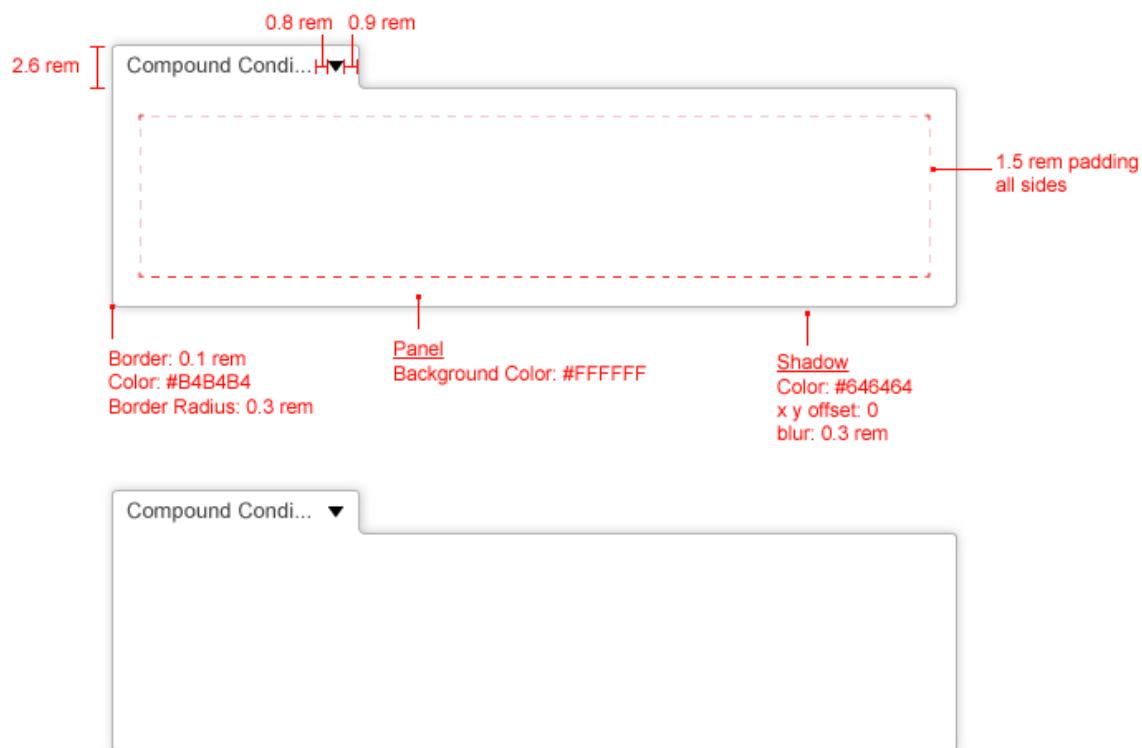


Figure 2. Anchored Overlay (expanded view) specification

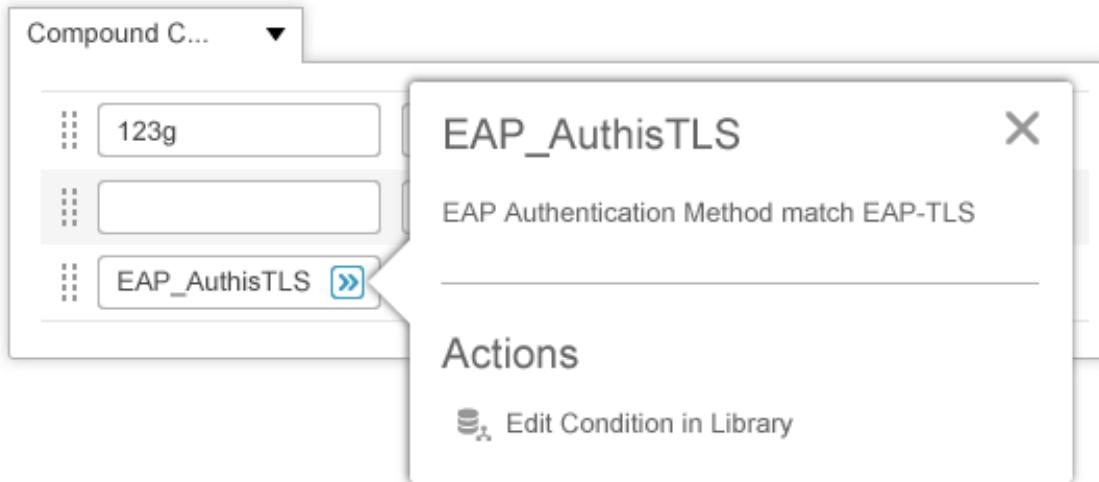


Figure 3. Quick View in Anchored Overlay



Figure 4. Anchored Overlay expand upward

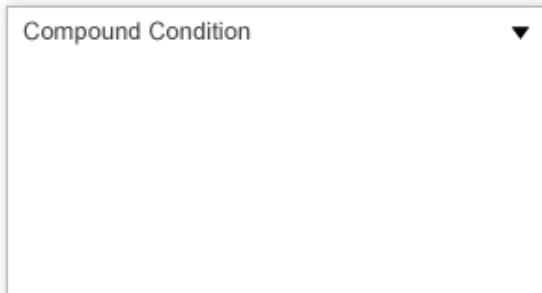
Correct



Correct



Correct

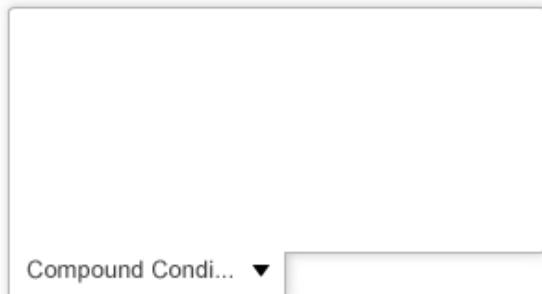


Incorrect

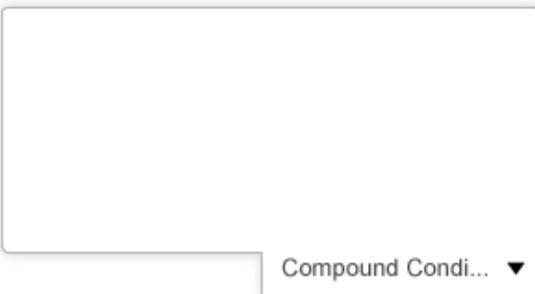


Figure 5. Anchored Overlay expand downward examples

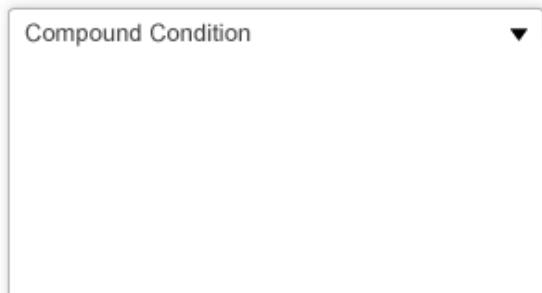
Correct



Correct



Correct



Incorrect



Figure 6. Anchored Overlay expand upward examples

Font and Color Specification

Element	Font	Size	Style	Color	Note
Token Field	Arial	1.3 rem	Normal	#464646	
Content Panel Border		0.1 rem	Solid	#B4B4B4	
Content Panel Background			Solid	#FFFFFF	
Content Panel Corner			CSS Radius: 0.3 rem	#B4B4B4	Rounded corner are only at the bottom.
Content Panel Shadow			X Y Offset: 0 Blur: 0.3 rem	#646464	

Table 1. Specifications for Fonts and Colors

Interaction Behavior

Token Field

The token field includes a dynamically generated text (at run time) and a disclosure (expand/collapse) icon that reveals/hides the content panel when the user clicks it. The application can change and/or reformat the text string at run time based on user input in the content panel. The width of the token field may also change accordingly.

Content Panel

Positioning the Panel

The overlay panel is anchored to the bottom/top of the token field and cannot be moved by the user. It is automatically positioned in such a way that it is placed entirely within the browser viewport. The "tab" of the Anchored Overlay should be positioned at bottom/left, bottom/right, top/left, or top/right as required for optimal placement of the rest of the panel.

Displaying the Panel

The user displays the content panel by clicking the expand icon in the token field.

Dismissing the Panel

The user dismisses the content panel by:

- Clicking the collapse icon in the token field.
- Clicking any content outside of the anchored overlay.
- Clicking a button or link that loads another screen.

When closing the Panel or objects within the panel, notification should be made to child items that the parent is closing and the parent should wait for children to "clean up" before it closes. Closing should always be done from the outermost child up to the parent.

Sizing the Panel

The user cannot directly manipulate the size of the panel. The size is determined by design-time settings and run-time content. The design-time settings of the Anchored Overlay takes the precedence. The panel can dynamically be resized at run time if this feature enabled at design time.

Scrolling

If the data exceeds the height set at design time, the content panel should scroll vertically. The vertical scroll bar is only displayed when needed. Horizontal scrolling is not allowed.

Timing and Animation

To enhance the feeling of natural motion, the overlay panel should fade in from 0% opacity to 100% opacity, with linear easing, over 250 ms. The dismissal animation should be the reverse of the opening animation.

For the overlay panel, the container border should be shown first, with a progress ball centered inside the panel content area until the content of the panel is loaded completely. For more information on how to use progress balls please see the progress indicator specification page. The progress ball can be shut off at design time.

Quick View Panel

Anchored Overlay in Collapsed Mode

Upon mouse-over on the text in the token field, an access arrow is shown to give the user a visual cue that there is further information for that object. Hovering over the access arrow displays the quick view panel.

- The access arrow is positioned between the text and the icon.
- It is left justified.
- The spacing between the text and the access arrow is 5 pixels.
- The spacing between the access arrow and the icon varies, but the minimum distance is 10 pixels.

Anchored Overlay in Expanded Mode

The quick view panel for the token field is disabled when the overlay is expanded and the content panel is displayed. However, it can be associated with and fully utilized by any object inside the content panel.

See Quick View Panel specifications for more details.

Disabled Token Field

- Disabled token field should look as defined in the text box and text area spec.
- Expand / Collapse icon should be disabled but shown.

Read - Only / RBAC

Use Cases

Initial State

- The disclosure icons for the overlays that the user has rights to display are **enabled**.
- The disclosure icons for the overlays that the user does not have rights to display are **disabled**.

: If then

: If then

Figure 7. Anchored Overlay with a Disabled Disclosure Icon.

Disclosure icon interaction

- User clicks on an enabled disclosure icon
 - Overlay is displayed
 - Any content that the user doesn't have rights to view for this or any row is hidden or inaccessible
 - Any content that the user doesn't have rights to edit for any row is read-only
 - Any content that the user doesn't have rights to edit for this row is disabled.

: If then

: If then

Figure 8. Read-only Anchored Overlay.

DIALOG

Description

A modal dialog component to provide content and/or data entry without leaving an interaction page. This dialog is not for use as an alert or error dialog

Usage Guidelines

Use a modal dialog when:

- Additional information is required from the user before he can proceed to the next step in the workflow
- A user must complete a series of task in specific order
- When users need to be alerted of a critical function or an action is taking place

Don't use a modal dialog when:

- A user needs to fill out any kind of form

Visual Specifications



Figure 1. Dialog Overview.

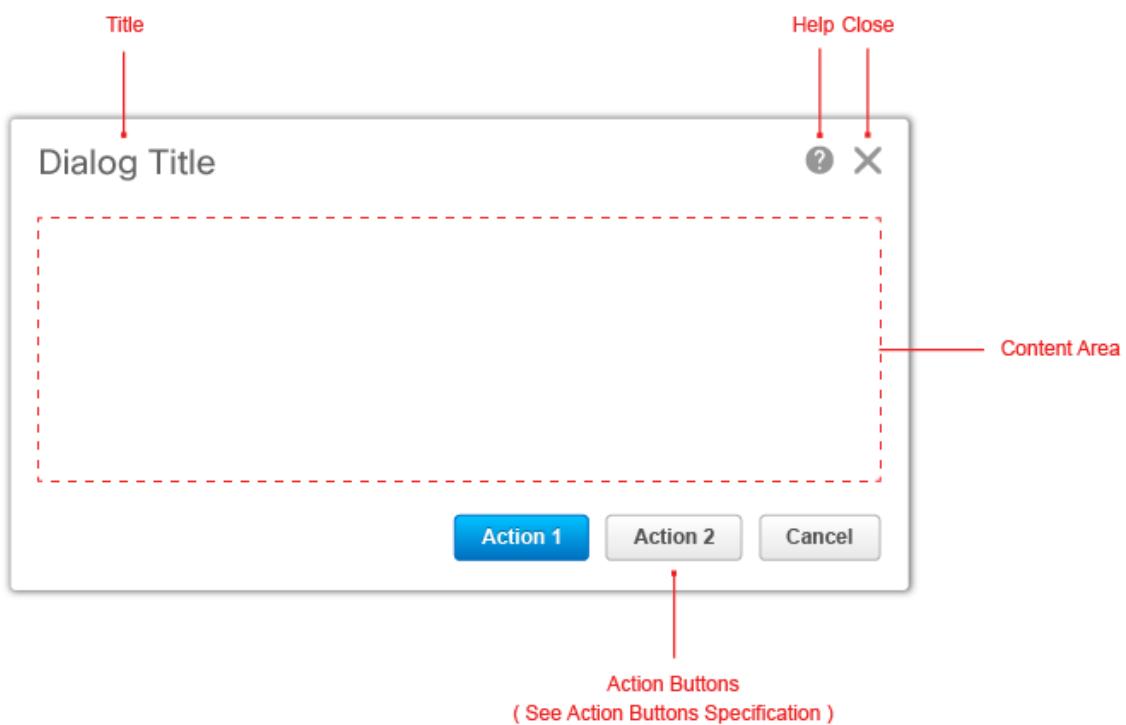


Figure 2. Dialog Elements.

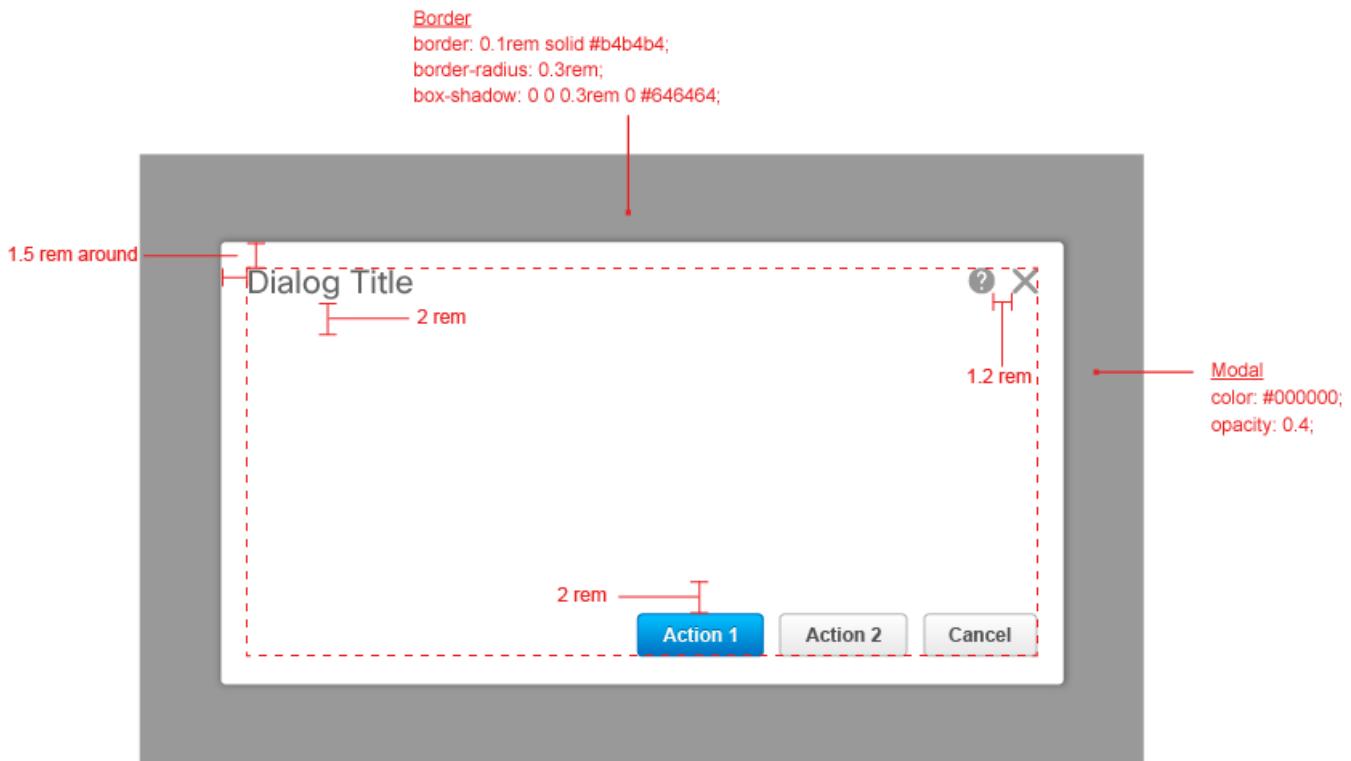


Figure 3. Dialog Specifications.

Font and Color Specification

Element	Example	Font Family	Size	Style	Color
Dialog Title	Dialog Title	CiscoSansRegular, Arial	2 rem	Normal	#646464

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Close				1.6 rem	#969696	#74bad1	#379bbe
Help				1.6 rem	#969696	#74bad1	#379bbe

Table 2. Icons Specifications

Dialog Title

The title bar identifies the task or action that requires user interaction. The format of the title is different depending on the task the dialog supports.

Dialog Purpose	Title Guidelines
Define or complete a task	Use the a verb (the action of the task) in the title (e.g., Print)
Define an object	Use an object name in the title (e.g., Router SL72 Properties)
Define a task for an object	Provide both the task name and the object (e.g., Configure Router SL72)

Content Area

The content area contains instructions, descriptive information, and controls to allow the user to provide the required information. Common components include instructional text, checkboxes, combo boxes, drop down lists , radio buttons, and text boxes and text areas, other controls may be used as required.

Optional elements that may be used as needed in the content area include Tabs, Group boxes, Separators, Required field indicators.

Content can contain forms, tables or other content that is relevant to the task and is necessary to present in a modal dialog.

Command Button Area

The command button area contains buttons that allow the user to finish their interaction with the dialog. Typically, the buttons allow the user to acknowledge the input or simply cancel/close the interaction. The command buttons are right-justified in the command button area.

Must contain a "close" or "cancel" equivalent.

Close Action Element

A general "close" element that will dismiss the dialog without any function taking place (equivalent function as if the user used the 'Cancel' button).

Background Mask

The background mask covers the application window with a semi-transparent mask. This effect allow the user to focus on the dialog content.

Interaction Behavior

- The dialog box will be launched at the center of the screen in the parent window
- The diaog box may be moved, but cannot be minimized
- Users cannot make any changes to the parent window when the modal dialog is open

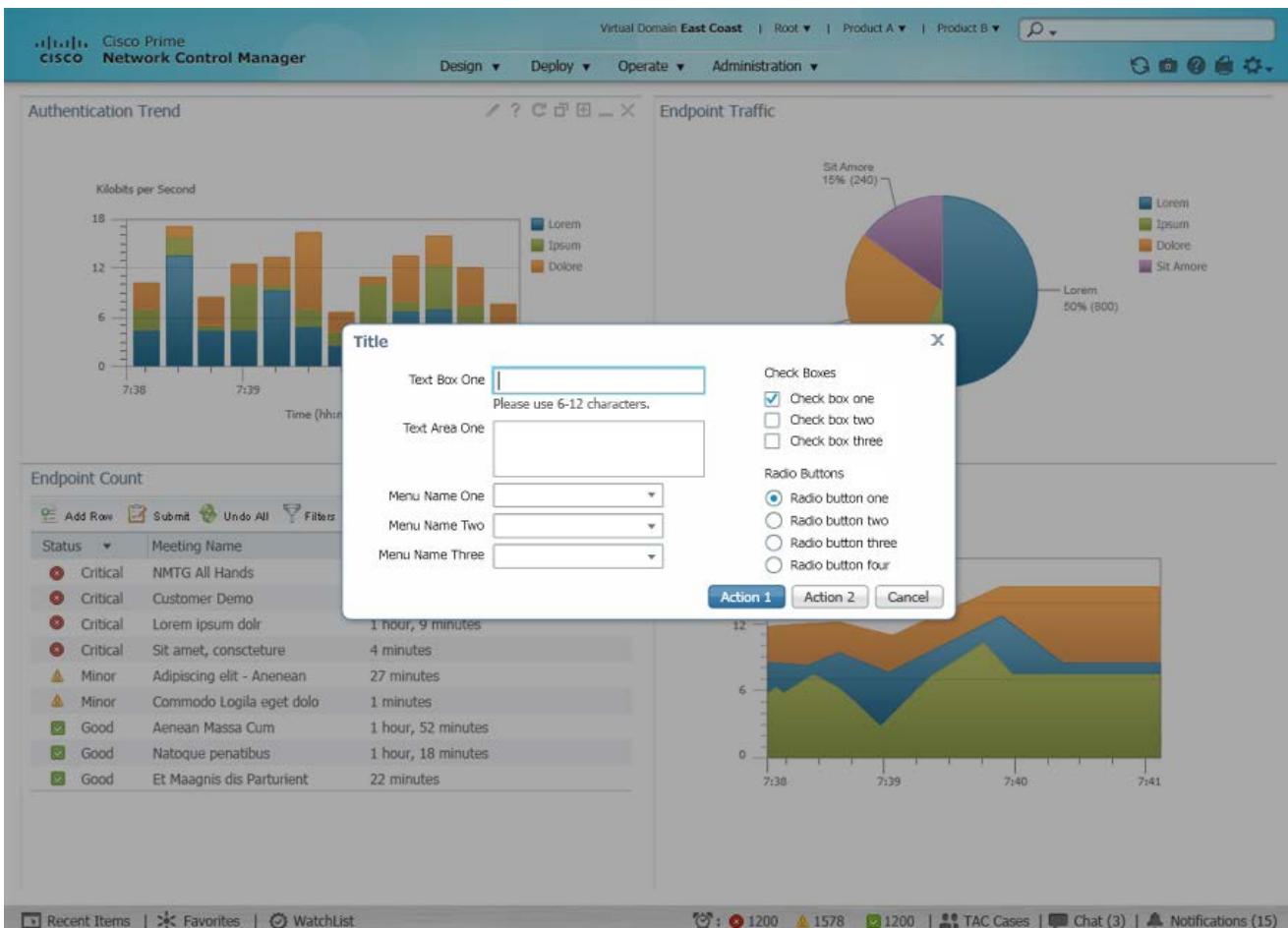


Figure 5. Dialog Launched at the center of the screen.

Content

The content area can contain any of the components that are present in the normal content area of an application. The primary purpose of this element is to allow the user to view or manipulate additional information and retain context of the original task.

Buttons

The command buttons that apply to the dialog box are located in the command button area at the bottom of the dialog box. In most cases, the command buttons are left-justified in the lower left-hand corner of the dialog. Alert Boxes, which have their buttons centered in the command button area, and Wizards, which have their buttons right-justified in the lower right-hand corner of the dialog are special cases of dialogs that are exceptions to this rule.

Please see more information on action/command buttons visual specifications [here](#).

Buttons for Modal Dialogs

'OK' and 'Cancel' buttons work well in a modal dialog box, but depending on the circumstances, other buttons may be used. Figure 5 shows a simple dialog box with 'OK' and 'Cancel' buttons.

- Acknowledging the dialog prompt:
 - The 'OK' button acknowledges the user's interaction with the dialog and closes the dialog. In most cases, this button is the default button.

- NOTE: To acknowledge and close a dialog box, the button label may be the name of action itself (e.g., Print). However, keep in mind that the action may have been communicated by the button that originally invoked the dialog box and is also typically the title of the dialog box.

- Dismissing the dialog:
 - The 'Cancel' button instructs the system to ignore the current action (including any changed settings) and close the dialog box.
- For more details on buttons and buttons labels, see Buttons.

Default Buttons

The Command Button Area may contain a default command button. The default command button is the button that is activated when users press Enter (or Return) on the keyboard. The default command button has the light blue (hover) fill as specified in Buttons.

- In most cases, the default button should represent the most frequent action.
- The default button should typically be the leftmost button.
- A button whose action might cause a loss of data should not be set as the default. Users could press the Enter key on the keyboard without reading the message. If the most common action is one that could result in data loss, do not provide a default button.

When keyboard focus is on a control that accepts the Enter key, such as a multi-line text area, the default button is not activated when users press the Enter key. Instead, the insertion point moves to the beginning of a new line.

QUICK VIEW PANEL

Description

The quickview panel is an overlay panel whose purpose is to disclose more information without forcing the user to leave the current view. The quickview panel provides additional data about an object within the context screen, without requiring navigation to a new screen. Hovering over the object, or in some cases its hover hint (see below on usage guidelines), displays the in-context quickview.

Usage Guidelines

Quickview panels are useful for providing quick access to additional data within the current screen.

Use this component when...

- There is additional object data available for quick reference
- More information may be needed by a user for verification.
- Viewing hidden or lesser used information (e.g., properties of an object).
- It is necessary to allow the user to temporarily access information but remain in the context of a task.
- You want to provide summary data on a screen but also provide a simple method to quickly access a more detailed view.

Do not use this component...

- As a substitute for an alert or error dialog box
- As a modal dialog or for complex data input.
- To display critical identifying information for the object. This component is intended for supplemental information.
- As a critical or important part of a task
- When a task could easily be presented and complete on the "top" level of the UI.
- When complex secondary actions are needed that would require a dialog box or wizard.

In some instances, a quickview is launched directly from an object itself. In other cases, a quickview is launched from an object's associated hover hint. User expectation within a given context determines whether or not a hover hint should be used. The question becomes: Is the object itself enough of an invitation to draw user interaction, or is the additional invitation of the hover hint necessary for a user to discover the quickview?

The usage guidelines for hover hint are provided here. If you are interested in a more in-depth explanation on the reasoning behind these guidelines, see just below the bulleted lists.

Use a hover hint to indicate quickview on:

- Text, labels
- Icon in the cell of a table row

Do not use a hover hint to indicate quickview on:

- Hyperlink

- Button
- Topology device icons - all devices have QVs
- Topology device grouping - all groupings have QVs
- Catalog item images (e.g. SCP) - all items have QVs
- Icon badging a form field upon input error
- An image in a series of images representing a workflow process

Two factors are relevant when answering the initial question raised above.

The first is user expectation based on similar objects in a given context. For example, while browsing a catalog (with items represented as images) or traversing a topology map (with devices represented as images), the user would expect to invoke details on demand while hovering over an image. All images in such a context behave similarly and bubble up detailed information about the object with a quickview, and as such, serve as the invitation for user interaction. A user would be caught off guard if a few of these images did not have quickviews (and as an aside, we would need to display this fact to the user in a tooltip, so that he is not left wondering after a failed attempt to invoke a quickview). Contrast this setting with an icon in a table row, where: 1. We've established a user expectation that cells with quickviews will have hover hints, and 2. After discovering what the icon represents, the user would have no impetus to interact with it to uncover additional information. Most icons in table rows do not have their own dedicated quickviews, and so for one that does, a hover hint needs to be employed in order to key users in on the availability of a quickview. The same logic suggests why text labels need hover hints - most text does not have a quickview, and so the user needs additional invitation to interact with a text label to surface additional information.

The second factor relevant to the original question is user expectation based on the function of an object on a page. For instance, we might badge a text input form field with a warning icon when there is an input error. In this context, the presence of the icon itself is an invitation for user interaction, so that the user might discover the reason behind the error state. An additional hover hint next to the icon is not needed. Similarly, a user expects to interact with buttons, link, and toolbar icons, and so additional invitation to inspire user interaction using a hover hint is unnecessary - the objects themselves are invitation enough. Contrast these examples with labels next to text input form fields. These labels of text are intended to describe the piece of information that the user may enter into a field. The user has no expectation, based only on the text label, to interact with the text for additional information about this item. In this case, it is necessary to badge the label with a hover hint icon to inform the user about the availability of a quickview.

Quickview Title Usage Guidelines

In general, a title should be included in the quickview in order to specify the type of content shown, add context, or provide additional clarity. In a generic quickview, the title would reflect the information presented or the task at hand (e.g. "Alarm Summary"). Do not use a generic title like "Additional Information".

Visual Specifications

Size

- Minimum: content plus padding of 1.5rem around all edges
- Maximum: width 48rem, height 34rem



Figure 1. Quick View Overview.

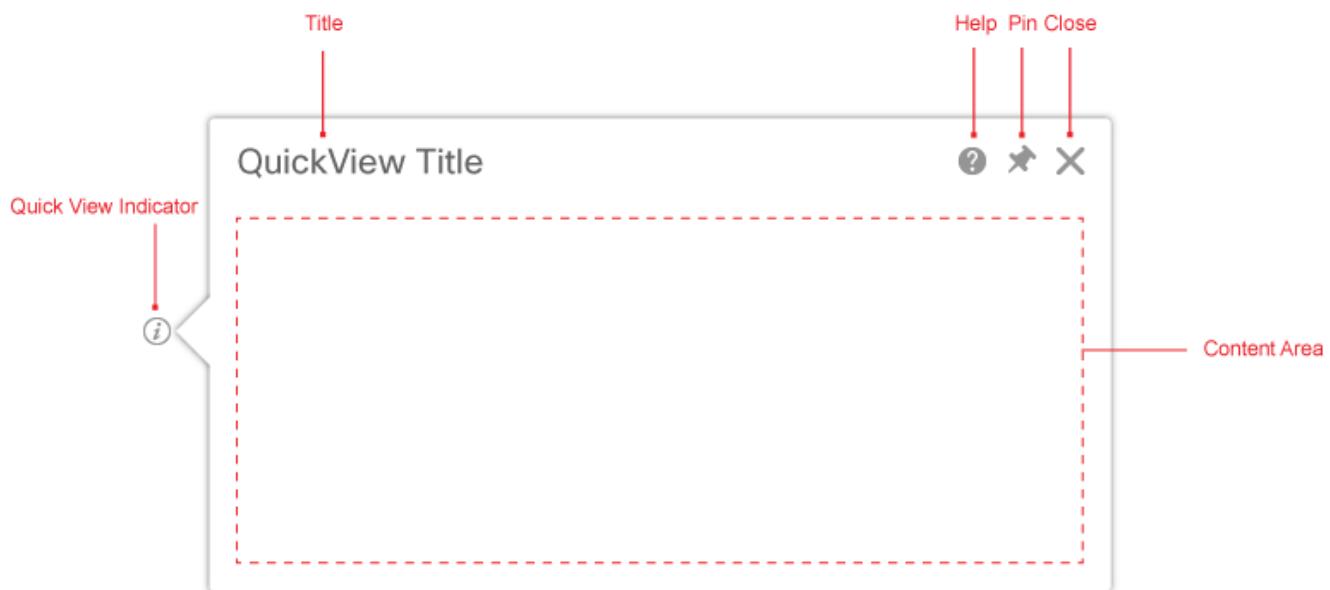


Figure 2. Quick View Elements.

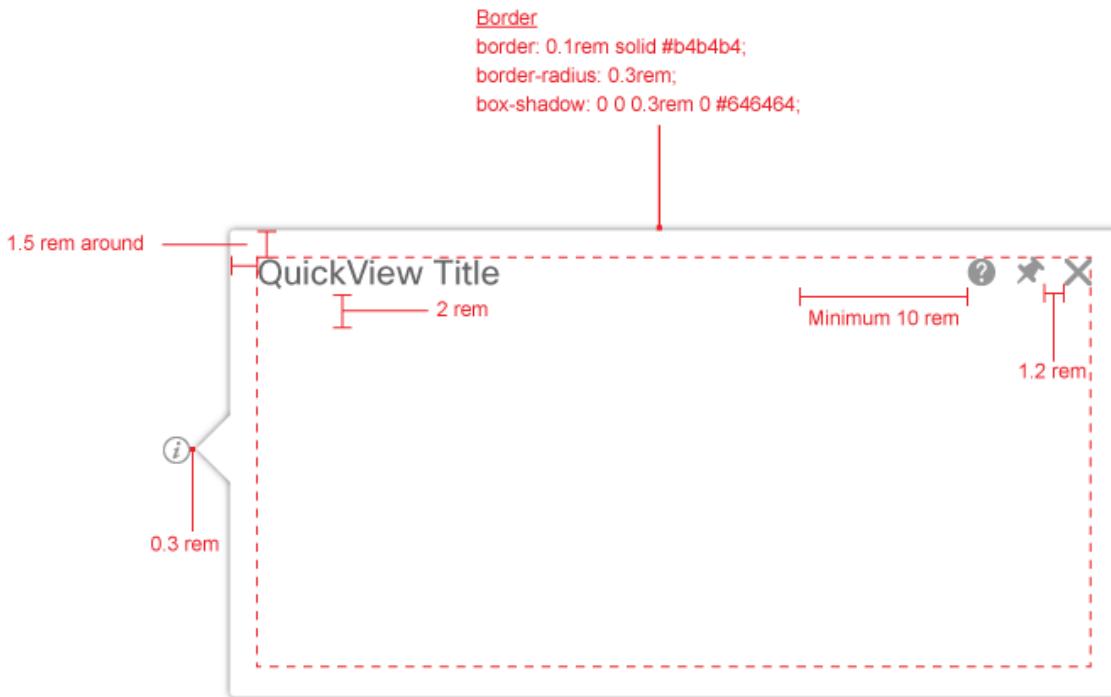


Figure 3. Quick View Specifications.

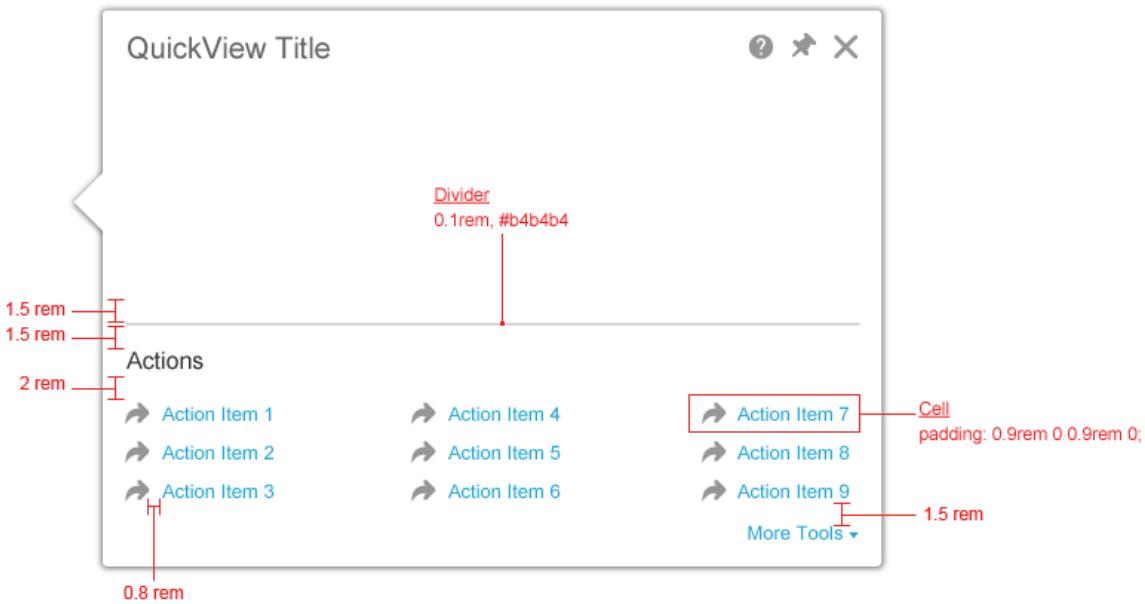


Figure 4. Quick View Actions Area Specifications.

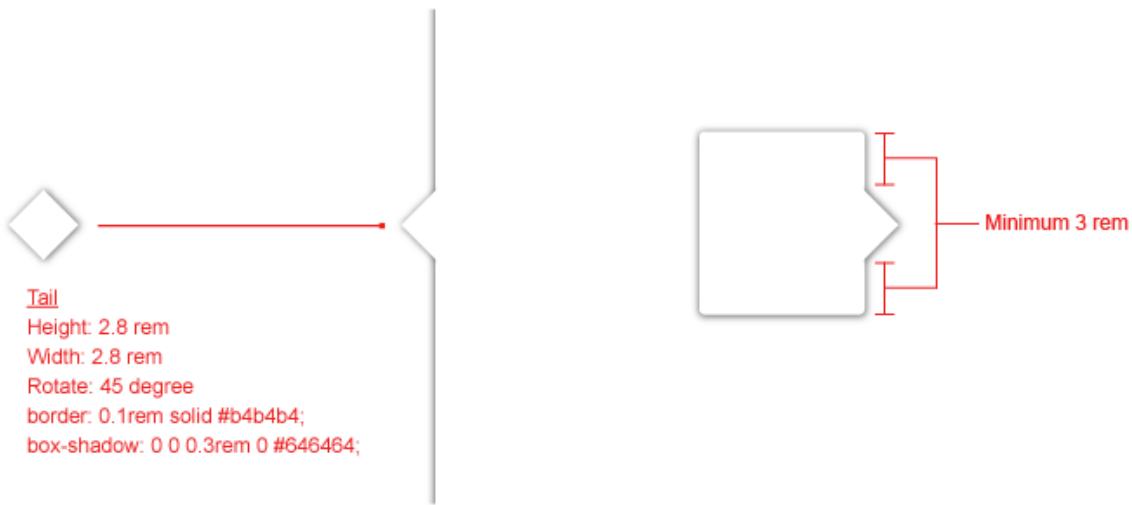


Figure 5. Quick View Tail Specifications.

Font and Color Specification

Element	Example	Font Family	Size	Style	Color
Quick View Title	QuickView Title	CiscoSansRegular, Arial	2 rem	Normal	#646464
Action Area Title	Actions	Arial	1.6 rem	Normal	#323232
Action Area Links	Action Item 1	Arial	1.3 rem	Normal	#28aad7
Action Area Links (Hover)	Action Item 1	Arial	1.3 rem	Normal, Underline	#28aad7

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Quick View Indicator				1.6 rem	#969696	#74bad1	#379bbe
Close				1.6 rem	#969696	#74bad1	#379bbe
Pin				1.6 rem	#969696	#74bad1	#379bbe
Pinned			icon_rotate-45 (for rotation)	1.6 rem	#969696	#74bad1	#379bbe
Pinned (Disabled)			icon_rotate-45 (for rotation)	1.6 rem	#c8c8c8		
Help				1.6 rem	#969696	#74bad1	#379bbe
Actions				1.6 rem	#969696	#74bad1	#379bbe
Action Arrow (Point Up)			icon_rotate-90 (for rotation)	0.7 rem	#28aad7		
Action Arrow (Point Down)			icon_rotate90 (for rotation)	0.7 rem	#28aad7		

Table 2. Icons Specifications

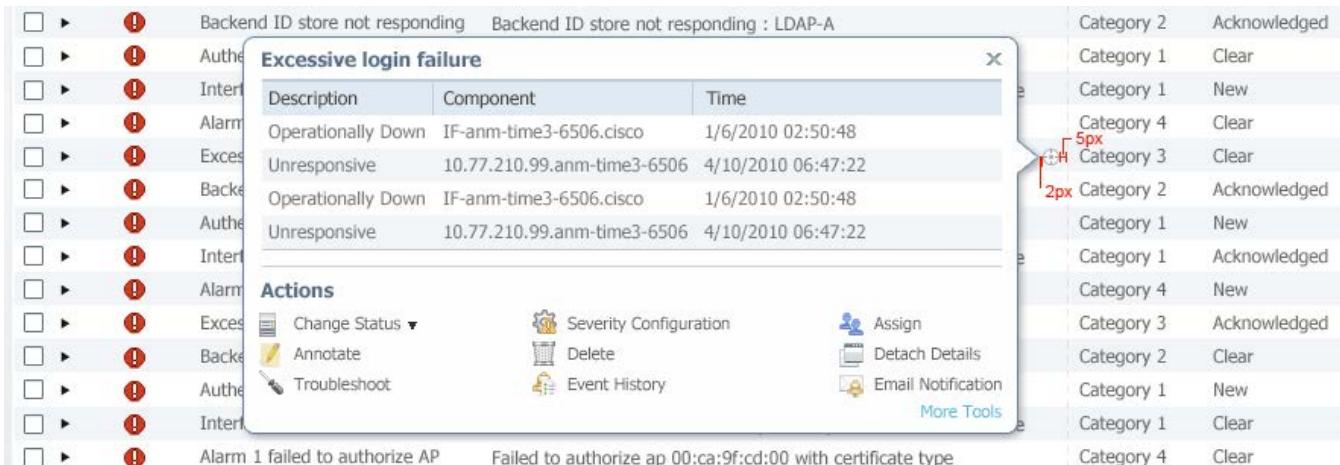


Figure 4. Quick View Access Point Icon.

Interaction Behavior

Displaying the Quickview Panel

Upon mouse over on certain objects, a hover hint is shown to give the user a visual cue that there is further information for that object. The quickview can also be displayed directly from an object itself. See usage guidelines for details on when to use a hover hint. QV invoke behavior is the following:

- A user can hover to invoke QV (displays after 250ms delay) or click to invoke (displays immediately)
- If a target element already has a click event associated with it, the QV is launched from this element only via hover
- Note: This point refers to images/links/buttons/etc that have a QV launched from the object itself, rather than a hover hint. In this case, the object preserves its original click event, and just hovering over the object invokes the QV.
- There should be an interval of 100ms after a hover event triggers to invoke the QV, during which click events are not registered (to prevent accidental dismissal).
- If the mouse pointer has moved away within the 250 ms time period to display the quickview, it will not be displayed.

The quickview panel can be associated with any object inside any widget or component. For example, it could be associated with a device label in a table cell or a device icon in a topology view.

Dismissing the Quickview Panel

The quickview panel is only dismissed when:

- Clicking the close control. This close function should always be active, even when the quickview panel content is not yet fully loaded. This acts as 'cancel' in the case of editable QV.
- Clicking a button or link that loads another screen.
- Invoking another QV within the same view or any other view (doesn't extend across iframes)
- Clicking any content outside of the panel. This acts as 'cancel' in the case of editable QV. (**Note:** editable QV is an artifact of 1.5/1.6, and should not be used when popover is available in 1.7)
- A quickview displayed in editable table is dismissed when the user starts inline editing or is editing expanded details inlay panel.

Note: a quickview is still available for other table rows that are not in an edit mode. Upon clicking another row quickview access icon, for a row that is not being edited, and after making changes to a row that is being edited and has an implicit save, the user will be prompted to save the changes before the quickview is displayed.

- Clicking "Save" or "Cancel" in editable QV (**Note:** editable QV is an artifact of 1.5/1.6, and should not be used when popover is available in 1.7)
 - App teams should be able to send this close event to the QV when a user clicks Save/Cancel
- Keyboard dismissal
 - Non-editable QV
 - When the QV is in focus, ESC closes the QV
 - Editable QV (**Note:** editable QV is an artifact of 1.5/1.6, and should not be used when popover is available in 1.7)
 - When the QV is in focus, ESC closes and cancels
 - When the QV is in focus, Enter closes and saves
 - When the QV is in focus, Browser resize shouldn't close the QV. QV can get truncated if the browser size is too small. See shell specs.

Timing and Animation

Often there are many objects on a page that can initiate a quickview panel. To enhance the feeling of natural motion, the quickview panel should fade in from 0% opacity to 100% opacity, with linear easing, over 250 ms. The dismissal animation should be the reverse of the opening animation.

For a quickview that can take a long time to load, over 2 seconds, the container border should be shown first, with a progress indicator inside the panel content area until the quickview panel is loaded completely. In any case the Close button should immediately be available so that the user has the ability to close the panel even before it has fully loaded. For more information on how to use progress indicators please see the [progress indicator specification page](#).

Quickview Display in Table

For quickview displayed in a table there can be two primary use cases. The first one would be when a quickview is used to show additional information for the entire table row. The latter is when the quickview is displayed for additional information on a specific table cell.

For both cases when the user hovers anywhere over the table row all of the table row quickview access icons will be displayed. To show the associated quickview the user then needs to hover over each one of the access icons and the quickview will be shown upon hover delay of 250 ms.

Quickview Behavior with Moving Target Node on Page

- QV launched from table row, object selector row, or tree node row (i.e. widgets with independently scrolling subviews within the context of the page)
 - User-initiated scroll event in subview (via subview scrollbar, mousewheel, or trackpad)
 - Closes quickview
 - Non-user-initiated scroll event in subview (e.g. automated row scroll via table auto-refresh)
 - Persist quickview in place; quickview loses its tail to remove association from object that launched it
 - If the user then scrolls the outer page, the quickview behaves as defined in the "normal condition" below - it scrolls out of view as the user scrolls the page (just like the associated table/OS/tree subview scrolls out of view on the page)
 - After this point, this QV is dismissed via user-initiated scroll event in subview, or standard quickview dismissal conditions
- Quickview launched from object on page (normal condition)

- When page is scrolled (via scrollbar, mousewheel, or trackpad), the QV does not lose its tail, and stays in place in the context of the page (NOT in place relative to the browser chrome). Effectively, as the user scrolls down the page, the quickview will scroll out of view.
- Examples
 - If the user invokes the virtual domain QV and scrolls the page, the QV keeps its tail, and scrolls out of view as the user scrolls down the page
 - If the user invokes a QV on a table row, and the table row behind the QV is scrolled via auto-refresh, the QV loses its tail and stays in place in the context of the page. If the user then scrolls the page, the QV still remains tail-less, and remains in place in the context of the page, as this QV now inherits the "page scroll" rules.
 - If the user invokes a QV on a table row, and then scrolls the underlying table, the QV closes.

Element Behavior Summary

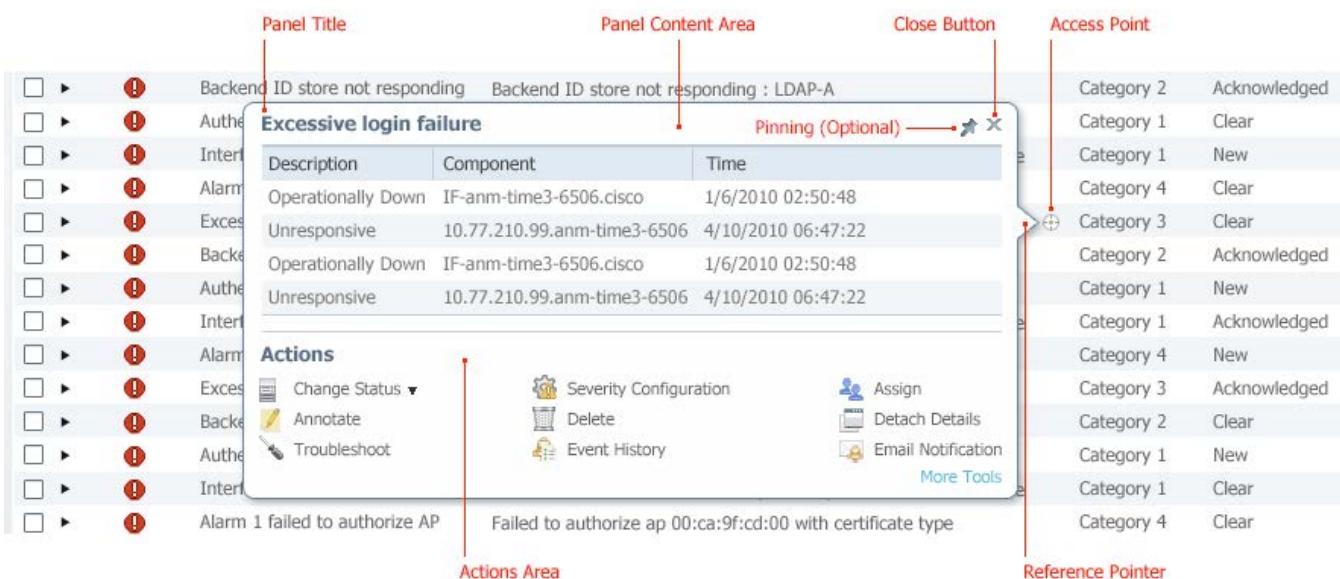


Figure 5. Quickview Elements.

Element	The arrow pointer on the panel that points back to the object that it is referencing.
Reference Pointer	A text label describing the contents of the quickview panel.
Panel Title	The main display area of the quickview panel in which the information about the object is displayed.
Panel Content Area	An area for key actions that can be taken for the object and the information shown in the panel content area.

Action Area	An area for key actions that can be taken for the object and the information shown in the panel content area.
Sub-panel (not in any version of the quickview)	A small panel that acts as the navigation control for the main panel.
Close Button	To dismisses the quickview panel.
Pin Button	To pin the quickview panel.

Table 2. Quickview Panel Elements

Reference Pointer

The reference pointer is the arrow which points back to the object being referenced by the quickview panel. It should be positioned 2 pixels to the right of the access arrow. In case there is insufficient real-estate to display the quickview panel on the right the reference pointer should be placed 2 pixels to the left of the access arrow followed by the quickview panel.

Panel Title

The panel title is a text label that describes the panel content. The title is optional - see usage guidelines for when to use title.

The panel title row also contains an icon located in the upper right corner:

- **Close icon** - clicking on the close icon dismisses the quickview panel. This icon is always active, even when the quickview panel is not completely loaded.
- **Pin icon (optional)** - Pinning should generally only be removed in cases of the quickview content being a contained, isolated task that is irrelevant of other information on the page (e.g. in-context change of a password next to label/value pair). In this case, the quickview is not likely to potentially obscure information which the user would need simultaneously, and thus the user would not need to pin for moving or comparison purposes.

Panel Content Area

The panel content area is the main display part of the quickview panel, where additional information for the referenced object is shown. It can contain widgets such as property panel, events table, charts, etc. The information shown in this area must be specific to the referenced object. The information can be dynamic.

Actions Area

The actions area provides access to key actions that can be taken on the object and the information shown in the panel content area. An action can be represented by a text link with or without an icon. By default, if there are more than 6 actions, only the top six should be shown. The remaining actions should be hidden until the user click on the "More Tools>>" link located in the bottom right corner of the panel. This expands the actions area to show all the actions available.

Sub-panel (not in any version of the quickview)

The sub-panel is a small expandable and collapsible panel that serves as the navigation control for the main panel. It contains links to the different information views available for the referenced object. Hovering the mouse pointer over any of the links in the sub-panel will change the panel title and the information shown in the panel content area.

By default the sub-panel is expanded when the quickview is displayed. The sub-panel can be expanded or collapsed by clicking on the the expand/collapse toggle button in the upper right corner of the panel title bar.

It is recommended to limit the number of information views to no more than five. Do not overload the quickview panel with too much data as this can impact performance.

Read - Only / RBAC

Use Cases

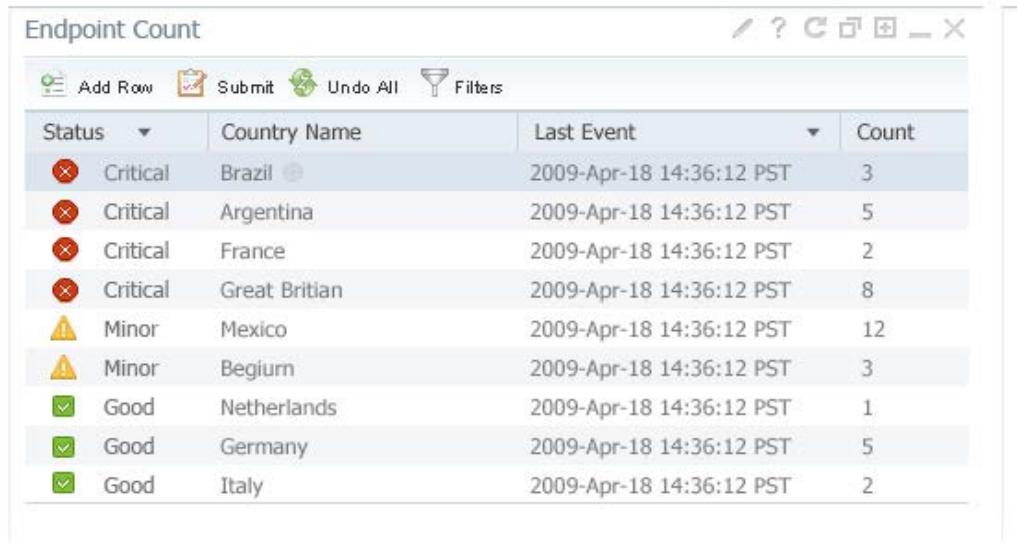
User has permission to view some quickview panels but not others

Interaction Sequence - Initial State

- Upon navigation to the view/page containing the quickviews:
- No access icons are visible upon entry, since they are displayed on rollover only.

Access icon interactions

- Upon hovering over a row for which a quickview is available, the access icon is displayed.
 - The access icon is disabled if the user does not have permission to view the quickview for that object instance
 - The access icon is enabled if the user does have permission to view the quickview for that object instance
- Upon hovering over an enabled access icon, the quickview is displayed.
- Upon hovering over a disabled access icon, a tool tip is displayed "You do not have permission to view additional information for this row." (or words to that effect)
- Any quickview content that the user doesn't have rights to view for this or any object instance is hidden or inaccessible (e.g. if none of the action panel links are available to the current user, the action panel expand/Collapse toggle button should not be visible)
- Any quickview content that the user doesn't have rights to edit for any object instance is read-only
- Any quickview content that the user doesn't have rights to edit or functions the user doesn't have rights to perform on this object instance are disabled.



The screenshot shows a 'Endpoint Count' quickview panel. At the top, there's a toolbar with icons for 'Add Row', 'Submit', 'Undo All', and 'Filters'. Below the toolbar is a table with the following data:

Status	Country Name	Last Event	Count
✖ Critical	Brazil	2009-Apr-18 14:36:12 PST	3
✖ Critical	Argentina	2009-Apr-18 14:36:12 PST	5
✖ Critical	France	2009-Apr-18 14:36:12 PST	2
✖ Critical	Great Britian	2009-Apr-18 14:36:12 PST	8
⚠ Minor	Mexico	2009-Apr-18 14:36:12 PST	12
⚠ Minor	Belgium	2009-Apr-18 14:36:12 PST	3
✓ Good	Netherlands	2009-Apr-18 14:36:12 PST	1
✓ Good	Germany	2009-Apr-18 14:36:12 PST	5
✓ Good	Italy	2009-Apr-18 14:36:12 PST	2

Figure 6. Quickview Panel with a Disabled Access Icon. [Download Image](#).

User does not have permission to view any quickview panels for an object type within the current context

Interaction Sequence - Initial State

- Upon navigation to the view/page containing the quickviews:
 - No access icons are visible upon entry, since they are displayed on rollover only.

Access icon interactions

- Upon hovering over a row for which a quickview is available, no access icon is displayed.

POPOVER

Description

The popover is a generic, non-modal overlay panel that is tied to an object in the UI and that allows users to view detailed information or complete tasks while remaining in-context.

Usage Guidelines

Popovers are well-suited for use cases which are outside the scope of the more lightweight quickview. Popovers are designed to support progressive disclosure of in-depth information or tasks that cannot be displayed persistently in the primary UI. See the [overlay decision tree](#) if you are unsure of which overlay is most appropriate to use for a given use case.

Use this component...

- When it is necessary to allow access to tasks or detailed information on an object while keeping the user in-context.
- When presenting information or tasks within an overlay that shift the user's focus away from the original launching object (unlike the quickview, which generally preserves this seamless association by providing quick, at-a-glance summary).
- As the base widget for the 360 view.

Do not use this component...

- When presenting content in an overlay that is intended for simple object disambiguation or one-click action-launching. Instead, consider the more lightweight quickview.
- To display information that needs to be acknowledged or acted upon by the user (where the user must respond to a prompt before continuing). Instead, consider a slide-down alert dialog.
- If the user needs to provide additional information before preceding. Instead, use a modal dialog.
- As a substitute for an alert dialog or error message.
- To present a complex wizard in an overlay. Instead, use a modal dialog / task navigator.
- When the contained information and/or actions could be easily presented on the "top" level of the UI.
- If the popover contains so much content that a vertical scrollbar appears when the widget is 800x600 (its global maximum size), or if there is a lot of scrolling necessary at a smaller, app-defined size. In this case, either the content needs to be better organized using sub-sections or drilldowns within the popover, or the widget should not be used in this case. If larger screen real-estate is needed, a dialog or a drilldown page would be more appropriate.
- If the overlay is not tied to an object in the UI. Instead, consider a modal or modeless dialog.

Displaying the Popover (App Team)

The popover is launched via an explicit click on the originating object. This object may be the popover launcher icon, a link, a button, or another image/icon.

The popover can be associated with any object inside any widget or component. For example, it could be associated with a device label in a table cell or a device icon in a topology view.

Dismissing the Popover (App Team)

In addition to the widget-level close behavior (described in the spec), app teams should close a popover in certain conditions. Those are:

- If popover contains a task and the results do not display within the overlay, then after the user acknowledges that he has completed the task by clicking certain action buttons (e.g. "Save", "Cancel", "OK", etc.)
- The user invokes another popover that contains actions which would affect the content in a previous popover. The first popover should close in this case, as to prevent out-of-sync or stale data from being persisted in the UI.
- Note: This condition does not apply if the popover is pinned (an optional attribute - see below)
- Clicking on the launching object toggle on/off, in conditions described in spec

Popover Indication Usage Guidelines

Use a Popover Indication Icon to signify popover on:

- Links with independent action (always visible)
- Used in cases link has independent action (such as drilldown) compared to action of launching popover (by clicking on popover icon). If link's purpose is to launch a popover, do not badge with a popover icon.
- Static text on page (always visible)
- Static text in table cell (visible on hover over table row)
- Icons in table cell (visible on hover over table row)

Do Not Use a Popover Indication Icon to signify popover on:

- Links that trigger a popover
- Buttons
- Images
- Icons (not in table cell)

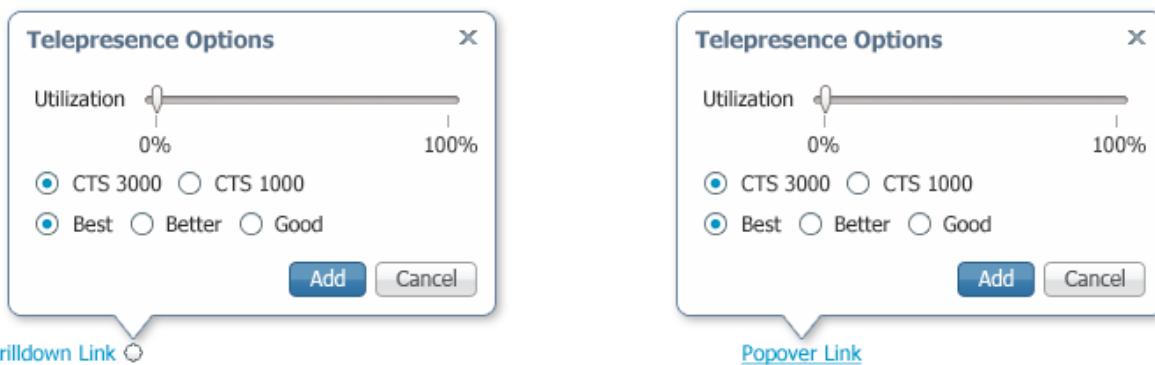


Figure A. Popover Launched From Links

Disabling Launch Point on Pin

If pinning is enabled in a popover, then in most cases, the anchor point which launched the popover should be disabled as soon as the popover is pinned. This would usually be the case if the popover is launched from an icon or button - while the popover is pinned, clicking on the icon or button has no effect, and it should therefore be disabled. If un-pinning is enabled in a popover, then un-pinning would re-enable the icon or button, since the popover is again attached and clicking the anchor point has an action associated with it.

The exception to this guideline would be if the anchor point has additional meaning and significance above and beyond launching the popover. For instance, if the popover were used to provide additional information on devices in topology, then pinning an instance of the popover would not disable its associated device icon. That device carries additional meaning and purpose, and so disabling it would not be appropriate in this case. Another exception would be links or images, which may not have disabled states.

Popover Content Guidelines

The popover can contain almost any widget - it is designed to be an empty overlay canvas. It can even contain a quickview or another popover, although it is strongly recommended not to exceed 2 total levels with this stacking (in fact, preferably, there would be no overlay stacking at all without a clear design justification). If there is an additional overlay, it is not contained within the borders of the original popover, but appears at a layer above.

Scrollbars should be avoided in the popover whenever possible. A vertical scrollbar is acceptable when content exceeds the maximum size of the popover instance (although consider if a popover is the correct widget to be using with so much content, as stated above in "Do not use this component..."). A horizontal scrollbar is almost never acceptable in a popover, and should generally not be used.

In the case that a popover instance contains dynamic repeater rows or expand/collapse title panes, the popover should be configured to both grow and shrink in height as the user manipulates the content. Reference implementation is available in the XWT Widget Explorer to demonstrate how this configuration can be achieved without incurring a performance hit.

[Design patterns for content](#)

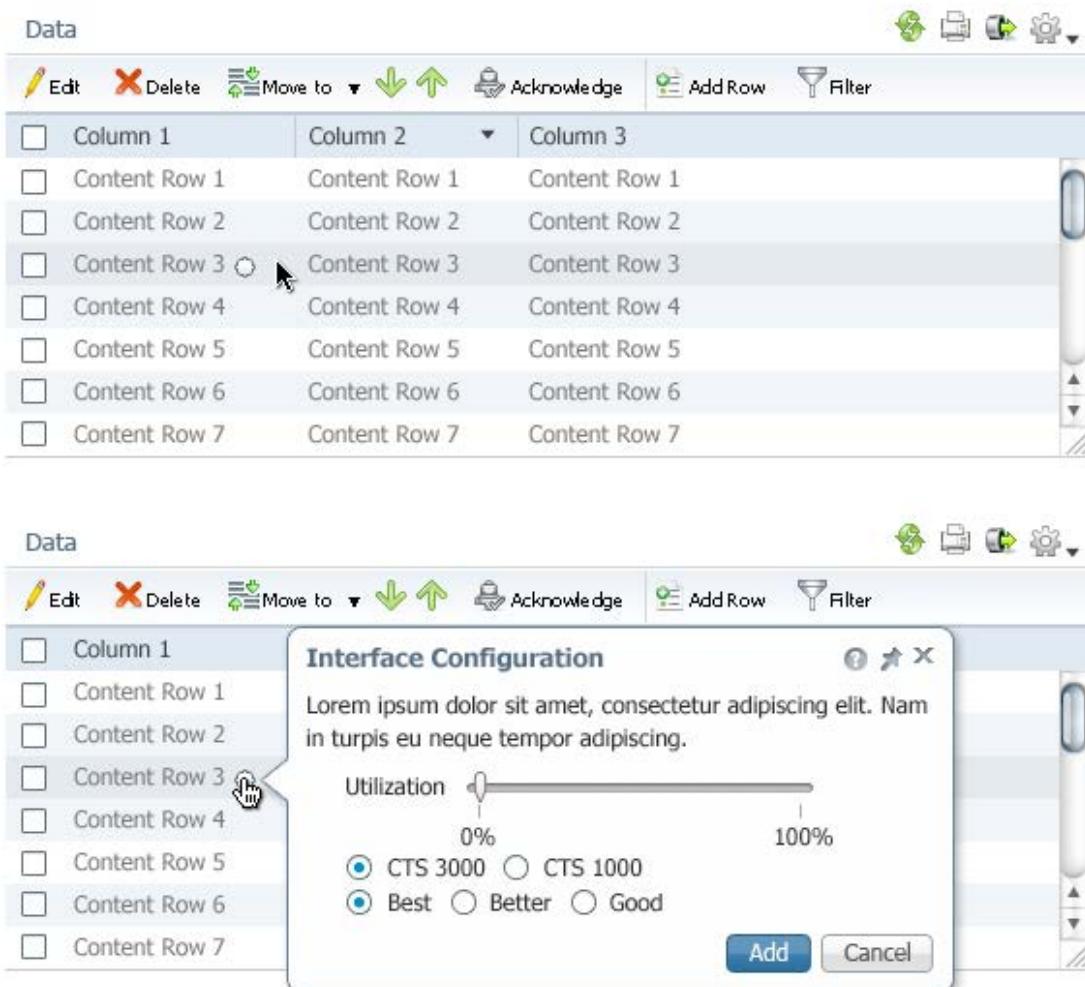
Popover Title Usage Guidelines

In general, a title should be included in the popover in order to specify the type of content shown, add context, or provide additional clarity. In a generic popover, the title would reflect the information presented or the task at hand (e.g. "Access Point Details"). In a popover being used to provide a 360 view, the specific object instance name should be used as the title (e.g. "SAM-5-BR2-MGMT"). Do not use a generic title like "Additional Information" or "Device 360 View".

Popover Hover Hints

1. launches on hover or click
2. has pinning available
3. can contain other heavy content inside (ex, table, images etc)

When a Popover Indication Launcher Icon appears, Click on it to launch popover:



The screenshot shows a data grid interface with the following components:

- Data Grid Header:** Includes "Edit", "Delete", "Move to", "Acknowledge", "Add Row", and "Filter" buttons.
- Data Grid Body:** A table with three columns: Column 1, Column 2, and Column 3. Rows are labeled "Content Row 1" through "Content Row 7".
- Popover Dialog:** Titled "Interface Configuration". It contains the following elements:
 - A descriptive text block: "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam in turpis eu neque tempor adipiscing."
 - A "Utilization" slider set between 0% and 100%.
 - Three radio button groups:
 - "CTS 3000" (selected)
 - "CTS 1000"
 - "Best" (selected)
 - "Better"
 - "Good"
 - Buttons: "Add" and "Cancel".
- Mouse Interaction:** A cursor is hovering over the "Content Row 3" row, specifically over the icon in the first column of that row, which triggers the popover.

Figure B. Popover indicator icon appears by hovering on the table row. Clicking on the icon brings up the popover

When a help icon appears Hover/Click on help Icon to launch popover hover hints:



Figure C. Hover on task navigator brings up help icon. Hover or click on the help icon launches popover hint

Table Title					
	Name	IP Address	Type	Scheme	Status
<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On
<input type="checkbox"/>	R10008-3		No Change	No Change	Off
<input type="checkbox"/>	R10008-4		No Change	No Change	Off

A contextual help box is overlaid on the table, centered over the second row. The box has a title 'Contextual Help' and contains the text: 'This is a simple text box. It takes any text as input.'

Figure D. When the table is in edit mode, a help appears besides table cells. Hover/ Click on the help icon launches popover hint

Hover/Click on QV access icon:

The user may need some assistance in editing editable table content that is either unfamiliar or require entry in a specific format. Note that it is preferable for the system to accept multiple format entries and parse them appropriately, or to provide the user with drop-down lists or other pre-defined sets of choices, but in some cases that is more cumbersome than allowing the user to enter a known value. (e.g. U.S. state drop-down lists are seen by many as less efficient than a simple two-letter entry field)

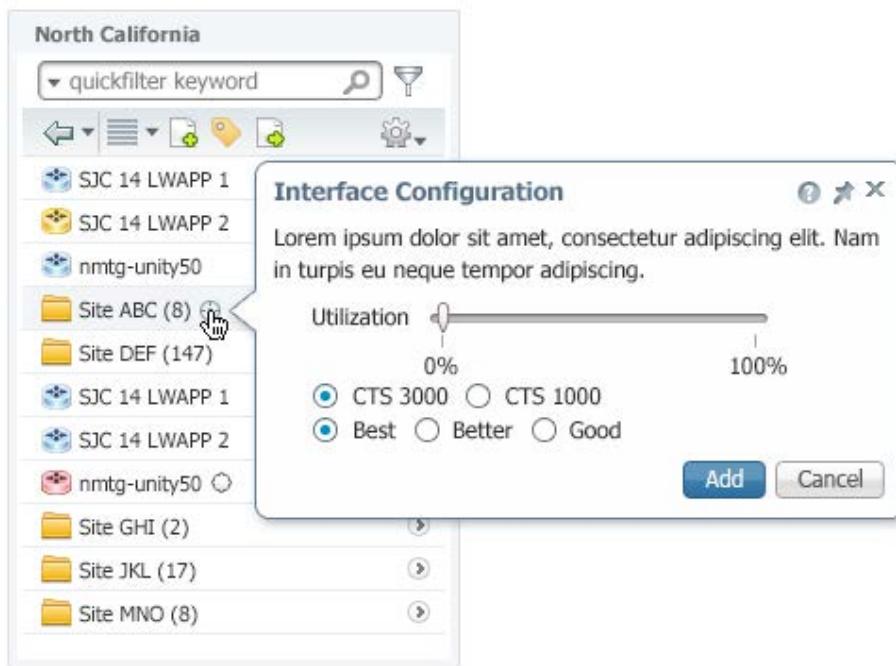


Figure E. When you hover on the quick view access icon, a popover hint appears

Visual Specifications

Size

Minimum: content plus padding of 1rem around all edges (Except in case of loading)

Maximum: width 8 rem, height 6 rem



Figure 1. Popover Overview



Figure 2. Popover Elements

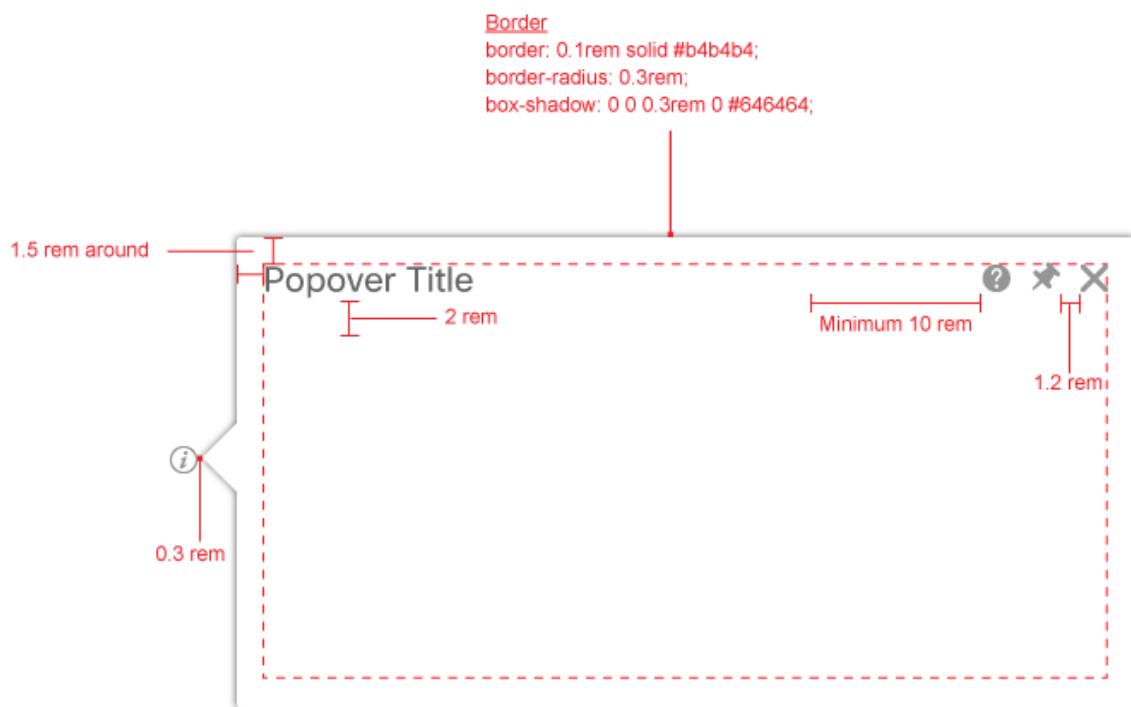


Figure 3. Popover Specifications

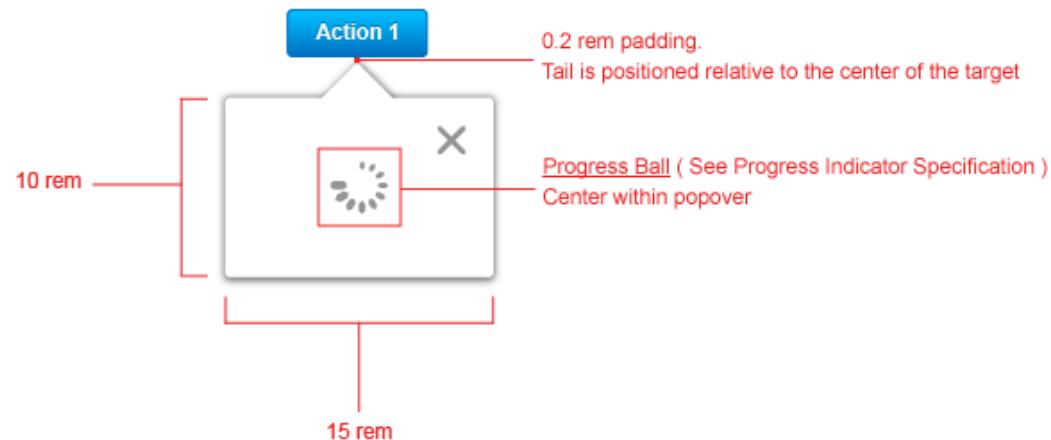


Figure 4. Popover Fetching Content

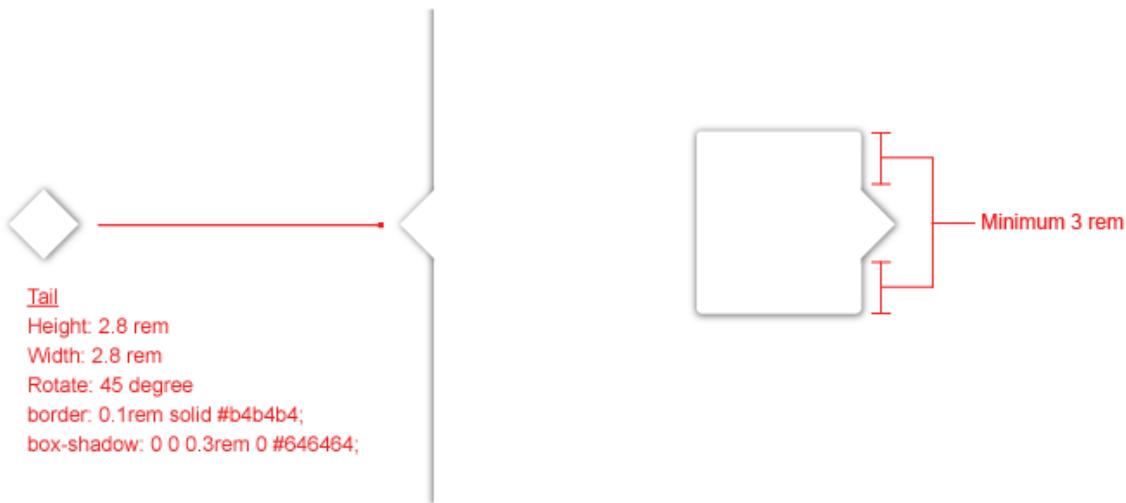


Figure 5. Popover Tail Specifications.

Font and Color Specification

Element	Example	Font Family	Size	Style	Color
Popover Title	Popover Title	CiscoSansRegular, Arial	2 rem	Normal	#646464

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Popover Indicator	»			1.6 rem	#969696	#74bad1	#379bbe
Close	×			1.6 rem	#969696	#74bad1	#379bbe
Pin	📌			1.6 rem	#969696	#74bad1	#379bbe
Pinned	📌		icon_rotate-45 (for rotation)	1.6 rem	#969696	#74bad1	#379bbe
Pinned (Disabled)	📌		icon_rotate-45 (for rotation)	1.6 rem	#c8c8c8		
Help	?			1.6 rem	#969696	#74bad1	#379bbe

Table 2. Icons Specifications

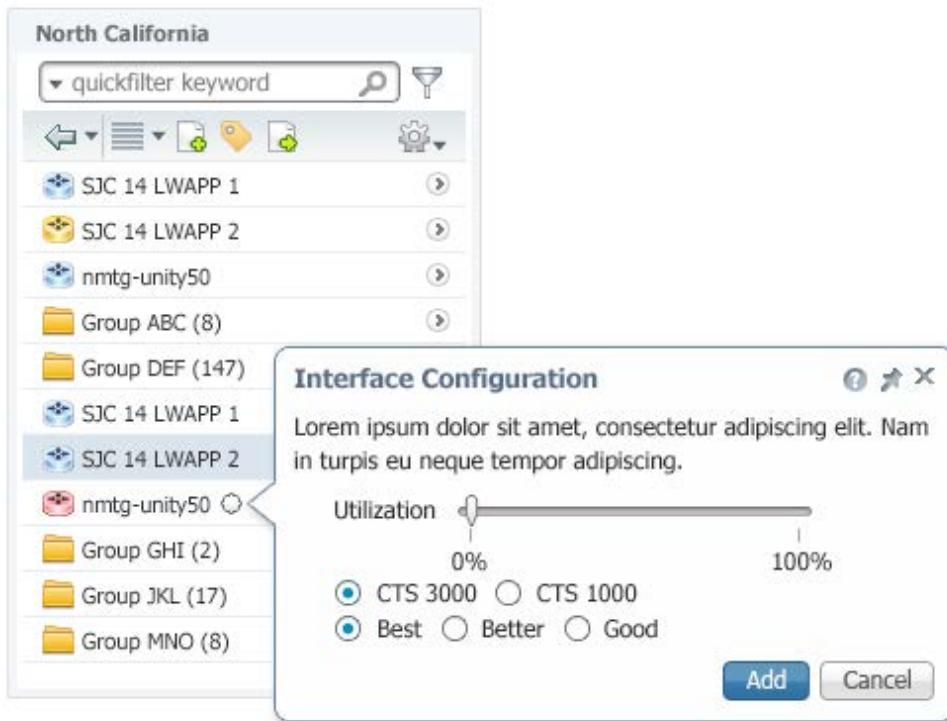


Figure 3. Popover Launched From Object Selector

Interaction Behavior

Widgets with Popover Built-In

For widgets with quickview currently built in (e.g. object selector, table): these widgets will need to support configuration by app teams to specify if the widget instance should use quickviews or popovers. If possible, an app team should just use one or the other in a given instance of OS or table. But if the use case necessitates that some objects have quickviews and others have popovers, then the app team should be able to configure as such. This might be the case if devices have 360 views using popover, while sites just have standard quickviews. In the standard table, a single column could either have quickview or popover exclusively (as the same object type would exist in a given column); however, in a homogeneous column tree table, a column could contain different object types, and therefore could display quickview on some objects and popover on others if necessary. It is important to note that usage must be consistent within a widget instance — objects of the same type may not have quickview on some items and popover on others.

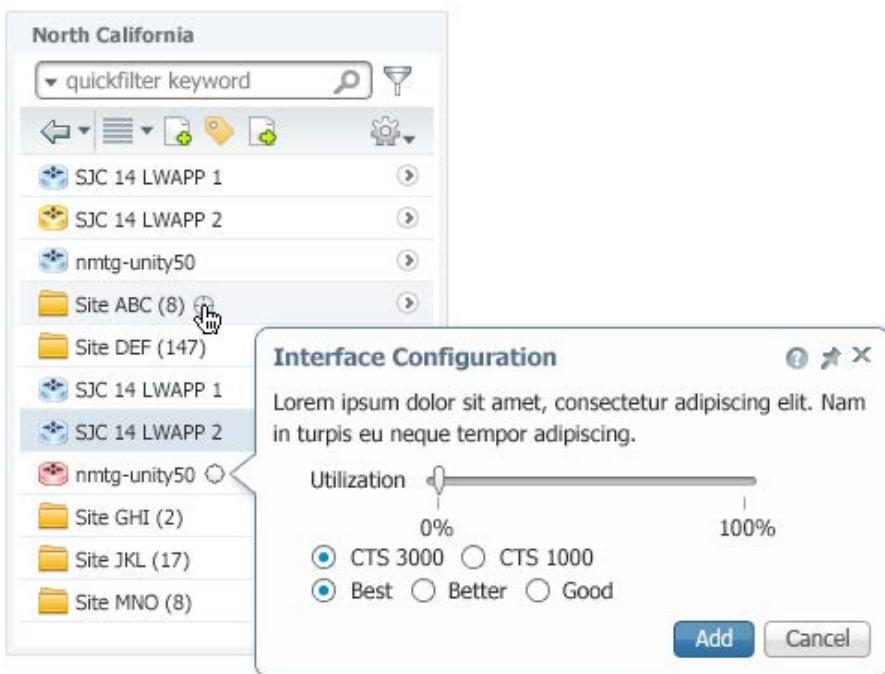


Figure 4. Configurable Overlay Hint in Object Selector

The following was initially specified for when some objects in OS/table/tree have quickviews and others do not, but it applies to popover in these scenarios as well. Across heterogeneous objects, it may be acceptable not to show any popover indication icon on objects that do not have popovers in this instance. For example, if no folders have popovers, but leaf nodes do, then the app team should be able to specify not to show popover indication icons on any of the folders. The user would recognize these as two distinct object types, so different popover availability could be expected, as long as the pattern is consistent in this object selector instance.

Across homogenous objects or similar object types (e.g. devices), if certain devices have popovers while others do not, it would not be appropriate to hide the popover indication icon on objects that do not have popovers. In this case, the popover is intermittently available on this object type, and so hiding the indication icon would cause user uncertainty regarding why a particular indication icon didn't show, when others do in this context. And if we were to just show a normal indication icon with a tooltip indicating lack of a popover, it would likely create distrust of the indication icon as an affordance with which the user should interact. For these reasons, in this scenario, for objects upon which the user would expect a popover due to the pattern and expectation in this instance of the OS, but for which none is available, a disabled access icon should be shown. Upon hover of the disabled access icon, a tooltip should be shown, stating, "No additional information is available for this object." (For RBAC related disabling, the normal RBAC message is still shown, as in quickview spec). In most cases, the user would see that icon and recognize that he can't get a popover, even without additionally hovering on the icon... not caring about exactly why he can't get a quickview (RBAC vs. availability). In this way, we avoid user uncertainty, as well as unnecessary interaction and misconceptions around the standard popover indication icon.

If none of the objects in an object selector have popovers, then no type of popover indication icon would be shown at all. Due to the potential structure of nodes in a homogeneous column tree table, it is possible that a completely empty cell appears in a column containing popover on other objects in that column; in this case, no popover indication icon should be shown on that empty cell. This would not be the case for an occupied cell, in a homogeneous column tree table, which does not have a popover as other cells do in that column; in this case, the disabled hint icon would be shown, as is standard in a table column as specified in the preceding paragraph.

These guidelines would also apply in a tree or table column. In the standard table, a popover instance is shared within a column, as it contains objects of the same type. As a result, popovers opened within the same column would close one another (excluding pinned popovers). Across separate columns, popovers would be independent in terms of dismissal behavior. The same guidelines would hold true in a homogeneous column tree table. For a heterogeneous column tree table,

in which sub-layers contain their own "table" with distinct columns, these columns would be treated as separate in terms of popover integration and behavior.

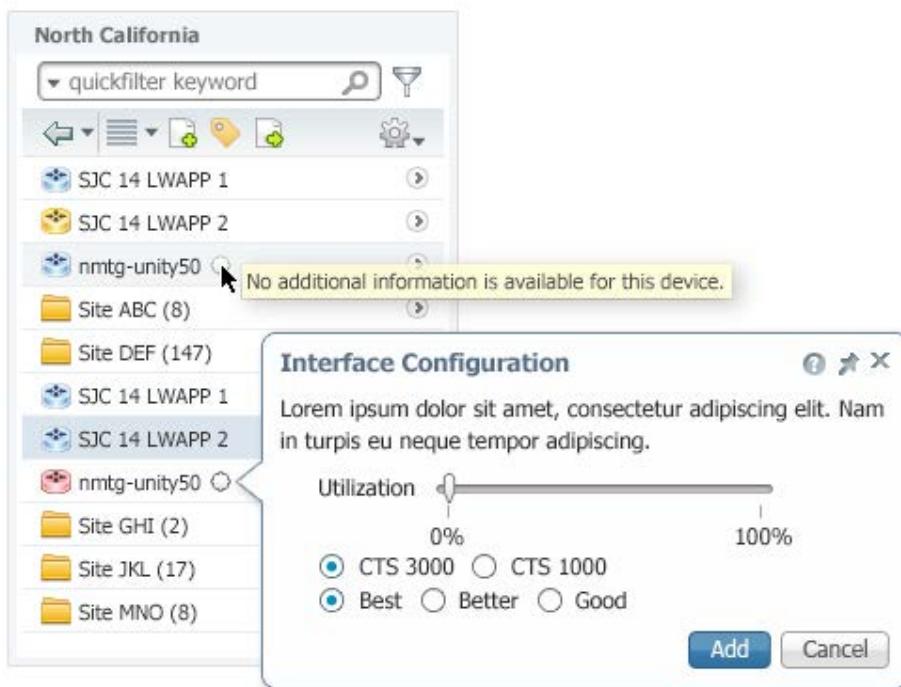


Figure 5. Disabled Popover Icon and Tooltip

Elements of the Popover

Element (mandatory unless stated otherwise):

- Reference arrow pointer / tail (should be used in all cases, except when popover is launched from a downward facing arrow, similar to how a dropdown menu is launched. There is no need here to re-associate the overlay with the anchor point.)
- Close icon
- Popover title (optional - see usage guidelines for when to use title)
- Popover canvas
- Help icon (optional — off by default)
 - The help icon should be supported as a standard attribute of the widget; however, it should only be used when necessary. When it is used, it should have a special location to the left of the close icon (or, if this popover can be pinned, to the left of the pin icon).
- Pin icon (optional — on by default)
 - Pinning should generally only be removed in cases of the popover content being a contained, isolated task that is irrelevant of other information on the page (e.g. in-context change of a password next to label/value pair). In this case, the popover is not likely to potentially obscure information which the user would need simultaneously, and thus the user would not need to pin for moving or comparison purposes.



Figure 6. Popover header with optional help and pin icons enabled

Popover Canvas

Application teams should be able to define the maximum size of any instance of the popover widget (as long as the dimensions are less than the 800x600 global maximum size attributes of the widget). If no specific size dimensions are configured, the default values of 800x600 are used.

The vertical scrollbar policy should be a configurable parameter with default on. If enabled, a vertical scrollbar would appear on the popover when the content exceeds the maximum height specified for that instance of the popover (set by the app team, or, if not configured, 800x600). A horizontal scrollbar should be supported by the widget, but should be a configurable parameter that an app team must explicitly turn on in order for it to appear (default off).

The popover dynamically growing and shrinking in width and height (based on content that the end-user displays, adds, removes, expands, or collapses in the popover - such as a repeater row or title pane — after the popover is appropriately sized for its content) should all be configurable parameters for an app team. By default, the popover will grow on content resize, but not shrink. It is possible for an app team to configure the popover to shrink without incurring a performance hit - this configuration would be used in cases of a popover containing dynamic repeater rows or expand/collapse title panes.

Dismissing the Popover

The popover is only dismissed when:

- Clicking the close control. This close function should always be active, even when the popover content is not yet fully loaded.
- The user invokes another popover of the same type in the same content area.
 - Note: Popovers of the same type are those spawned from the same class of object.
 - For example, if the user is in a topology view, viewing the popover tied to device A, and clicks on device B to launch its popover, the first popover should close. But if the user then clicks on a settings button to launch a popover, this will not close the popover from device B, but will appear at a higher z-index than that popover.
 - Note: This condition does not apply if the popover is pinned (an optional attribute - see below)
- The popover must support hooks for an app developer to be able to programmatically close a popover. This would be needed in cases where the end-user clicks certain buttons within the popover (e.g. "Save", "Cancel", "OK", etc.), or when the end-user invokes another popover that contains actions which would affect the content in a previous popover (the previous popover would close, as is described in usage guidelines above).
- In the case that a popover is directly launched from an object on the page (so excluding cases in which a quickview "morphs" into a popover), the user should be able to click on the launching object to close the popover. This way, if the user invokes the popover, glances it over, and then wants to close it, it avoids the extra effort to go to the close button to get rid of it. It almost acts like a toggle on/off, and is the same amount of effort to close the popover as it was to open it.

- Note: This condition does not apply if the popover is pinned (an optional attribute - see below)
- Note: For the cases in which a quickview "morphs" into a popover, hovering back onto this item should not launch the quickview while the popover is open. If the launching object has a click event associated with it, clicking on it triggers this event; if not, clicking on it does nothing (as mentioned above, it does not close the popover in this case).
- Note: Just clicking outside the popover does not automatically dismiss it.

Popover Behavior with Moving Target Node on Page

The following interactions apply for when the popover is not pinned; when it is pinned, those interactions apply. (see "Pinning the Popover" section below)

- Popover launched from table row, object selector row, or tree node row (i.e. widgets with independently scrolling subviews within the context of the page)
- User-initiated scroll event in subview (via subview scrollbar, mousewheel, or trackpad), drilldown (as in object selector), or hiding of row via collapse (as in tree table)
- Persist popover in place; popover loses its tail to remove association from object that launched it (becoming pinned assuming attribute is enabled)
- Non-user-initiated scroll event in subview (e.g. automated row scroll via table auto-refresh)
- Persist popover in place; popover loses its tail to remove association from object that launched it (becoming pinned assuming attribute is enabled)
- In the case of a popover containing editable content in this scenario, display an error on user submit if the row is no longer in the system (as the table can't distinguish between row removal and the row moving past a certain number of entries). Do not automatically close the popover after the error is displayed, as the user may want to copy/paste the data he entered for use elsewhere.
- If the popover's pinnable attribute has been turned off (it should be kept on in this and most other scenarios) and the user then scrolls the outer page, the popover behaves as defined in the "normal condition" below, since it is not pinned
 - it scrolls out of view as the user scrolls the page (just like the associated table/OS/tree subview scrolls out of view on the page)
- Popover launched from object on page (normal condition)
- When page is scrolled (via scrollbar, mousewheel, or trackpad), the popover does not lose its tail, and stays in place in the context of the page (NOT in place relative to the browser chrome). Effectively, as the user scrolls down the page, the popover will scroll out of view.

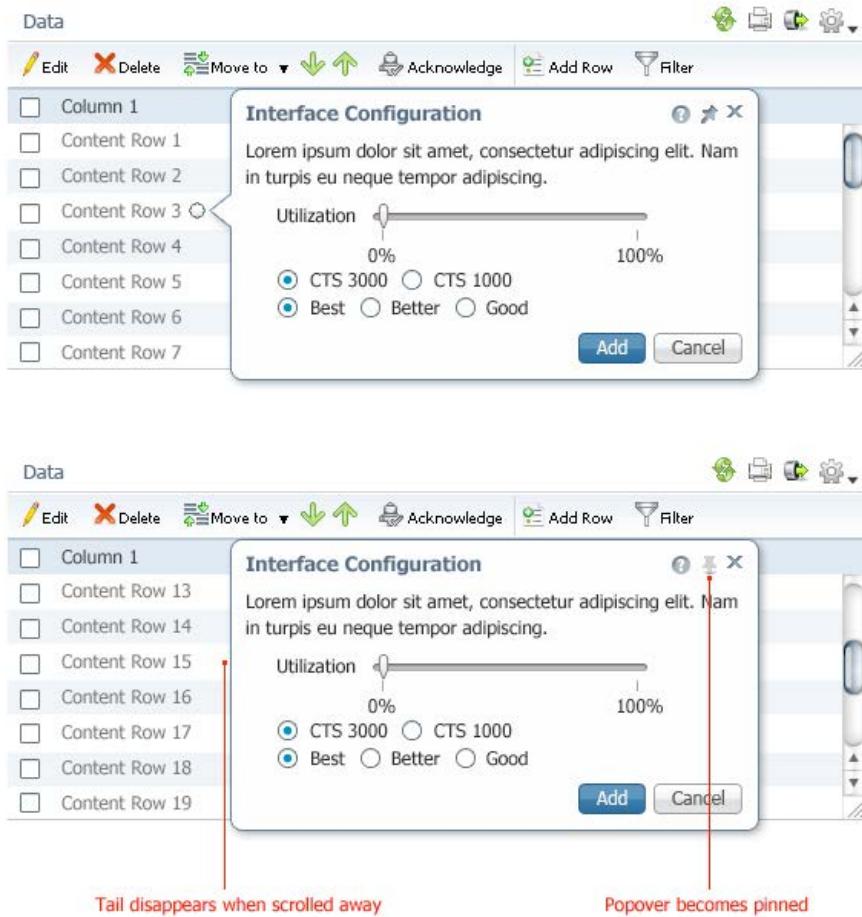


Figure 7. Popover Launched From Table

Positioning the Popover

The popover can be positioned in relation to the original target that spawned it; as such, the pointer (when included) can be displayed anywhere along any of its 4 edges. It is important to note that the popover should appear positioned such that it does not obscure the original target. Additionally, in the case of a collections of items, the popover should also not obscure the next item that the user is likely to view or interact with. For horizontally arranged items, avoid placing the popover to the right; for vertically arranged items, avoid placing the popover below.

In the case that multiple popovers are on-screen at once, if they overlap for any reason (including the user causing this overlap by reducing the browser size), the popovers have a z-order determined by their display order — newest on top.

Timing and Animation

The popover should display and dismiss without any animation effects.

The popover should be designed to avoid needing to have all of its content loaded before any relevant information is shown to the end-user. When invoked, the popover container should show immediately in the anticipated position, even if content in its (widget-level) single content area is still being loaded. In addition to the border, the close icon should be immediately shown, to provide the user with an affordance for dismissing the popover (if it gets stuck, for instance). If layout and size of sub-content areas are not known (i.e. if the popover does not know its correct size), the popover dimensions should be 150 x 100px. If after 2 seconds the popover still does not know its content layout or sub-areas, the loading indicator should be shown. Once the

content area is filled by the fetch and the popover is at the correct dimensions, the app team is responsible for displaying load indicator(s) within any sub-content areas, such as a table or graph, if their data is still being fetched.



Figure 8. Popover display after 2 seconds of fetching content

If the popover, when snapping to its updated dimensions to accommodate fetched content that was not known at display-time, will not be fully visible in view, it should swap to a position where it can be fully in view. This supersedes any other popover positioning rules, even if that means covering up some content on the page.

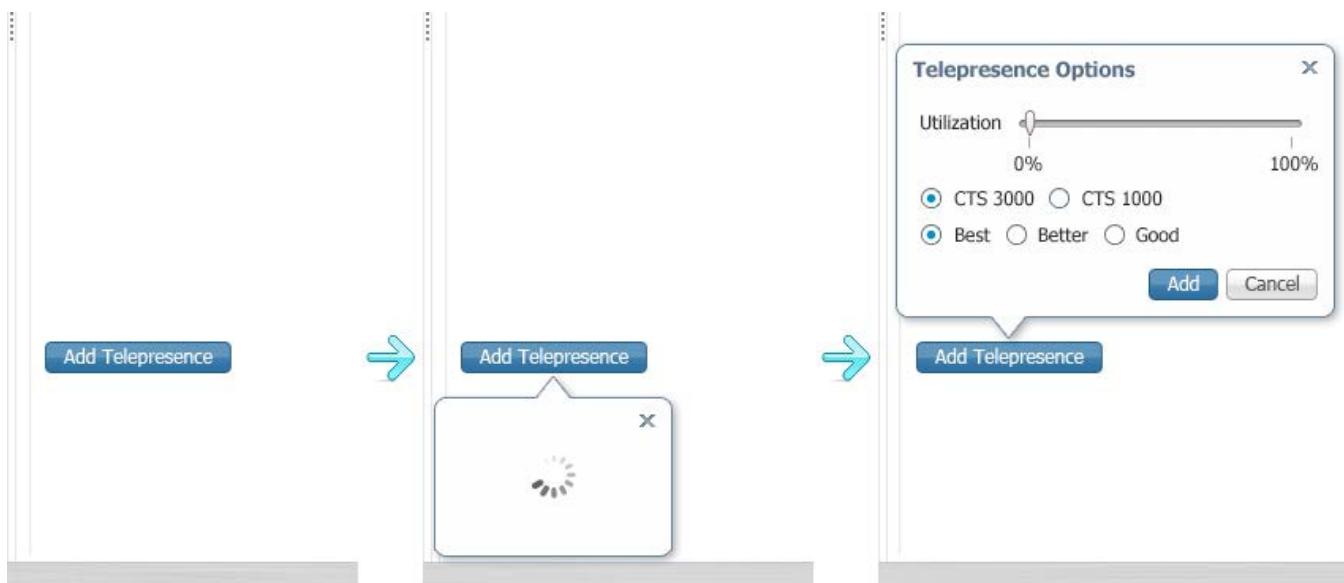


Figure 9. Popover re-positioning if necessary once content loaded (note location relative to borders)

Dragging and Pinning the Popover

In order to compare multiple views simultaneously, the user may want to pin a popover so that it is not dismissed when similar popovers are launched. In this case, the popover becomes like a modeless dialog from an interaction point of view.

When the user clicks the pin icon in the popover, the popover's tail disappears and the overlay becomes the highest z-index within the shell. In most cases, pinning should disable the original anchor icon or button, as clicking it has no effect while the popover is pinned (see usage guidelines for further information). The popover no longer scrolls away with the content — it retains its position relative to the browser window when the page is scrolled. It becomes like a non-modal dialog from an interaction point of view (there should be no other changes to the overlay contents, such as adding a dialog button bar). In the

case that more than one popover is pinned at once, the most recent overlay that the user interacts with assumes the highest z-index (similar to application windows on an OS). As soon as the user pins the popover, the pin icon enters its disabled selected state. This icon still conveys the pinned state and drag-ability of the popover, but shows that it can no longer be "un-pinned" back to its original location. The popover is now pinned until it is closed. An app team can optionally enable un-pinning of the popover to its original anchor, at which point the anchor would become re-enabled if it had been disabled.

Pinning can also be enabled if it's necessary to allow the user to drag or move the popover, de-anchoring it from its original target point. If pinning is enabled, the user can drag the popover around the screen via its title bar; as a result, hovering over anywhere in the title bar should turn the mouse pointer into a move cursor (excluding elements with their own associated cursor change, such as the close icon). If pinning is enabled, in the event that the user drags the popover without first pinning it, the drag action automatically pins the popover.

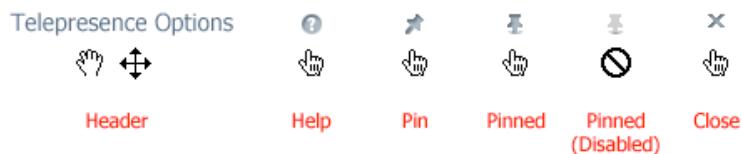


Figure 10. Pinned Popover Cursor Behaviors

Because pinning is an explicit user action, there is no limit to the number of pinned popovers that can be on screen at once.

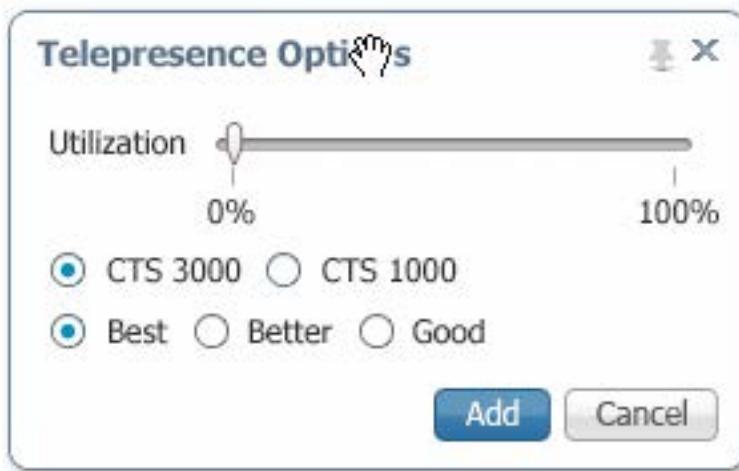


Figure 11. Pinned Popover with Drag indication

Saving State

Any unsaved user input made into a popover should be displayed upon future invocations of that popover. This specification does not hold true if the user explicitly clicks a "Cancel" button in the popover, or once he navigates away from the page. In practice, this would mean that popovers when closed are hidden, not destroyed, so that state is retained.

Read – Only / RBAC

User has permission to view some popover overlays but not others in the current context

Popover overlay launched from access icon:

- Upon the access icon being displayed in the UI...
- The access icon is disabled if the user does not have permission to view the popover for that object instance.
- The access icon is enabled if the user does have permission to view the popover for that object instance.
- Upon clicking on an enabled access icon, the popover is displayed.
- Upon hovering over a disabled access icon, a tooltip is displayed - "You do not have permission to view additional information for this object." (or words to that effect)

Popover overlay launched from icon/link/button:

- The icon/link/button is disabled if the user does not have permission to view the popover for that object instance.
- The icon/link/button is enabled if the user does have permission to view the popover for that object instance.

User does not have permission to view any popover overlays for an object type in the current context

- The access icon, icon, link, or button is hidden.

Content of the popover

- Any popover content that the user doesn't have rights to view for this or any object instance is hidden or inaccessible.
- Any popover content that the user doesn't have rights to edit for any object instance is read-only.
- Any popover content that the user doesn't have rights to edit or functions the user doesn't have rights to perform on this object instance are disabled.

TOOLTIP

Description

A tool tip is a standard browser mechanism small container (usually in the shape of a rectangle or a balloon) that appears and displays information about an object when the mouse pointer hovers over the object.

The purpose of the tool tip is to provide a description or status about the control or object.

Usage Guidelines

Use this component...

- To provide information about controls and objects that may require additional explanation.
- To provide a quick form of contextual help.
- To provide quick reference or additional data on an element.
- When more information may be needed by a user for verification but is not critical to identifying an element.
- When it is necessary to allow the user to temporarily access information but remain in context of a task
- When you want to provide summary data on a screen but allow a simple method to quickly access an enhanced view.

Do not use this component when...

- As a substitute for an alert or error dialog box
- As a modal dialog or for complex data input.
- As a critical or important part of a task
- Information is critical to the task.
- As a substitute to contextual help

Writing Style

Tool tips should be kept short and concise to ensure readability and to avoid causing undue visual clutter on the screen. Here are some basic tips for writing tool tips:

- Tool tip text should be as short and concise as possible. The maximum tool tip length is 255 characters.
- Use short, descriptive phrases or sentences.
- Get immediately to the point.
- For toolbar or menu items, the tool tip is typically just the name of the action.
- For elements other than toolbar or menu items, the tool tip typically contains a brief phrase including descriptive information or status.
- Make sure tool tips provide descriptions that are meaningful and consistent across the application.
- Use **sentence-style** capitalization for **most** informational tool tips (a.k.a. infotips).
- Use book-title capitalization only when tool tips are used as labels for controls such as toolbar buttons or icon links.

Visual Specifications



Figure 1. Browser native tooltips

The basic hover (Standard tool tip) does not have specific visual attributes. The visual element are controlled as defined by the browser look and feel.

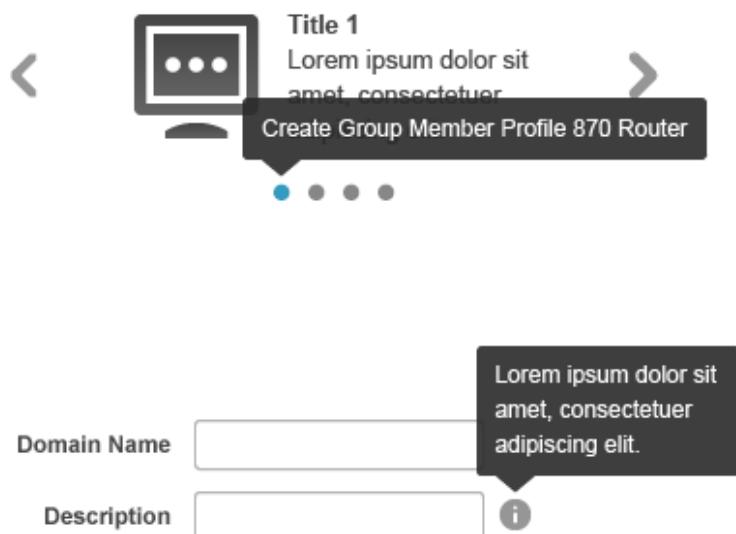


Figure 2. Dijit tooltips.

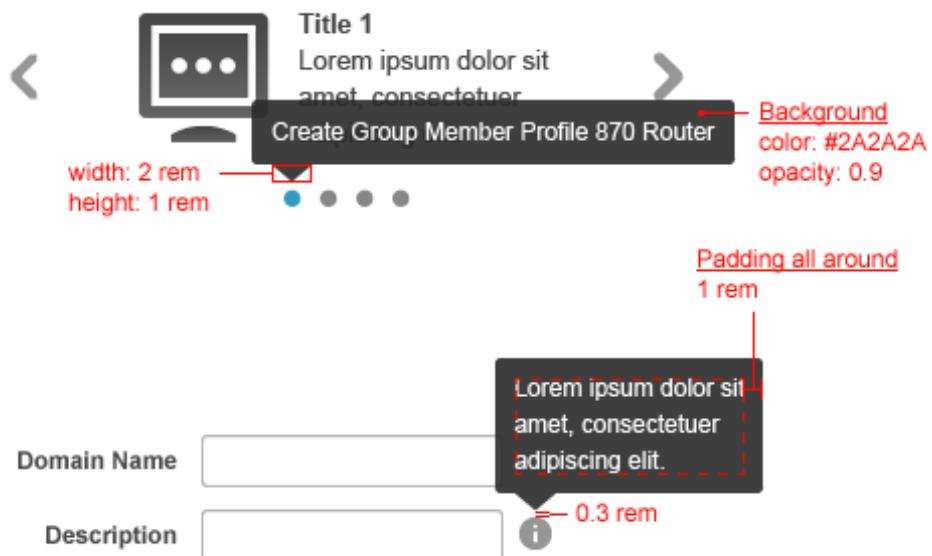


Figure 3. Tooltip visual specification.



Figure 4. Tooltip visual specification on pointer location.

Font and Color Specification

Element	Font	Size	Style	Color	Line Height
Tooltip	Arial	1.2 rem	Normal	#FFFFFF	1.6 rem

Table 1: Fonts and Colors Specifications

Interaction Behavior

Tool tips are displayed beside the mouse pointer as it hovers over the control or object.

By default, a tool tip appears after the user hovers the mouse pointer over the control or object for 250 milliseconds.

By default, a tool tip will disappear:

- When the user activates the control
- When the user moves the pointer away from the control

After the tool tip has been displayed for five seconds

PROGRESS INDICATOR

Description

Lets a user know that something is coming soon or that a process is being executed.

Elements

There are two styles of progress indicators. The progress bar and the progress ball.

Type 1 - Progress Bars

Determinate Progress Bar

Use this larger, determinate progress bar when the full duration of an operation can be estimated.

Uploading and Processing Data 0%



Figure A. Progress Bar - Determinate

Indeterminate Progress Bar

Alternatively, when the duration of an operation cannot be estimated or determined, use this version.

Uploading and Processing Data



Figure B. Progress Bar - Indeterminate

Additionally, one line of optional informational text, and one line of status text (percentage) can be placed above either type of progress bar.

Examples of short, informative messages include:

- Searching Over 10,000 Database Records
- Uploading and Processing Data
- Generating Report

When using both informational text and percentage text, the percentage text should be along the same line with the informational text.

Uploading and Processing Data 75%



Figure C. Determinate Progress Bar with Informational Text and Percentage of Completion.

Uploading and Processing Data



Figure D. Indeterminate Progress Bar with Informational Text.

Type 2 - Progress Balls

This second type of progress indicator can be used when screen space is limited. It should be placed directly alongside, or as close as possible, to the information that is being processed. An example implementation of this type would be a username lookup or similar asynchronous interactions with a single field of information.



Figure E. Progress Ball

Usage Guidelines

Use this component when...

- The task is taking more than 10 seconds to complete.
- Progress Ball: when the task takes between 10 - 20 seconds to complete.
- Progress Bar: when the task takes more than 30 seconds to complete.
- The duration of an execution causes a perceivable delay to the user.
- You want to indicate to the user that an action is taking place in real time.
- A passively-initiated lookup is taking place.

Do not use this component when...

The time to complete is less than 10 seconds. Use the cursor hour glass icon instead.

Visual Specifications

Progress Bar

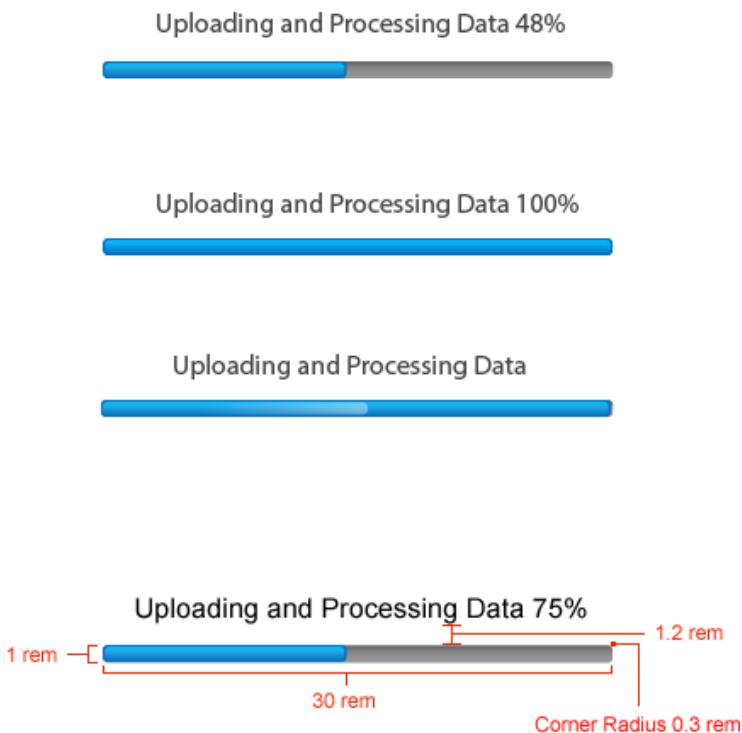


Figure 1. Progress Bar Specification.

In some cases when it's necessary to isolate the progress bar from the underlying view a progress bar box is being used.

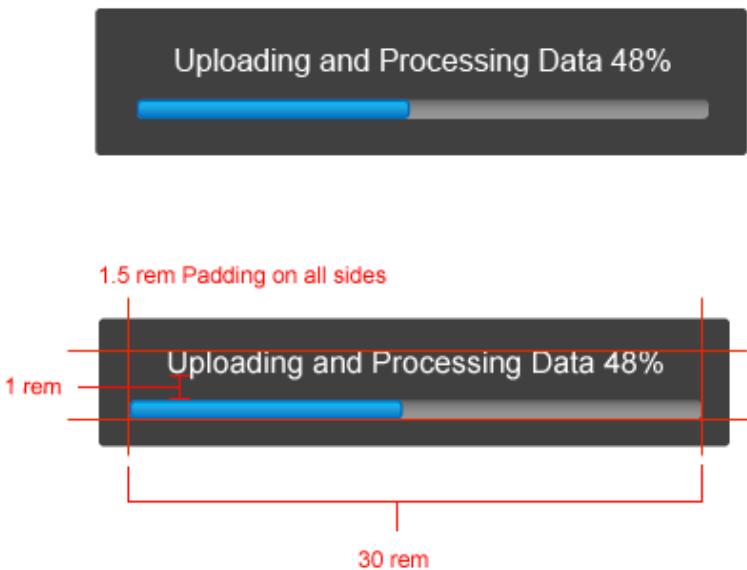


Figure 2. Progress Bar Box Specification.

Font and Color Specification

Element	Notes
Progress Bar Base	background: linear-gradient(to bottom, #646464 0%,#969696 25%); border-radius: 0.3 rem
Progress Bar	background: linear-gradient(to bottom, #00c3ff 0%,#29abeb 28%,#0071bc 100%); border: 0.1 rem solid #0071bc; border-radius: 0.3 rem
Indeterminate Progress Animation Image	Download
Text (progress bar)	Arial, 1.6 rem, Regular, #646464
Text (progress bar box)	Arial, 1.6 rem, Regular, #FFFFFF
Cisco logo	White #FFFFFF
Overlay (Processing Component)	Background: #000000 (Opacity 80%)
Sample html	Determinate , Indeterminate

Table 1. Fonts and Colors specifications

Progress Balls



Figure 4. Progress Ball swf

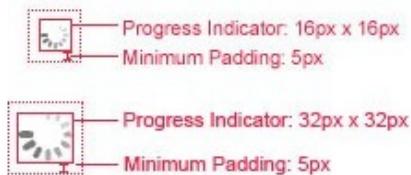


Figure 5. Indeterminate Progress Ball Specification

Interaction Behavior

Elements

There are two styles of progress indicators. The progress bar and the progress ball.

Type 1 - Progress Bars

Determinate Progress Bar

Use this larger, determinate progress bar when the full duration of an operation can be estimated.



Figure 7. Progress Bar - Indeterminate

Additionally, one line of optional informational text, and one line of status text (percentage) can be placed above either type of progress bar.

Examples of short, informative messages include:

- Searching Over 10,000 Database Records
- Uploading and Processing Data
- Generating Report

When using both informational text and percentage text, the percentage text should be along the same line with the informational text.

Uploading and Processing Data 0%



Figure 8. Determinate Progress Bar with Informational Text and Percentage of Completion.

Uploading and Processing Data



Figure 9. Indeterminate Progress Bar with Informational Text.

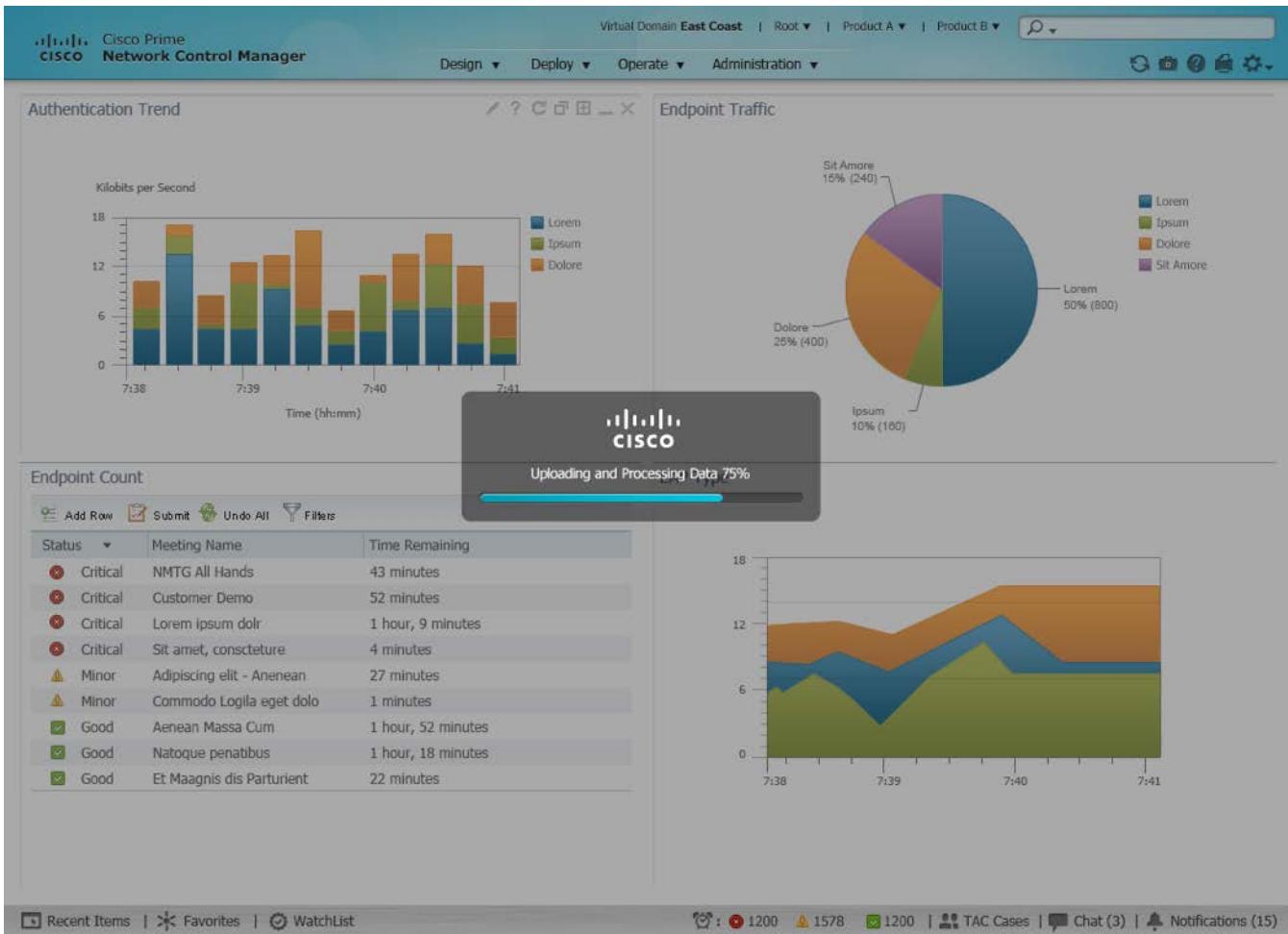


Figure 10. Page-Level Modal Progress Indicator.

Type 2 - Progress Balls

This second type of progress indicator can be used when screen space is limited. It should be placed directly alongside, or as close as possible, to the information that is being processed. An example implementation of this type would be a username lookup or similar asynchronous interactions with a single field of information.



Figure 11. Progress Ball

1.Inline

(Small and fast): Shows a user that information is being processed within the same screen, without disabling any part of the screen except the button or control used to initiate the operations. Use this when:

- Executing a request that does not redraw any part of the page.
- It is permissible for the user to manipulate the component even while the request is being processed.

When using an inline progress ball, the ball should appear adjacent to the button or control, and the button or control should be disabled while the progress ball is visible.



Figure 12. Inline Progress Ball.

2. In-screen: Shows a user that information is being processed within the same screen, without re-loading a new page. Use this when:

- Executing a request that draws or re-draws a minor portion of the screen.
- The user should not manipulate the page or component while the request is being processed.

When possible, dim only the portion of the page that is affected by the request by using an overlay.

If your application won't support selective dimming of only a module or content area, you may utilize the entire window.

3. Pre-Loader: Show a user that a application or a screen is loading. Use this when:

- An application requires loading prior to display (e.g.; upon launching a flash-based topology view).

When possible, use a determinate progress bar for application pre-loaders.

Timeout mechanism (optional)

It is highly recommended to include a timeout mechanism in case a progress bar seems to be hanging. After a specific amount of time has exceeded an alert message dialog window should be displayed to notify the user that the operation has failed. The message should also include a recommendation for the next step the user should take. Example: 'The server is busy. Please try again later.'

There are no specifications or guidelines for the amount of time the timeout mechanism should wait before it pop up the alert message. This may vary as it depends on the specific operation that the user initiated.

SEARCH - GLOBAL

Usage Guideline

Description

The global search provides users with easy access to any features or content within the application. An auto-suggest feature is integrated with the global search to provide contextually relevant suggestions that expedite the user's search process.

Section 1 - Main Components

Search Bar (Collapsed - Default)



Figure A. Default Global Header Bar with Hidden Search Panel



Figure B. Hidden Search Bar (Default)

Search Bar (Expanded)



Figure C. Global Header Bar with Search Panel Open

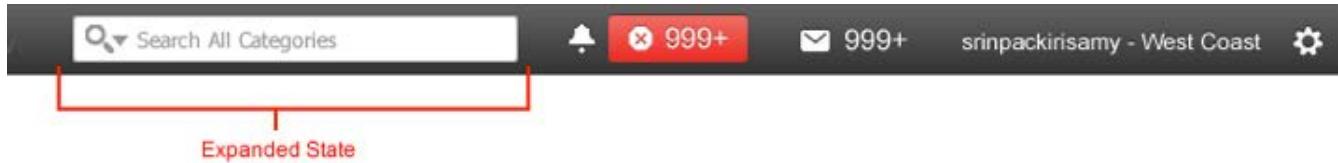


Figure D. Search Panel Open

Search Options Dropdown

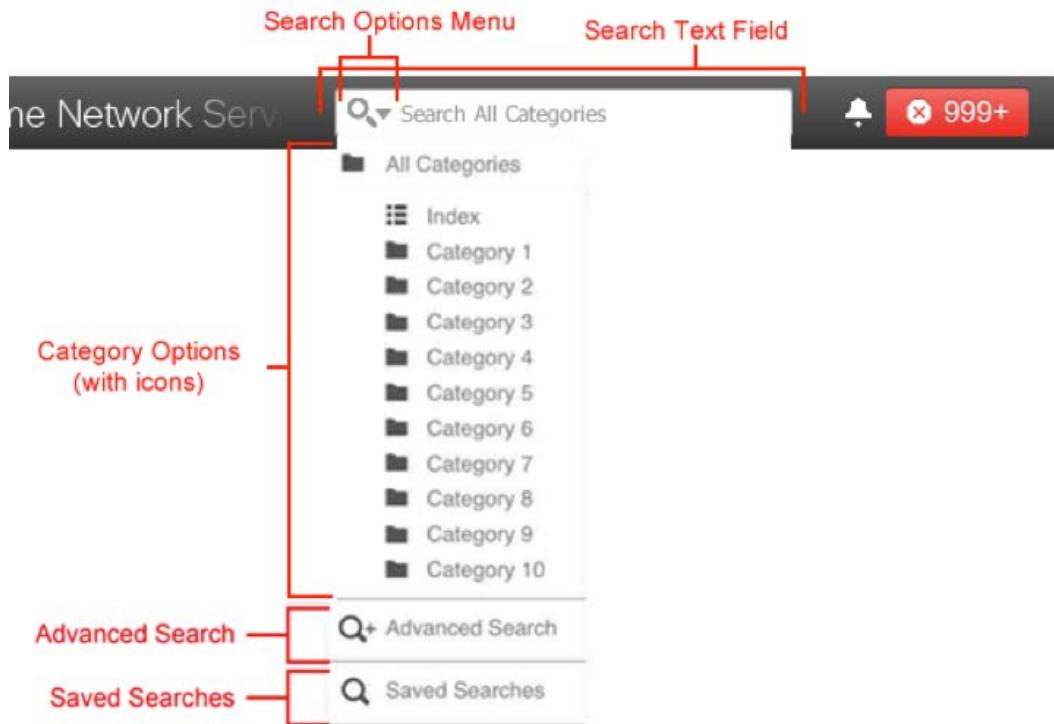


Figure E. Search Options Dropdown Expanded

Search Options Dropdown



Figure F. Auto-Suggestion Panel Displayed

Section 2 - Required/Recommended/Optional/Not Permitted

If a global search is implemented in the header of the application, then the following elements may be required or optional.

Component	Description	Status
Search Options Menu	Menu that provides the option for querying a particular category	Optional ^{1,2}
Search Options Icons	Icons found within Search Options Dropdown	Optional ¹
Search Bar	Allows the user to quickly search through content	Required
Category Items	List of search categories, includes Index	Optional ¹
Advanced Search	Allows the user to perform a more specific search	Optional
Saved Searches	Repository for user-defined Saved Searches	Optional
Auto-suggestion Panel	Lists results of quick index search based upon query entry	Optional ¹

¹ Recommended by Default
² Prerequisite for Saved Searches

Section 3 - Other Widgets Incorporated/Referenced

- Global Header
- Global Navigation: Index Search

Section 4 - Use Cases

Displaying the Search Panel



Figure G. Search Panel Closed

- The Search function can be accessed by clicking anywhere on the Search icon from within the Global Header.
 - The search bar will slide open with a slide-left animation, lasting 200ms and using an ease-out transition.
 - The search bar will fade-over the application name.

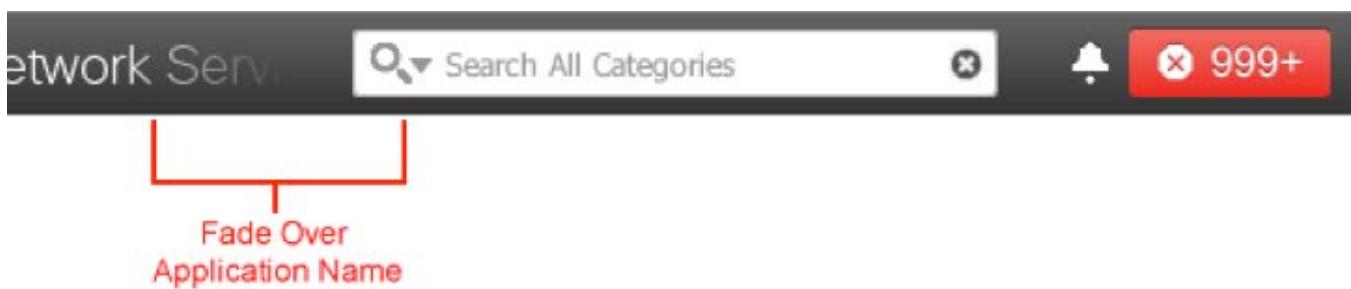


Figure H. Search Panel Open

- When the Search panel is open, “Search” text appears within the text field.



Figure I. Search Bar without Search Options Menu

- The Search function can also be implemented without the Search Options menu, Saved Search, and Advanced Search functions.
- All of the interactions remain the same as above.

Displaying the Search Panel

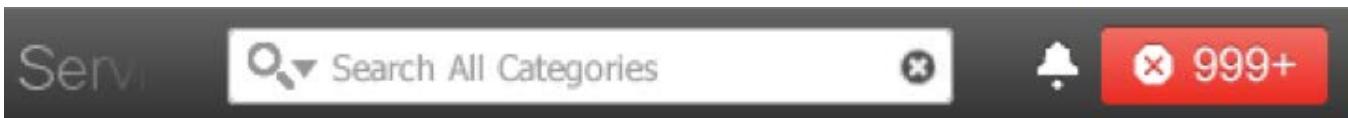


Figure J. Search Bar Expanded Default

- The Search Options Dropdown menu can be accessed by clicking on the search icon (magnifying glass) within the panel or the dropdown triangle icon.
- By default, the user performs a global search. (All Categories)

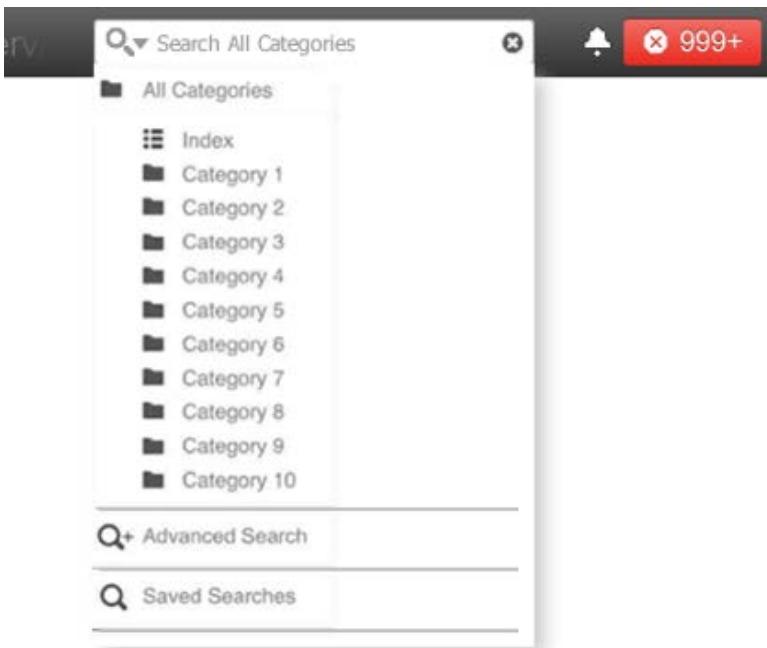


Figure K. Search Options Menu

- Icons are used to differentiate between the selections when the dropdown is closed. When the icon is moused-over, a tooltip will present the category's title.
- By default, Search All Categories will be selected. This is standard and optional.

- User can opt to narrow their search by selecting Index or other application-specified categories.
- It is recommended that Category Items titles should be limited to a max character count of 25 and fit on a single line.
 - Any Category Items title exceeding 25 characters will wrap and have a maximum of 50 characters or 2 lines.
 - Any Category Items title exceeding 50 characters (or 2 lines) will be truncated and the title tag will display the entire title.

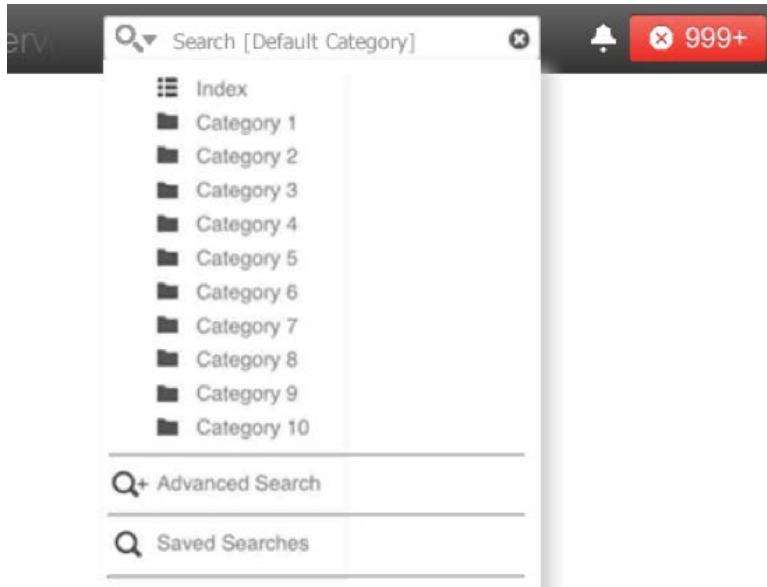


Figure L. Search Options Menu (without Federated Search)

- If an application does not have a federated search ("Search All Categories"), a category will need to be defaulted. In this case, the default Search Category will be chosen by the product team. The user can then override it at search time by selecting a different category.
 - Note: This option is not recommended and should only be used if an application is unable to support a federated search.
- Advanced Search can be accessed from within the dropdown.
- The user's Saved Searches can be accessed from within the dropdown.
 - When the user selects Saved Searches, the Saved Searches will appear within the Auto-Suggest Panel.
 - ◆ Note: Only queries using the Advanced Search can be saved. Saved Searches should adhere to the 25-character limit.

Using the Search Field



Figure M. Search Bar with Index Selected as the Search Category

- Placeholder search text will appear as a default to provide a visual cue as to the functionality of the element.

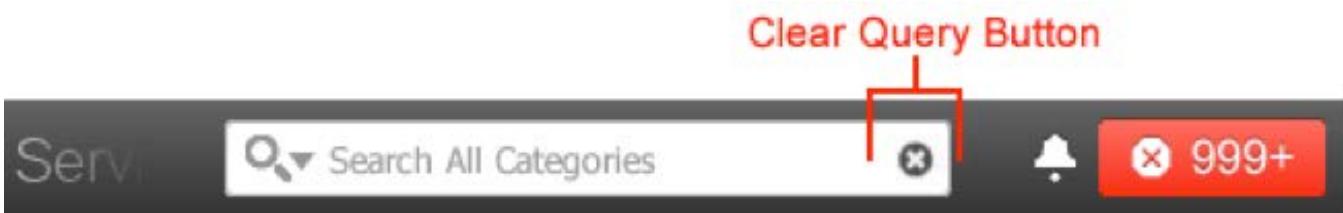


Figure N. Search Bar with Clear Query Button

- The user can clear the search field using the Clear Query “x” Button
- The placeholder search text will be contextually aware of the users selection within the Search Options Dropdown and will reflect the user’s selection.
 - E.g. Index was selected from the Search Options Dropdown; the default text would read “Search Index”.
 - The text change is automatic and without a refresh.
- The search will be limited to whatever category that was selected.
 - E.g. If Index is selected, the search will be limited to all values found in the global navigation.
- If user enters text and hits the enter key, the query will be submitted.
- Note: Boolean logic and other search operators are allowed in the search field per the discretion of the individual applications. Eventually a global set of operators and wild cards will be utilized and implemented.

Auto-Suggest Panel

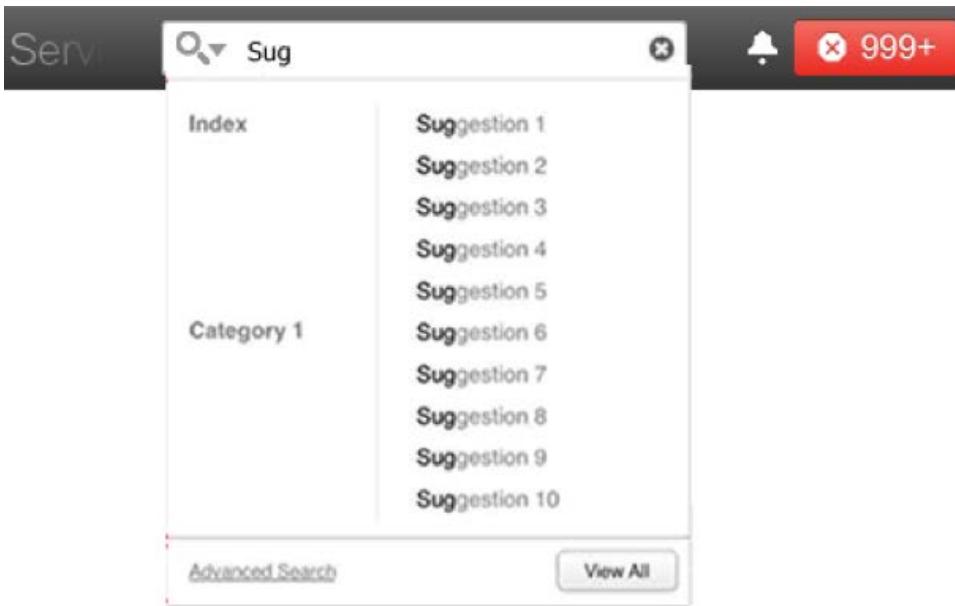


Figure O. Auto-Suggestion Panel (single line suggestions)

- Entering 3 or more characters into the search field will begin populating the auto-suggest field with suggestions.
- As the user types more characters, the auto-suggestions should update with more targeted suggestions.
- Auto-suggestions should not exceed 40 characters.

- Any auto-suggestion that exceeds 40 characters will be truncated.
- The Application Development Team will identify and map which data fields will be used as titles for each category.

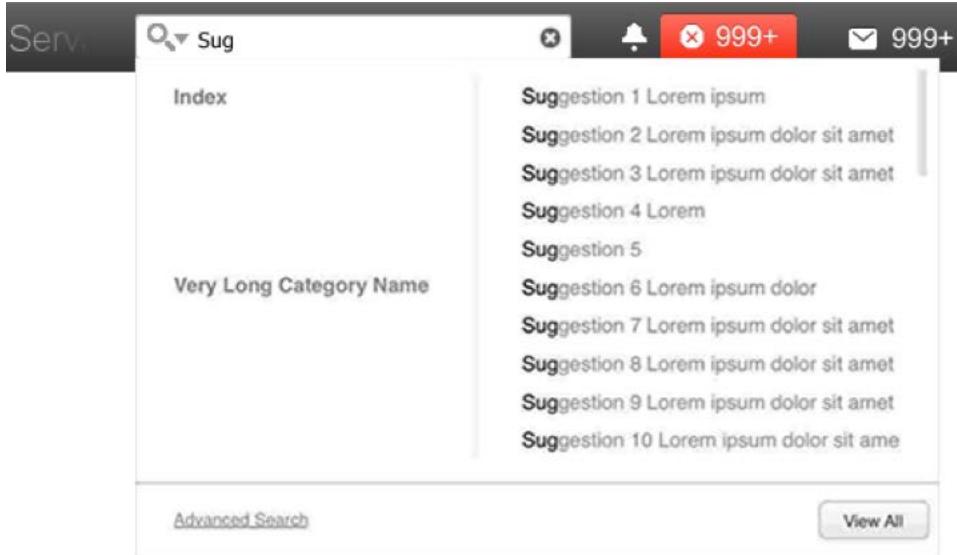


Figure P. Auto-Suggestion Panel Extended Width

- The width of the auto-suggestion panel can grow to accommodate the long Category titles (up to 25 characters) and auto-suggestion titles (up to 40 characters).

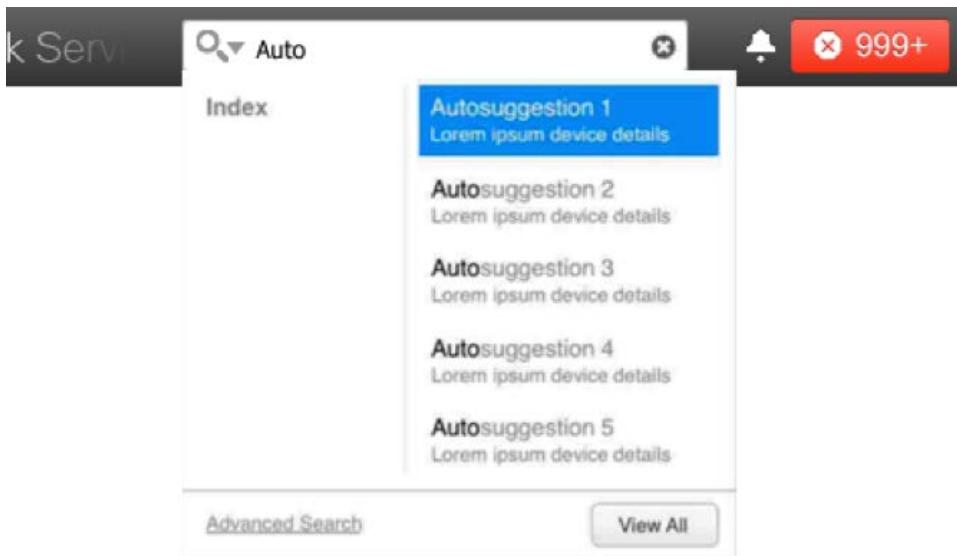
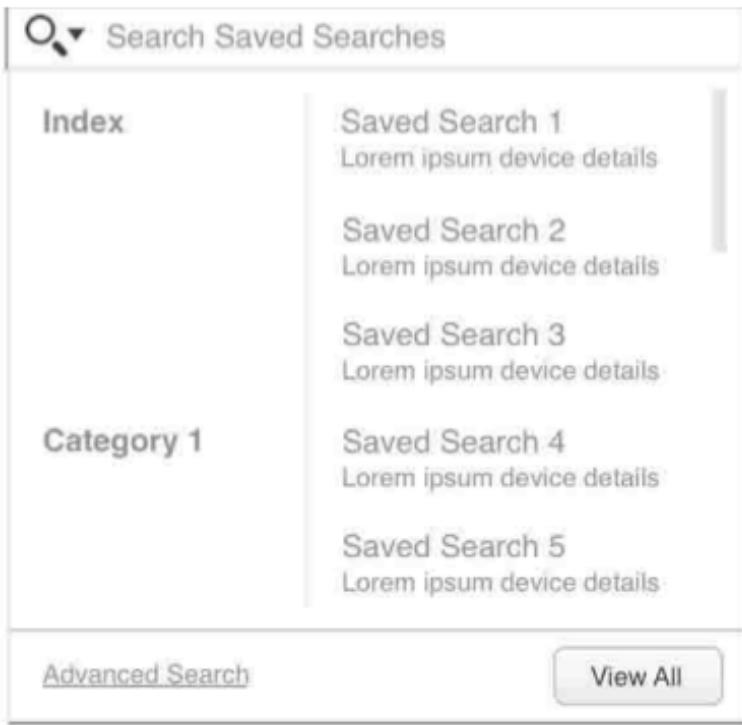


Figure Q. Auto-Suggestion Panel (multi-line suggestions)

- If there are multi-line suggestions, only 5-8 suggestions will appear.
 - Multi-line auto-suggestions are auto-suggestions that have supporting meta information to aid in the user's selection.

- Each multi-line auto-suggestion may have a maximum of 80 total characters. (40 for the title line and 40 for the meta information sub-line)
- A maximum number of 20 auto-suggestions will be displayed in the scrolling pane to avoid excessive scrolling.
- Suggestions will link user directly to respective search result.
- The Advanced Search can be launched from this menu.
- The Advanced Search interface is not included in this specification. It will be determined by the Application Development Team.
- If an Advanced Search is provided without the auto-suggestions feature, the link to access the Advanced Search should be located in the Search Options Menu, above Saved Searches.
- The Advanced Search will also appear in the Search Options Menu in the case that the application does not support either auto-suggestions or Search Categories.
- View All Results page can be launched from this menu.
- The View All Results page is not included in this specification. It will be determined by the application.
- This button serves as a visual cue that there are more results available.

Saved Searches



Search Saved Searches	
Index	Saved Search 1 Lorem ipsum device details
	Saved Search 2 Lorem ipsum device details
	Saved Search 3 Lorem ipsum device details
	Saved Search 4 Lorem ipsum device details
	Saved Search 5 Lorem ipsum device details
Category 1	
Advanced Search	
View All	

Figure R. Saved Search Display within Auto-Suggestion Panel.

- Saved Searches are available from the Search Options menu.
- Once selected, the user's Saved Searches will fill the auto-suggestion panel, using the multi-line results set.
 - The first line will be the Saved Search Query Title, entered by the user when the search was saved.
 - The second line will display up to 40 characters of the query information.
 - On-hover, a tooltip will appear to show the saved search title and query string.

- The user can scroll through the saved searches or use the search text field to narrow the user's selections.

No Search Results



Figure S. No Results Found within Auto-Suggestion Panel

- A query resulting in a null result set will display an error, "No Search Results Found" within the panel.
- When no results are returned, the View All button will not appear, as there are no results to view.

Section 4.1 - Alternate Usage

The following patterns are not included within the Prime Evolution framework but can be used as needed. These alternate patterns are to be developed by product teams.

Search Options Dropdown (Tiered Categories)

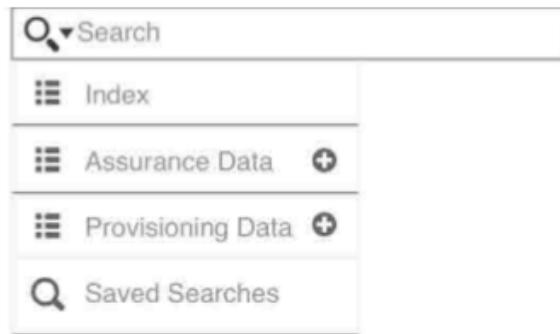


Figure T. Tiered Category Search Option Menu

- This proposal is only to be used for applications with tiered primary and secondary categories.
- The Search Options Dropdown menu can be accessed by clicking on the search icon (magnifying glass) or the dropdown triangle icon.
- By default, the user performs a global search.
- Search Options Dropdown opens on click, with a slide-down animation, lasting over 200ms and uses an ease-out transition.
- Icons are used to differentiate between the selections when the dropdown is closed.
- User can opt to narrow their search by selecting Index or other application-specified categories.
- If there are multiple tiers of categories, such as multiple licenses, the user can select from a nested hierarchy of categories.

- ◆ The click target must extend the entire height and width of the row.
- ◆ It is recommended to limit the levels of categories to 2 levels.
- ◆ Primary categories appear beneath the Index category.
- ◆ On-click within the whole row of the Primary category, sub-categories will be revealed in an accordion slide down using an ease-out transition over 200ms.
- Upon clicking a sub-category, the Search Option Dropdown closes and the focus changes to the search text field.
- Clicking off of the panel will close the Search Options Dropdown.

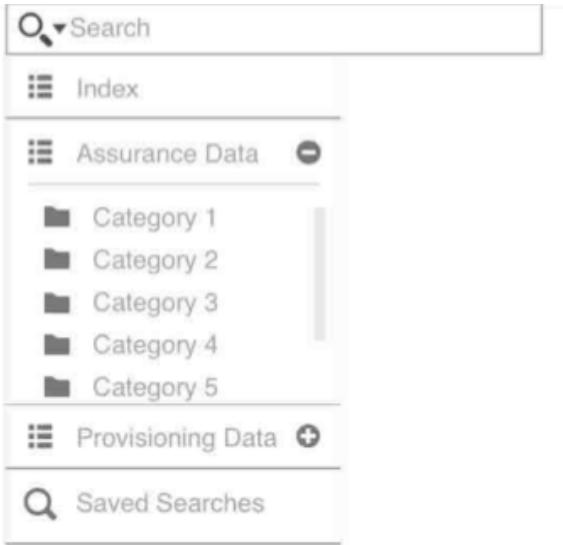


Figure U. Tiered Category Search Option Menu Expanded to Display Sub-Categories

- If there are more than five sub-categories within a Primary Category blade, a scrollbar will appear within the section.
- To close the license/data type blade, the user can click on the blade or the minus icon.
 - ◆ Only a single blade can be open at once.
 - ◆ The click target must extend the entire height and width of the row.
- If supported by the application, the Primary Category can be selected as the Search Category option.

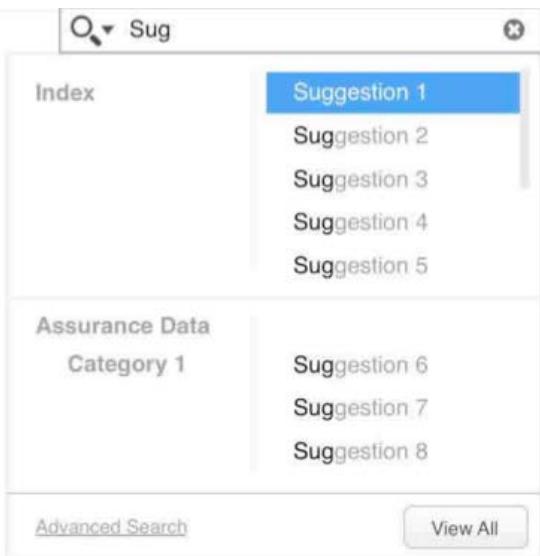


Figure V. Tiered Category Auto-Suggestions

Interaction Specifications

Description

The following sections detail the interactions required to code the Global Search tools, so are primarily targeted at the UI Framework team, but may be helpful for application team members and UX as well.

Section 1 - Interaction Details for Framework Developers

Displaying the Search Panel - Details

- Clicking anywhere other than the Search Bar or Search Options Menu will close the panel.
- Closing the search bar will trigger a slide-in animation, lasting 200ms and uses an ease-out transition.

Displaying the Search Options Dropdown (Standard) - Details

- Search Options Dropdown opens on click, with a slide-down animation, lasting over 200ms and uses an ease-out transition.
- The click target must extend the entire height and width of the row.
- Upon clicking a category, the Search Option Dropdown closes, the focus changes to the search text field, and any characters already typed into the search text field will be retained. If the dropdown is re-opened, the already-selected category will be highlighted.
- The height of the Search Options Dropdown will be driven by the number of categories, up to a fixed max height of X pixels (displaying approximately 10 Categories).

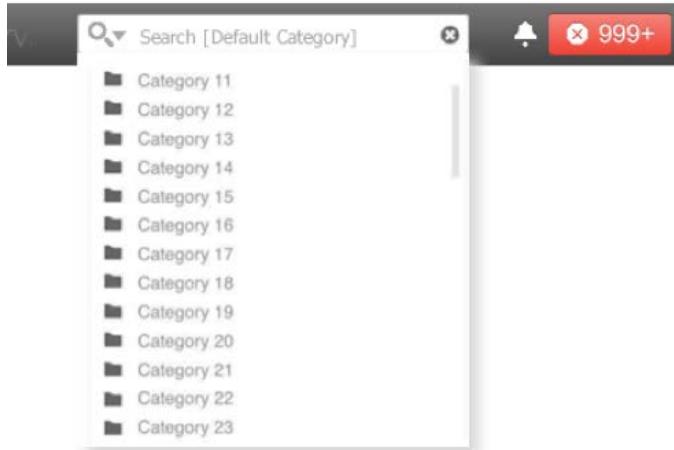


Figure A. Search Options Menu (scroll)

- Once the max height is reached, scrolling within the dropdown will occur
- As this Search Options Menu component is optional, it is important to note that Saved Searches cannot be accessed without it.
- Clicking outside of the panel will close the Search Options Dropdown and collapse the Search Bar.

Using the Search Field - Details

- Upon changing the focus, clicking into the text box, the placeholder search text color will lighten.
- Upon beginning enter the first character of the query, the placeholder search text will disappear.
- This behavior is consistent with that of the index search feature within the Global Navigation specification.
- Upon clearing the query from the search field, either by using the “X” button in the search field or by deleting the character(s) manually, the default search text will reappear in the lighter shade because the focus will still be on the search field.

Auto-Suggest Panel - Details

- There should not be a pause before the auto-suggestion panel appears.
- The auto-suggestion panel will appear below and aligned to the right edge of the search bar, using a slide-down animation, lasting over 200ms and uses an ease-out transition.
- By default, 10 auto-suggestions will appear within the panel for single line suggestions. Before requiring a scroll bar.
- A maximum number of 30 auto-suggestions will be displayed in the scrolling pane to avoid excessive scrolling.
- A maximum of 5 suggestions can appear under a single category.
- Only categories containing one or more suggestions are displayed.
- Categories are displayed in alphanumeric order.
- The suggestions within each category are also organized in alphanumeric order.

Auto-Suggest Multi-line Suggestions - Details

- The click target must extend the entire height and width of the row of the auto-suggestion title.
- All auto-suggestions will have a “title” tooltip that displays after a 2 second delay, on-hover.
- The text within Auto-suggestions Items that exactly matches the query string will be darkened to emphasize.
- The user may hide/collapse the search bar and auto-suggestion panel at any time by clicking outside of the search bar or auto-suggestion panel.
 - The user’s query and related auto-suggestions will be retained in the cache but not visible.
 - Upon re-opening the search bar, by clicking on the collapsed search field, the user’s query and related auto-suggestions will be displayed.
- Clicking the clear icon (circle with an “X”) will delete the query from within the search field and subsequently clear out the auto-suggestion list.
 - Clear icon appears when 1 or more characters have been entered into the search field.
 - Upon clearing the query, the auto-suggestion panel will slide up and remain hidden until the user begins typing their query into the search field.

Section 2 - Technical Constraints

Search could not be positioned to the far right where it would normally be expected due to the added requirement of a search drop-down field in order to avoid overlapping/obscuring critical information, so it was moved to the center where the search icon could expand into an overlay without obscuring vital content. Future recommendation is to pursue moving it back to the right side of the header bar where it is expected.

Section 3 - Rationale, Rejected and Future Ideas

Please note that the mock-ups in this section may not reflect the actual approved layouts or imagery. They are merely to display alternative/conceptual interactions or layouts.

Rationale

Global search is global...with filters

- Most users expect a search field located in the upper right of an application to search everything, menus, indexes, application content, and help.
- Users want to see contextually relevant search results with minimal effort. An all-inclusive approach will provide ample results and avoid frustrating users with null results sets and error messages.
- The category filters in the Search Options Dropdown will allow the user to reduce the scope of the search and filter out any unwanted noise.

Search Text Field Display and Behaviors

- The default Search Text Field is collapsed but includes the Search Options dropdown trigger as well as several character spaces of text field. The text field will serve as a visual indicator in differentiating the collapsed Search Text Field from the other icons as well as reinforcing the user's expectation regarding search function triggers.
- On focus, the Search Text Field slides open and overlays the other icons. Hiding controls is typically not recommended; however, the user is actively searching and will not need to engage the other icons. If search was engaged erroneously, the user can simply click anywhere outside of the search to close it.
- Overlaying the expanded Search Text Field will greatly reduce the likelihood of a collision occurring in the application header.

Requiring a minimum of three characters to trigger auto-suggestion

- In an effort to minimize the load on the server, the auto-suggestion feature will not begin to return results until 3 characters are entered into the search field.
- Ideally, the auto-suggestion feature would return suggestions immediately after a single character has been entered.

Rejected / Alternate Versions

Not including a “View All” button

- This item was not rejected but was not the recommended solution.
- A “View All” button would be a helpful visual indicator for users that more results are available in a full search results page.
- Masking that visual cue would simplify the interface but would be a little less user friendly.
- This option can be used when the application cannot support a Search Results page as required by the “View All” button.

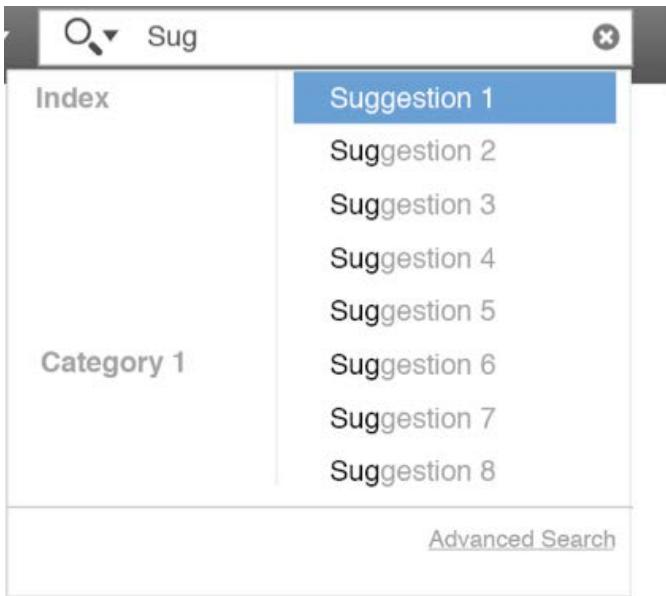


Figure B. Auto-Suggestion Panel without a View All button

Including a “Search”(Go) button

- This item was not rejected but was not the recommended solution.
- To simplify the interface and provide more real estate and allow the inclusion of the Clear Query button, a search submission button was omitted.
- It is strongly recommended that the search behavior is monitored to validate the assumption that highly technical users (majority of the audience) do not need a search submission button.
- If a button is required, please see the figure below.
- The following figure is also the recommended alternate for searches not providing an auto-suggestion panel.



Figure C. Inclusion of a Search Submission Button

Integrate the Advanced Search Interface

- In version 3.1 of the Search Specification, there was a more robust search experience, including an integrated advanced search interface. This suggestion was rejected to simplify implementation and meet development deadlines.

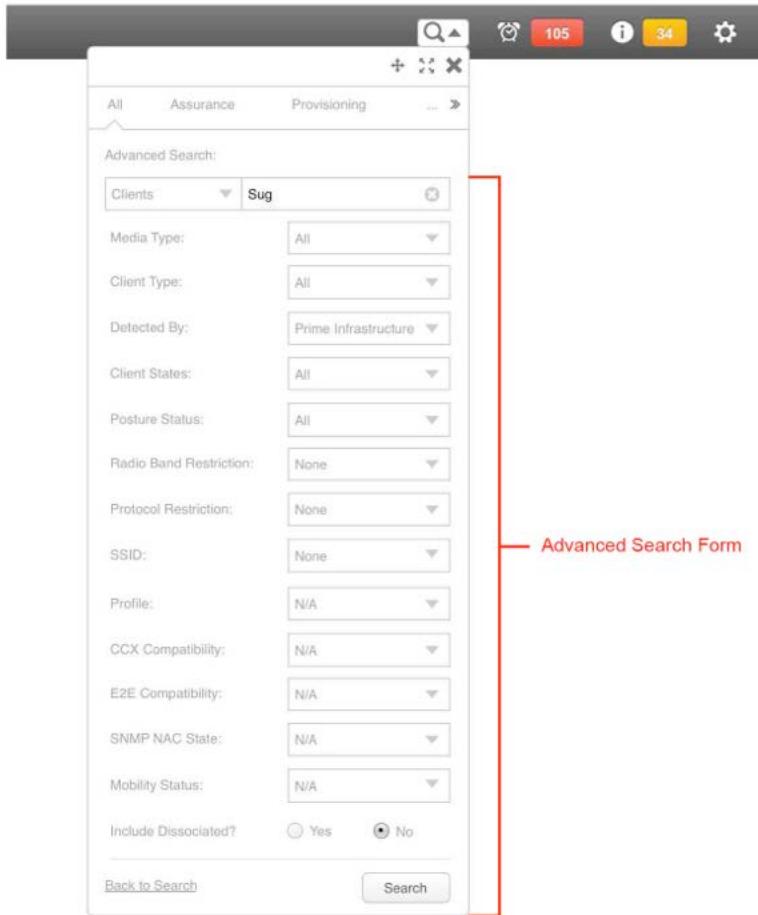


Figure D. Alternate Search Version with Integrated Advanced Search.

Future Ideas

Reduce the number of characters required to trigger the auto-suggestion feature

- Allow the auto-suggestion feature to begin returning results after a single character has been entered into the search field.
- This behavior is common in consumer user experiences including: iPhone contacts, Google, Apple, Amazon and users are becoming more accustomed to being lead to search queries than creating their own.

Add weight to the auto-suggestions based on user behavior

- Capture the user's search queries and click activity, by account, to add relevancy weight to the auto-suggestion results.
- If a user repeatedly searches for and selects a specific device, add relevancy weight to return that device sooner or highlight it if the query string matches.

Integrate the Advanced Search into the search bar/shell experience

- Further drive standardization by taking ownership of the advanced search experience.

- Allow the advanced search feature to be more tightly integrated into the search experience, providing users with an interface that is connected with the search bar.
 - The tighter proximity will allow the user's focus to remain in the same area as the trigger point, providing a more natural transition.
 - The placement of the Advanced Search link may need to be revised.

Reposition search to the far right, where it would be expected

Due to technical and space constraints, the search was positioned in the middle. UX recommendation is that search be positioned to the far right.

Move towards an integrated search solution

- The search experience should be standardized across the applications:
 - Provide a fully federated search capability which includes indexing all appropriate content repositories as part of the global search.
 - Utilize synonyms, acronyms and misspellings as part of the search experience to improve findability.
 - Provide users with a search results page or pane that includes facets and filters for quick and easy query refinement.
 - Provide users with alternative suggestions (ala, "Did you mean...") when their query provides no results.
 - Based on the needs and expectations of the customer, consider shifting the auto-suggestion from a result-based system to a query-based system. And if a results-based system is fully or partially retained, consider how answers might be directly returned via the search results pane (or even the auto-suggestions pane).
 - Provide a consistent advanced search interface.
 - Allow for pinning or tearing-off results.
 - Allow users to resize and control the size of the search results pane.
 - Boolean logic and other search operators are allowed in the search field per the discretion of the individual applications. Eventually a global set of operators and wild cards will be utilized and implemented.

Section 4 - Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard. Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications



Figure 1. UI Shell Search Overview.

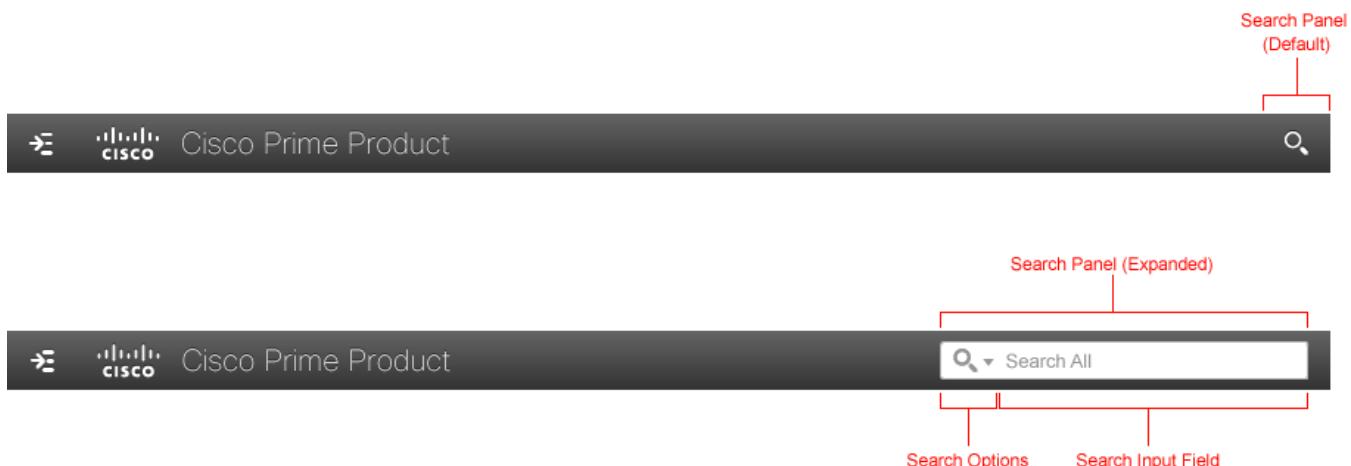


Figure 2. UI Shell Search Elements.



Figure 3. UI Shell Search Specifications.



Figure 4. UI Shell Search Animation.



Figure 5. UI Shell Product Name Truncation with Search Menu Open.

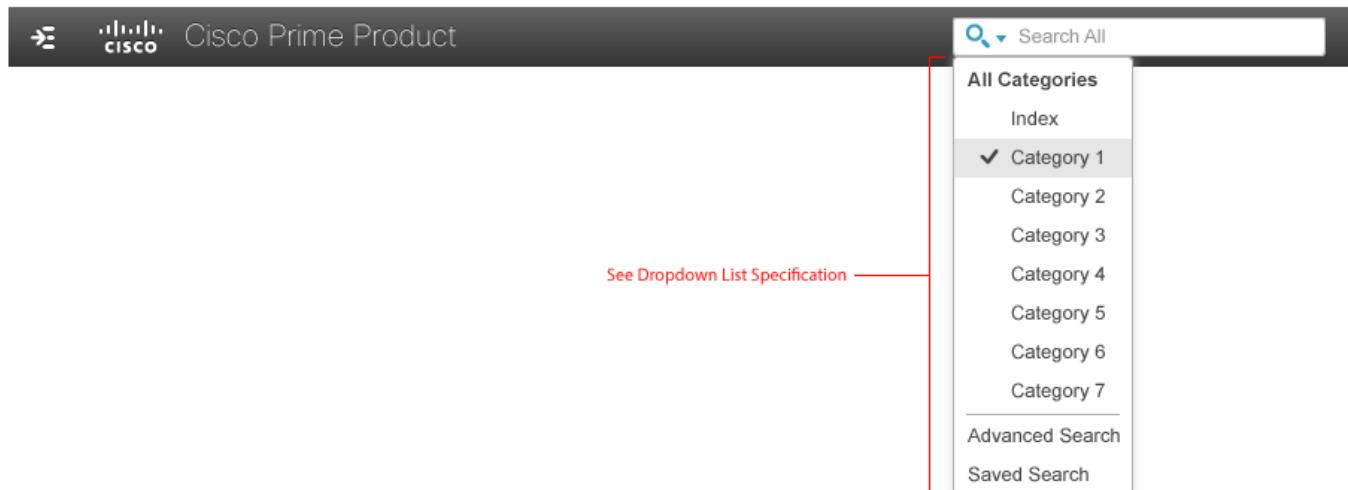


Figure 6. UI Shell Search Menu Filter.

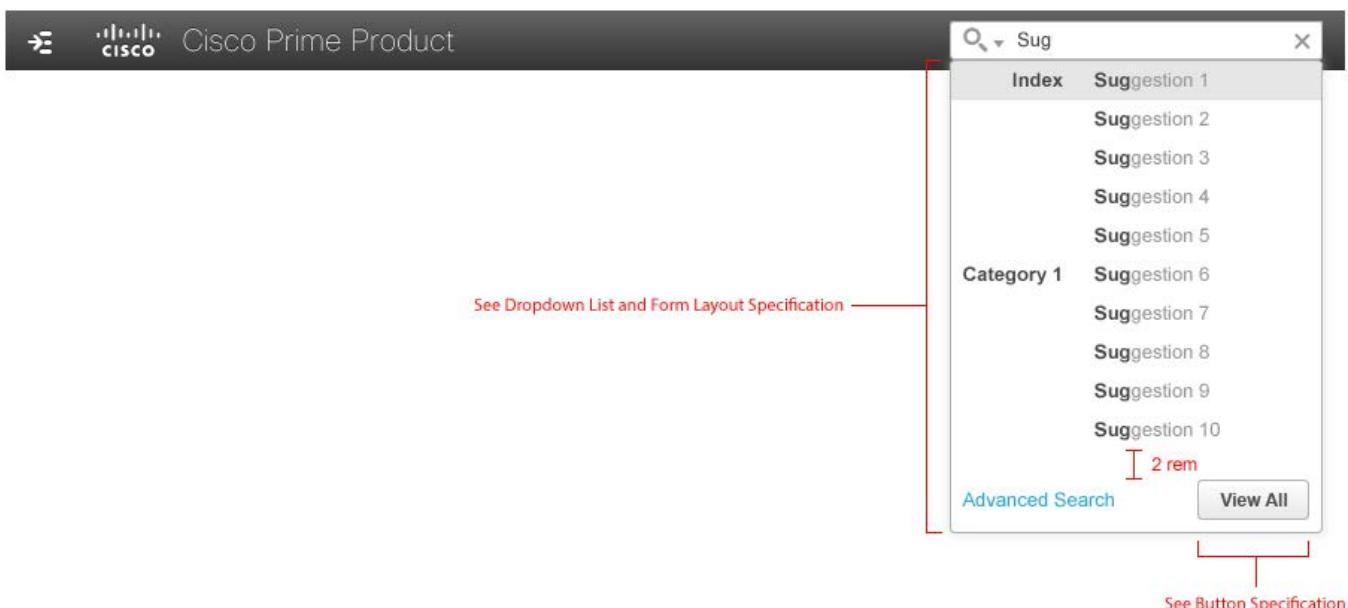


Figure 7. UI Shell Search Results.

Font and Color Specification

Element	Font	Size	Style	Color
Search Field Hint Text	Arial	1.3 rem	Normal	#C8C8C8
Search Field Input Text	Arial	1.3 rem	Normal	#464646

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Search (Default)				1.6 rem	#FFFFFF	#74bad1	#379bbe
Search (Expanded)				1.6 rem	#969696	#74bad1	#379bbe
Dropdown Arrow (Expanded)			icon_rotate90 (for rotation)	0.7 rem	#969696	#74bad1	#379bbe
Remove				1 rem	#969696	#74bad1	#379bbe

Table 2. Icons Specifications

SHELL / CHROME - ABRIDGED

Usage Guideline

Description

The abridged shell is a simplified version of the UI shell, designed to maintain brand integrity, provide context, and maximize screen real estate while viewing dashlets or pages in a separate pop-out window. It also gives users easy access to decision-support as well as a means to compare data side by side.

Section 1 - Main Components



Figure 1. Abridged Shell Header Bar

- Header
 - Region X
 - ♦ Cisco Logo
 - ♦ Product Name
 - Region Y
 - ♦ Space
 - Region Z
 - ♦ Username / Domain Switcher / Settings
 - Logged in User
 - Log Out

Section 2 - Required/Recommended/Optional/Not Permitted

Component	Description	Status
Cisco Logo	Cisco Logo branding, allowing quick access to application home	Required
Product Name	Title of the product/application, allowing quick access to application home	Required
Username / Domain Switcher / Settings	Displays the currently logged in username and selected domain to the user at all times. Clicking this section reveals the user panel.	Required
- Logged In User	Display of currently logged in user	Required
- Log Out	Function to allow users to log out of an application	Required

Section 3 - Other Widgets Incorporated/Referenced

- Header (Example | Engineering Notes | Specification)
- Username / Domain Switcher / Settings (Example | Engineering Notes | Specification)

Section 4 - Use Cases

There are times when users want to compare data or continuously monitor a set of data without the distractions or functionality of the rest of the application. In these instances, a user would want to duplicate or pop out a data set or page. This is signified across the UI by the usage of the detach icon.

Use When

- a user wants to isolate and preserve a particular content view
- the context of the current view does not need to be maintained.
- supporting user activities where the main application and main UI shell are active.

Note! The limited functionality of the abridged shell is does not lend itself to be used without the parent application.

Do Not Use When

- a user wants to view content that is not always on the screen. Instead use the pinning action (see spec in the 360 view).
- the context of the current view needs to be maintained. Instead, use the pinning action (see spec in the 360 view).
- the user requires access to all other areas and additional information found in the header.

Getting Back Home



Figure 2. Getting Back Home

- The Cisco Logo and Product Name should be links back to the application home page.
- Both of these items should appear as a single link target, avoiding non-linked space between them

Logging Out



Figure 3. Logging Out

- Log Out functions are retained in the abridged shell.
- Users must open the panel to reveal the "Log Out" link.
- Clicking this link will log out the user.
- Note: Options in this header panel are limited due to the abridged shell.

Interaction Specifications

Description

The abridged shell is a simplified version of the UI shell, designed to maintain brand integrity, provide context, and maximize screen real estate while viewing dashlets or pages in a separate pop-out window. It also gives users easy access to decision-support as well as a means to compare data side by side.

Section 1 - Main Components



Figure 1. Abridged Shell Header Bar

- Header
 - Region X
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 - Region Y
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 - ♦ Username / Domain Switcher / Settings
 - Logged in User
 - Log Out

Section 2 - Required/Recommended/Optional/Not Permitted

Component	Description	Status
Cisco Logo	Cisco Logo branding, allowing quick access to application home	Required
Product Name	Title of the product/application, allowing quick access to application home	Required
Username / Domain Switcher / Settings	Displays the currently logged in username and selected domain to the user at all times. Clicking this section reveals the user panel.	Required
- Logged In User	Display of currently logged in user	Required
- Log Out	Function to allow users to log out of an application	Required

Section 3 - Other Widgets Incorporated/Referenced

- Header (Example | Engineering Notes | Specification)
- Username / Domain Switcher / Settings (Example | Engineering Notes | Specification)

Section 4 - Usage & Flows

Getting Back Home



Figure 2. Getting Back Home

- The Cisco Logo and Product Name should be links back to the application home page.
- Both of these items should appear as a single link target, avoiding non-linked space between them
- The clickable area for these elements should be:
 - The full height of the navigation bar
 - Refer to the visual specifications for left and right padding.

Logging Out



Figure 3. Logging Out

- Log Out functions are retained in the abridged shell.
- Users must open the panel to reveal the "Log Out" link.
- Clicking this link will log out the user.
- Note: Options in this header panel are limited due to the abridged shell.

Section 5 - Technical Constraints

N/A

Section 6 - Rationale, Rejected and Future Ideas

Rationale

Stripping Down to the Essence

- The purpose of the abridged shell is to maintain brand integrity, provide context for the data, and maximize screen real estate while viewing dashlets or pages in a separate pop-out window.
- Essential elements are limited to:
 - Cisco logo
 - Product name
 - Username/Domain Switcher
 - Logout link (within the Domain Switcher menu)
- The logout is considered essential, as the user may have closed the parent window containing the main UI shell but not logged out of the system.
- All other features should be accessed from the main UI shell.

Logged in as...

- Providing context for who the user is logged in-as is an important point of reference to maintain.
 - Use cases include:
 - TMEs, partners, and support personnel often impersonate a customers account to assist a customer with a request or issue.
 - Customers may have multiple accounts and want to compare data between accounts.
- The logout is considered essential, as the user may have closed the parent window containing the main UI shell but not logged out of the system.
- All other features should be accessed from the main UI shell.

Section 7 - Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications



Figure 1. Abridged Shell Header Overview



Figure 2. Abridged Shell Header Elements



Figure 3. Abridged Shell Header Specifications

Alarm Font and Color Specification

Element	Example	Font Family	Size	Style	Color	Shadow
Product Name	Cisco Prime Product	CiscoSansThin, Arial	2 rem	Normal	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
User ID / Virtual Domain	userID - virtualdomain	Arial	1.3 rem	Normal	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Color	Shadow
Cisco Logo				4.2 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;
Setting				1.6 rem	#FFFFFF	text-shadow: 0 -0.1rem 0.1rem #000000;

Table 2. Icons Specifications

SPLIT CONTAINER

Description

A **split container** contains multiple views or panes displayed side by side (either horizontally or vertically). The resize handle, between the views is used to adjust the relative size of each view by click dragging the resize handle icon.

Usage Guidelines

Use Split Container when...

- The user needs to have the flexibility to change the width or height of two adjacent views relatively to gain more screen space to work with one view or the other.
- The user needs to quickly collapse one of two adjacent views.

Do not use Split Container when...

- It is imperative to fully view the content of adjacent views

Other Guidelines

- Views implemented with split container functionality should be able to resize to the minimum/maximum possible width or height, which is similar to the expand/collapse layout
- Use an horizontal split container when the native orientation of one of the adjacent views is horizontal. e.g. A topology map on one view, and a table view on the other.
- Use a vertical split container when the native orientation of one of the adjacent views is vertical. e.g. A topology map on one view, and a navigation tree on the other.
- When using the split container expand/collapse functionality, choose one of the adjacent views to be the one that would most benefit from taking up the extra real estate gained by collapsing the other view.

Visual Specifications

Layout and Visual Design

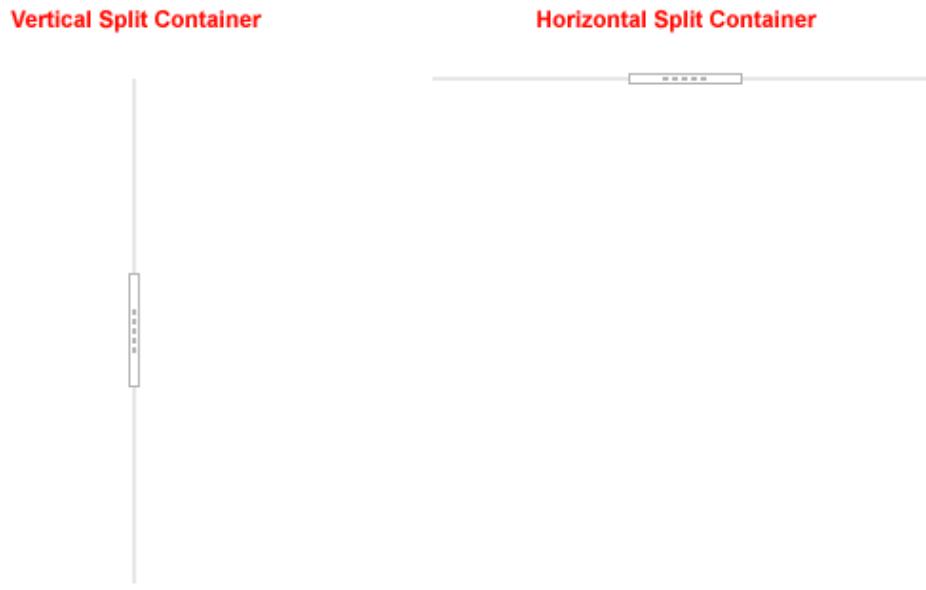


Figure 1. Split Container Overview.

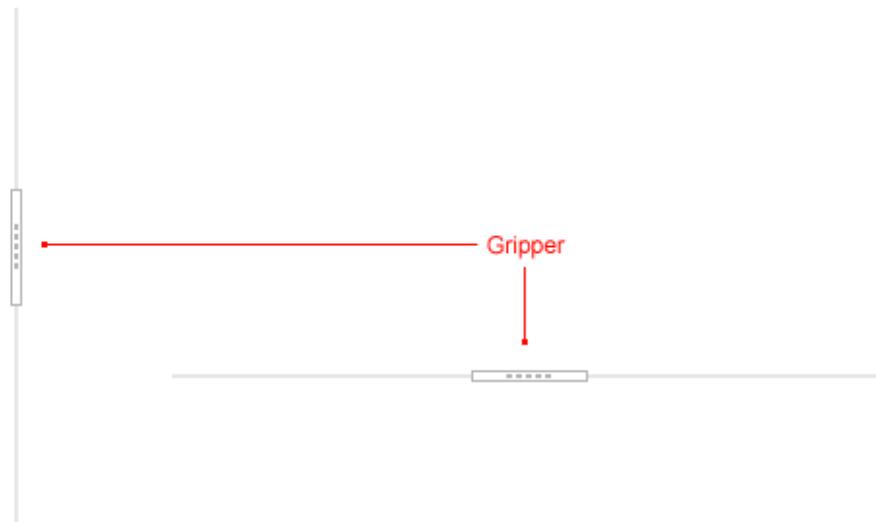


Figure 2. Split Container Elements.

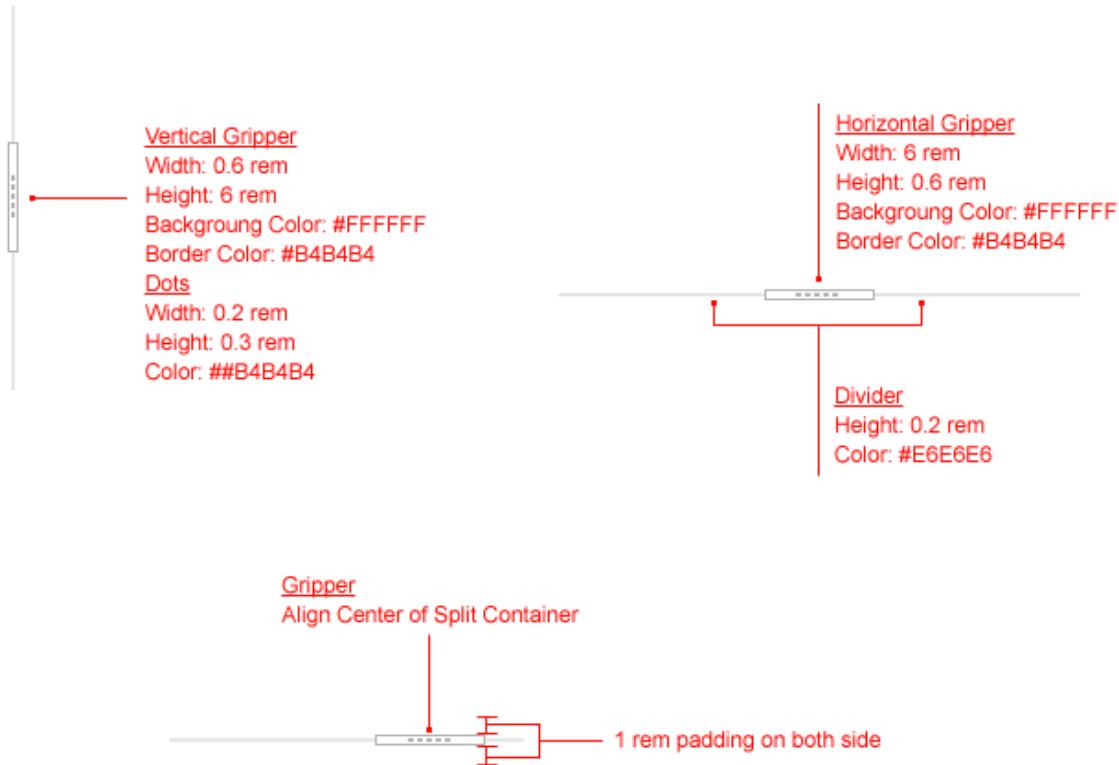


Figure 3. Split Container Specifications.

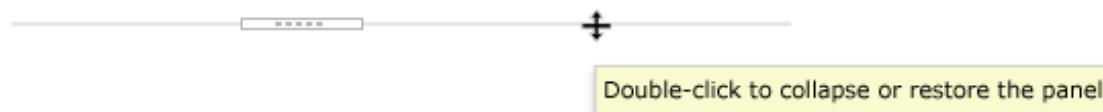


Figure 4. Split Container Mouse Over Tooltip.

Interaction Behavior

- A user may use the split container by click and drag anywhere along the split container space between two adjacent views or panes, or by click and drag the resize handle located in the middle of the split container space.
- Dragging the resize handle reduces the width/height of one pane and increases the width/height of the other.
- While hovering over a split container space the mouse cursor changes to a resize icon. However, hovering above the resize handle does not change the mouse cursor.
- Optional - double clicking the resize handle icon will expand or collapse one of the two adjacent views. e.g. When one view is used for a navigation system and the other for a content view, double clicking the resize handler will collapse and close the navigation view allowing the content view to take up the entire real estate. Double clicking the resize handler again will restore the default layout and will expand the navigation view back to its original width.
- Once minimized the resize handle will remain attached to the frame of the collapsed view to allow the user to expand the view to its original size. See figure #3.

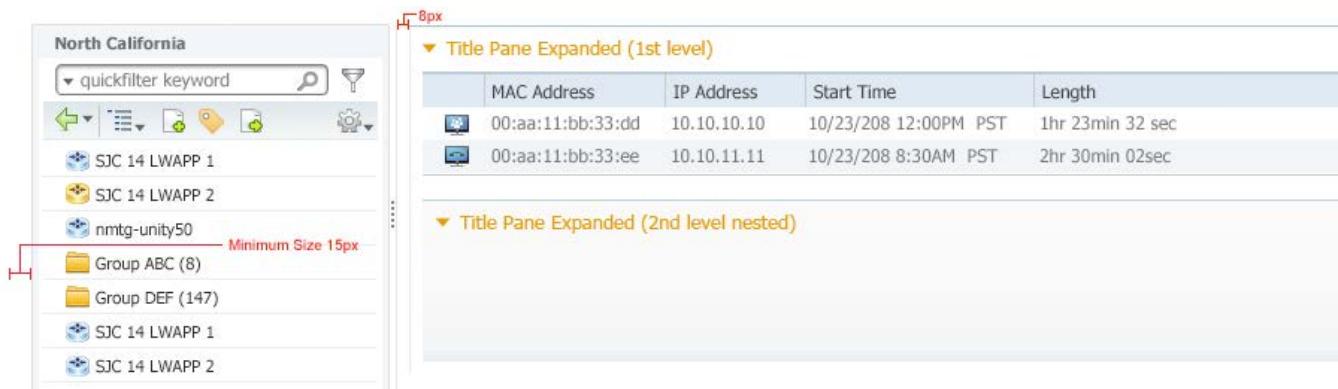


Figure 5. Minimized Spec

Font and Color Specification

Element	Description
Split Container Space	The space between two adjacent views or panes
Resize Handle	Located in the middle of the vertical or horizontal axes of the split container space and is used to resize two adjacent views relatively.

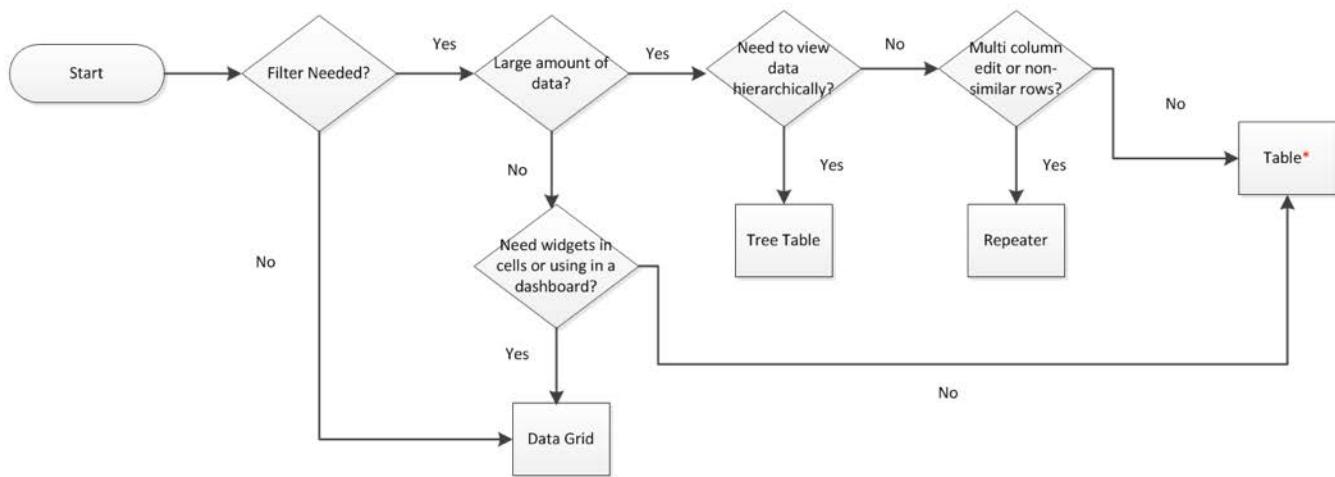
Table 2. Split Container Elements

TABLE & GRIDS

TABLE BASIC

Table Decision Tree

Which Table Should I Use?



* Note: If your backend cannot handle virtual scrolling, consider using the Paging Table (this is not UX recommended)

Table Features Matrix

Feature	Table	Tree Table	Data Grid	Repeater
Editable	x	x	x (cell edit)	x
Filterable	x	x		x
Sortable	x	x	x	
Drag & Drop Rows to Reorder	x	x		x
Drag & Drop Columns to Reorder	x	x		
Fix/Detach Rows	x			
Lockable Columns		x		
Virtual Scrolling	x	x	x	
Show/Hide Columns	x	x		
Table Level Toolbar	x	x		
Global Toolbar	x	x		
Popover/360 Support	x	x		
Details Pane Support	x			
Selection Support	x	x	x	
Multi-Edit				x

Description

Tables organize related information into a matrix of rows and columns. They enable you to display a large data set in a compact, organized way.

Usage Guidelines

Use tables to:

- Display large data sets that are suitable for display in tabular format (columns and rows).
- Present a summary of information that is presented in more detail elsewhere and allow users to drill down to get more detail.
- Display selected attributes of multiple objects for the purposes of comparison.
- Allow the user to create or modify a set of complex objects.

Do not use tables when:

- You have a very simple list of information to display. In this case, use a scrolling list or a bulleted list.
- Communicating quantitative relationships. In many cases, charts and graphs are superior to tables for this purpose.

Additional Guidelines

- In order to support many use cases when users need to further communicate and edit table content allow users to copy table row, cell and inlay panel content to paste into another application or format.

Possible table UI components include:

- Table Titles
- Column Headers
- Rows

- Columns & Column Alignment
- Table Cells
- Column Groups
- Global Toolbar
- Contextual Toolbar
- Preset Filters

Table Title

- Table titles are conditional (optional under certain conditions) and their usage is dependant on the context.
- Keep tables titles as brief as possible.
- Every table needs some kind of a title that is meaningful and matches the content displayed in it. Clearly indicate the purpose and content of the table.
- Use book title capitalization (first letter upper case).
- When a pane has more than one table, make sure each table is clearly distinguished by its title.
- Optionally, you can include an icon to the left of the table title.
- In most of the cases the table is displayed inside a container (page, dash let, title pane...) therefore the container title can serve as the table title
- The table title may be omitted when a single table is the only component in the content area (primary window, dialog, tab or dashboard) and the title of the content area reflects the table contents.
- If the table title does not provide any additional information and it's just a repetition of the container title above it then it should be removed.
- It is recommended to have a table title when the table is displayed along with other content in the same container

Table Column Headers

- Keep the column header as brief as possible.
- Clearly indicate the purpose and content of the column.
- All textual headers and textual cell content should be left aligned to accommodate very wide column size.
- Column headers consisted of icons only should be horizontally centered and the column width size should be the width of the icon plus the specified common table cell padding. Upon hovering over the icon in the column header a tooltip should be displayed to describe what the icon represents.

Note! Column headers consisted of icons only should always be referenced as a combination of the icon and its label, except for the column header tooltip which should show the label only. By reference we mean that whenever the icon header is represented, as in the advanced filter columns combo box or the show/hide columns dropdown list, it must always show the icon and its label.

- In case of using only an icon in a column header along with only an icon in column cell use center alignment for both.
- Use book title capitalization (first letter upper case).
- If wrapping is unavoidable, force the wrapping at a natural point -- i.e. avoid "widows"(a short single word on the first line) and "orphans"(a short single word on the last line).
- If it would make the table easier to parse and understand, consider grouping two or more columns visually by providing a column group header. The column group header is displayed in a sub-row above the columns it spans, as shown in Figure J.
- Units should only be shown in the header row, inside parenthesis to the right of the column title or wrapped below the title, and not repeated inside content cells. Exceptions are:

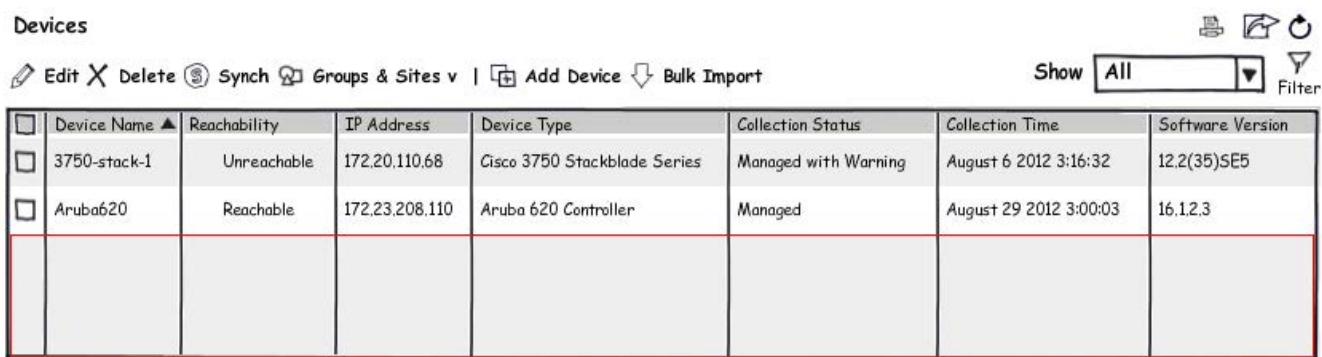
- When the content cell unit differs from the header unit.
- When the number plus the unit constitute as a single entity/object. While in most cases units will be omitted from table cell content and are shown in the column header there could be exceptions when modifiers such as percentage (%) and Dollar (\$) signs should be shown along the table cell content to keep the context intact.

Rows

- Rows should be displayed in alternating colors, for readability.
- Index Column: for ease of navigation provide an option to add row numbers display in the first and left most column.
- Tables with no entries (empty tables) should display a single row that reads, "No data available ". This is so that the user understands that the table is intentionally empty and not empty due to a system error.
- The number of rows a table can display depends on performance considerations, i.e., how quickly the data can be fetched from the server. A delay of more than a couple of seconds in updating the table will result in degraded user experience.

Extra row

Generally, a table should shrink vertically to the size of its contents if it only contains a few rows. However, if your application requires fixed height tables, you may insert an "extra row" to occupy the needed vertical space. Only use this if necessary, as it is not the preferred behavior.



The screenshot shows a table titled "Devices" with the following columns: Device Name, Reachability, IP Address, Device Type, Collection Status, Collection Time, and Software Version. There are two data rows and one empty row at the bottom, all enclosed in a red border. The table includes standard UI elements like a toolbar with edit, delete, sync, and import buttons, and a "Show All" dropdown.

	Device Name	Reachability	IP Address	Device Type	Collection Status	Collection Time	Software Version
<input type="checkbox"/>	3750-stack-1	Unreachable	172.20.110.68	Cisco 3750 Stackblade Series	Managed with Warning	August 6 2012 3:16:32	12.2(35)SE5
<input type="checkbox"/>	Aruba620	Reachable	172.23.208.110	Aruba 620 Controller	Managed	August 29 2012 3:00:03	16.1.2.3

Figure A. Extra Row

Columns & Column Alignment

Column widths should be:

- Variable, do not force equal widths across columns.
- Based on the expected width of their content.
- Resized in proportion to the width of the table.

The preferred alignment for a column depends on its data type.

Center a column when it contains:

- Fixed-width text
- A limited number of binary options, such as Yes/No or Up/Down
- Icons

- Checkboxes

Left-align a column when it contains:

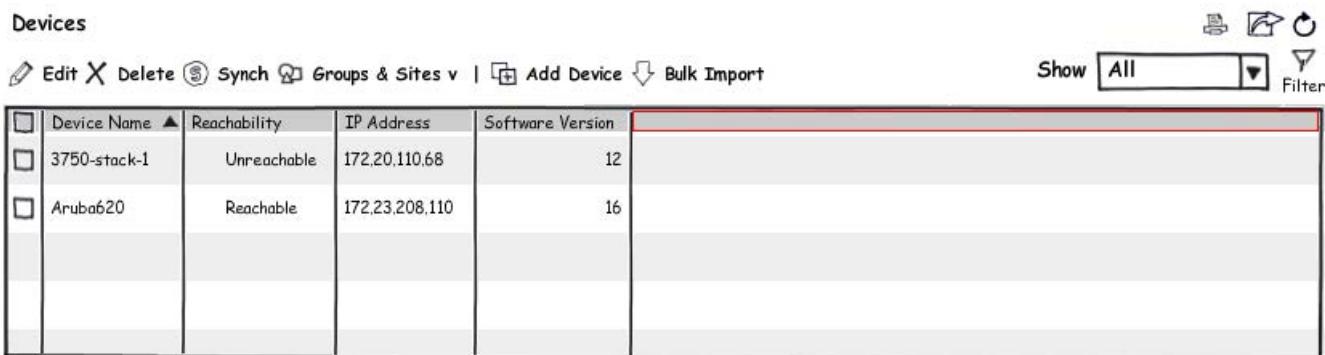
- Text paragraphs or text with variable widths
- Phone numbers
- Dates and/or times
- Numbers separated by dots, like IP addresses

Right-align a column when it contains:

- Integers
- Real numbers, aligned to the decimal place
- Currency, aligned to the decimal place

Extra Column

If a table expands to occupy the full width of the content area and information in the last column is right-aligned, it might be difficult to read due to too much white space. In these situations, it is acceptable to add a last "extra" or "blank" column into the table. This last column acts as a spacer, as shown below.



The screenshot shows a user interface for managing devices. At the top, there are buttons for Edit, Delete, Sync, Groups & Sites, Add Device, Bulk Import, and a Show dropdown set to All. There is also a Filter button. Below this is a table with the following data:

	Device Name	Reachability	IP Address	Software Version	
<input type="checkbox"/>	3750-stack-1	Unreachable	172.20.110.68	12	
<input type="checkbox"/>	Aruba620	Reachable	172.23.208.110	16	

Figure B. Extra Column

Column Groups

Table Title

Column 1	Column Group		Column 3
	Column A	Column B	Column 3
Content Row 1	Content Row 1	Content Row 1	Content Row 1
Content Row 2	Content Row 2	Content Row 2	Content Row 2
Content Row 3	Content Row 3	Content Row 3	Content Row 3
Content Row 4	Content Row 4	Content Row 4	Content Row 4

Figure C. Table with Column Group

If it would make the table easier to parse and understand, consider grouping two or more columns visually by providing a column group header. The column group header is displayed in a sub-row above the columns it spans, as shown in Figure J. Sorting for column group header is disabled. Sorting can be applied only to the group member column.

Table Cells

Each field in the table is called a cell. A cell may contain a text string, link, icon, image, text input field, checkbox, or single radio button.

The following describe guidelines for individual table cell design and implementation.

Table Cell Content Truncation and Content Wrapping

- **Wrapped or Truncated?** Content within a table cell may wrap or truncate when necessary in case it is longer than the table cell limits. While wrapping the content may result in an unexpectedly distorted table layout, as the table cell height may increase significantly, it is recommended to set the table cell default to truncate the content. Using truncation will allow the user to quickly scan and compare data within cells over a range of rows rather than scanning a wrapped content with line breaks.
However, there could be cases where it is imperative to use wrapped content, such as in 'Description' and 'Notes' columns, to allow the user to view the entire content at a glance.
- **Table Cell Truncation Interaction:** When truncated an ellipsis will be shown at the end of the truncated text to indicate the text is truncated. Hovering anywhere above the truncated content will display a tool tip containing the complete paragraph. The tool tip is a mandatory requirement for truncated text to provide a complete view of the content. In case the table cell is associated with a quick view a combination of an ellipsis and a quick view access arrow should be displayed (i.e. truncated text + ellipsis + access arrow).
- **Table Cell Wrap:** When wrapped the content should fit entirely in the table cell with no clipping or hidden text. The table cells alignment is always top so that when one of the cells uses wrapped content all the cells are still top aligned to one another.
When the column width is manually resized the wrapped content lines length are growing bigger or smaller according to the column width size.
- **Maximum Number of Characters:** The total maximum number of characters displayed before truncation begins is 13. If the content is 14 or higher, i.e. anything above 10 characters + an ellipsis (3 characters), the first 10 characters and an ellipsis are displayed.
- Of course, designers and developers should try to display the content in a table cell so that by default it is entirely fitting the table cell limits and use truncation or wrapping only when necessary.

Table Title

Column 1	Column 2 ▾	Column 3
Content Row 1	Content Row 1	Content Row 1...
Content Row 2	Content Row 2	Content Row 2...
Content Row 3	Content Row 3	Content Row 3...
Content Row 4	Content Row 4	Content Row 4...

Figure D. Truncated Content in Table Cell

Other Table Cell Guidelines

- Icon size should be limited to 16x16 pixels. Use tool tips to describe what the icons represent.
- Images larger than 16x16 may be used in tables, but should be used sparingly, and only when appropriate.
- Numbers should be right-aligned and use 1,000 separators.
- Use of buttons in cells is strongly discouraged since this approach is heavyweight visually and does not scale well.
- In general, you can put anything (e.g., a date picker widget) in a table cell. Yet, for performance reason, we don't recommend to use widget in table cells in normal, read only display mode. It is ok to use widgets on hover, (e.g. display a [quick view](#)) or edit mode (as in [editable table](#)).

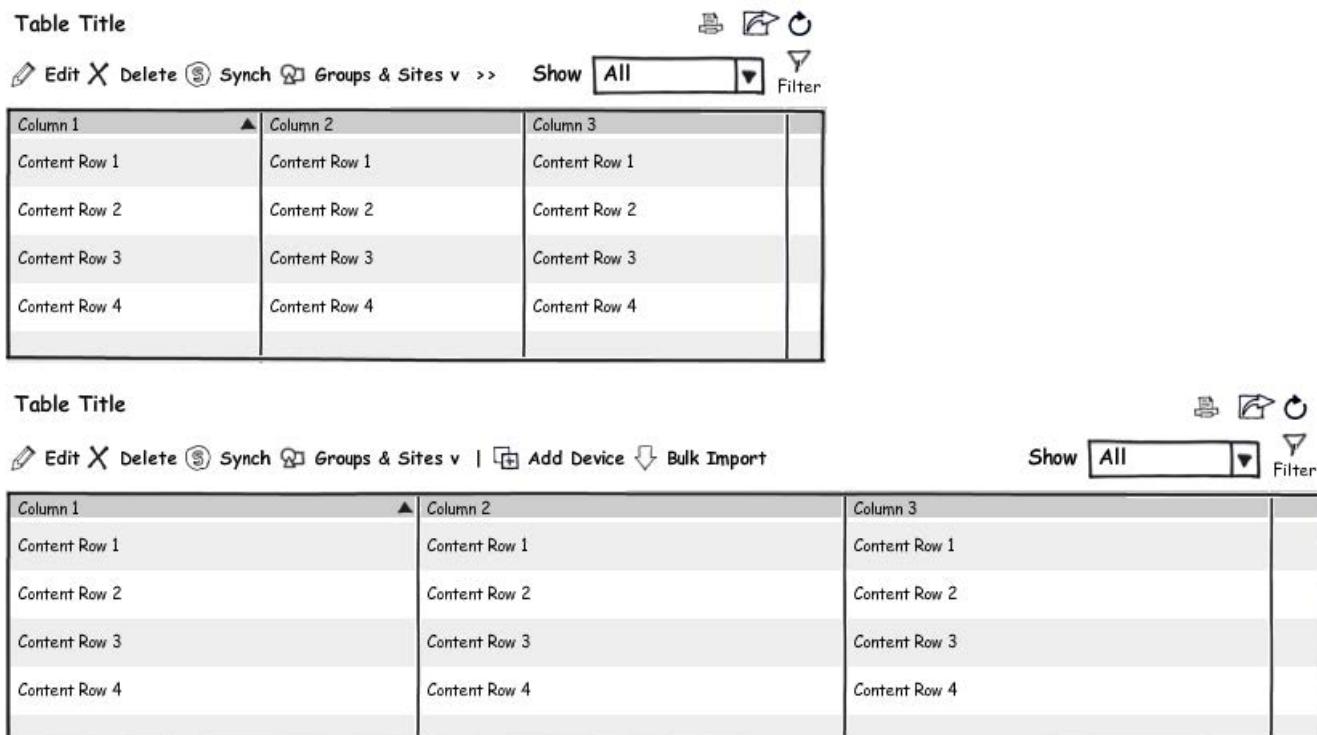
Table Resizing Behavior

There are three strategies for allowing tables to dynamically resize, based on the width of the browser window. In all three models, the table toolbar behavior is the same: the Preset Filters is always shown right-aligned, and the overflow icon is shown for the toolbar icons if there is not enough space to display them.

Method 1: Proportional Resize

All columns in the table are resized proportionally. The extra space consumed by the table is allocated to each column. Use this method when presenting a table with lots of columns that would benefit from the extra space available to users with resolutions larger than 1024x768. If the browser window is sized smaller than 1024x768, the columns continue to shrink until they can shrink no further (determined by the browser based on the percentage width assigned to each column), at which point a horizontal scroll bar appears on the table.

This is the recommended default behavior for all tables.



Column 1	Column 2	Column 3
Content Row 1	Content Row 1	Content Row 1
Content Row 2	Content Row 2	Content Row 2
Content Row 3	Content Row 3	Content Row 3
Content Row 4	Content Row 4	Content Row 4

Column 1	Column 2	Column 3
Content Row 1	Content Row 1	Content Row 1
Content Row 2	Content Row 2	Content Row 2
Content Row 3	Content Row 3	Content Row 3
Content Row 4	Content Row 4	Content Row 4

Figure E. Table Resize Method #1

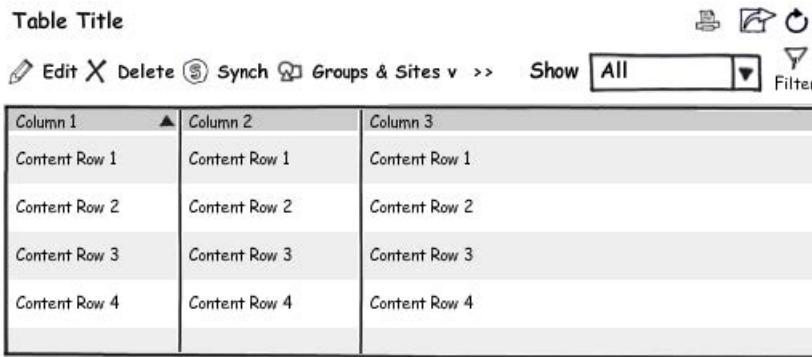
Method 2: Final Column Resize

Only the final column in the table is resized to consume the extra available space. All other columns remain a fixed size. Use this method when presenting a table with a small number of narrow columns that would look too spread out if all columns resized proportionally. If the browser window is sized smaller than 1024x768, a horizontal scroll bar appears on the table.

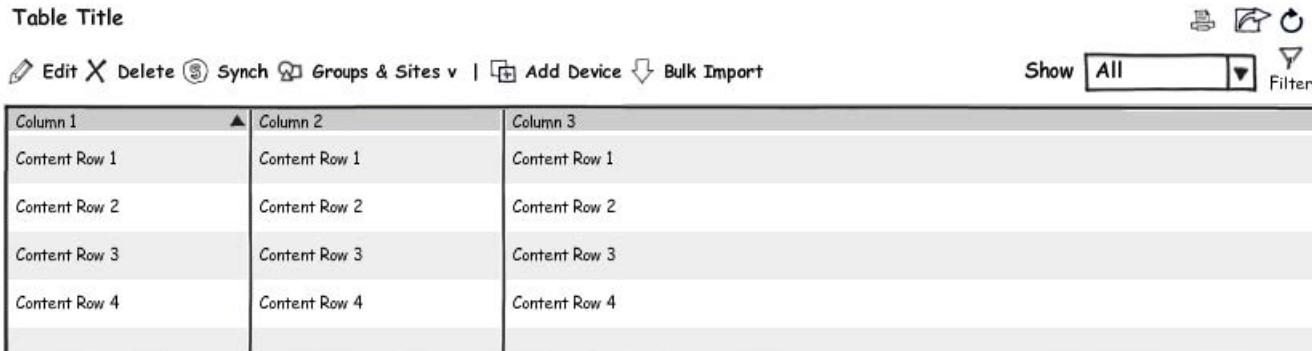
Ideally the sum of all column widths should be equal to the width of the table. But given that there are additional columns that table can add itself for index, selection etc, it does not always accurately distribute the space, which, in some cases can lead to an empty last column.

Given the dynamic nature of the table when it comes to sizing - table size is normally dictated by the size of its parent container (and different containers behave differently when resized or browser is resized), its not always feasible to restrict the table width accordingly to the columns widths, which can also lead to an empty last column. Columns themselves can be resized and shown/hidden as per application configuration as well as user changes, its not practical to alter the remaining columns' widths everytime, thereby leading to empty last column.

it is advisable that the applications provide the column width as per the application/page size and the default display property of the columns such that there is optimum utilization of the entire table width available when the page is opened with default recommended size. Any size or column change can result in a more prominent empty last column, which should be acceptable.



Column 1	Column 2	Column 3
Content Row 1	Content Row 1	Content Row 1
Content Row 2	Content Row 2	Content Row 2
Content Row 3	Content Row 3	Content Row 3
Content Row 4	Content Row 4	Content Row 4



Column 1	Column 2	Column 3
Content Row 1	Content Row 1	Content Row 1
Content Row 2	Content Row 2	Content Row 2
Content Row 3	Content Row 3	Content Row 3
Content Row 4	Content Row 4	Content Row 4

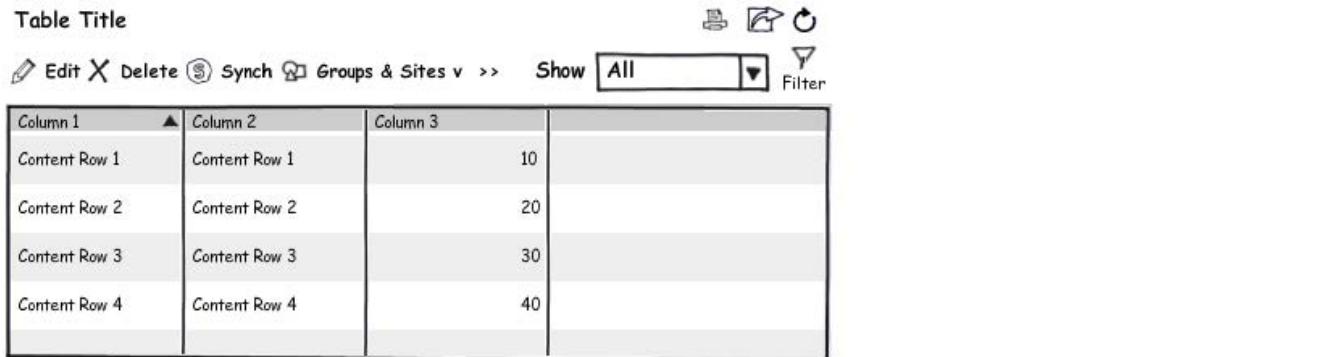
Figure F. Table Resize Method #2

Method 3: Extra Column Resize

Add an extra, blank column as the last column in the table. This extra, blank column is the only one that resizes to accommodate the extra available space. Use this method only when the final column of data is right-aligned; adding the extra blank column keeps the right-aligned data from drifting too far away from the rest of the columns in the table. If the browser

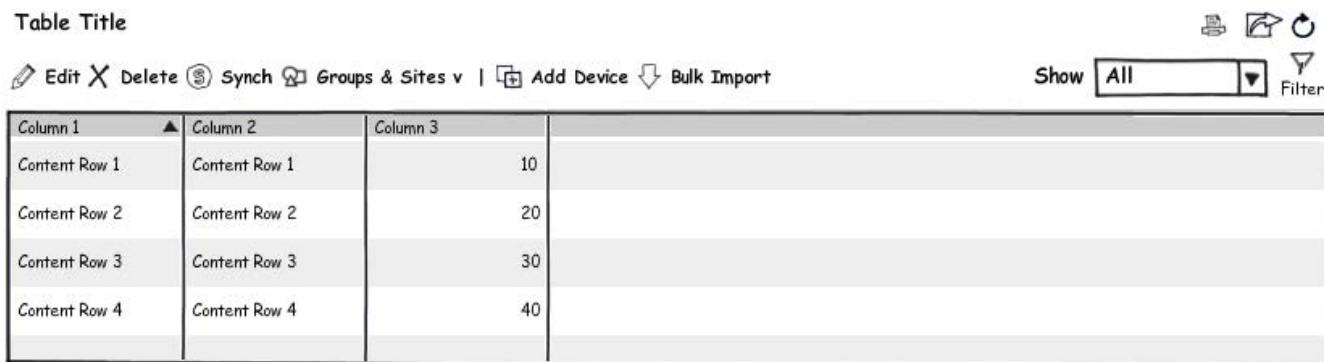
window is sized smaller than 1024x768, a horizontal scroll bar appears on the table. However, there should be no horizontal scrolling by default at 1024 x 768 unless the user adds more columns that will make the table scroll horizontally.

Table Title



Column 1	Column 2	Column 3
Content Row 1	Content Row 1	10
Content Row 2	Content Row 2	20
Content Row 3	Content Row 3	30
Content Row 4	Content Row 4	40

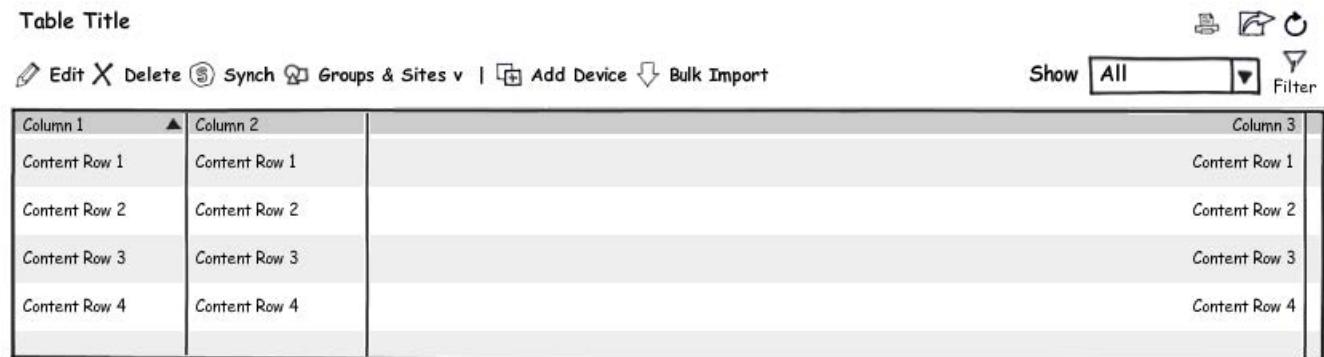
Table Title



Column 1	Column 2	Column 3
Content Row 1	Content Row 1	10
Content Row 2	Content Row 2	20
Content Row 3	Content Row 3	30
Content Row 4	Content Row 4	40

Figure G. Table Resize Method #3

Table Title



Column 1	Column 2	Column 3
Content Row 1	Content Row 1	Content Row 1
Content Row 2	Content Row 2	Content Row 2
Content Row 3	Content Row 3	Content Row 3
Content Row 4	Content Row 4	Content Row 4

Figure HG. Table Resize Method #3

Toolbars

All toolbars are optional and customizable and are based on the specific needs and requirements of the application using it..

Global Toolbar

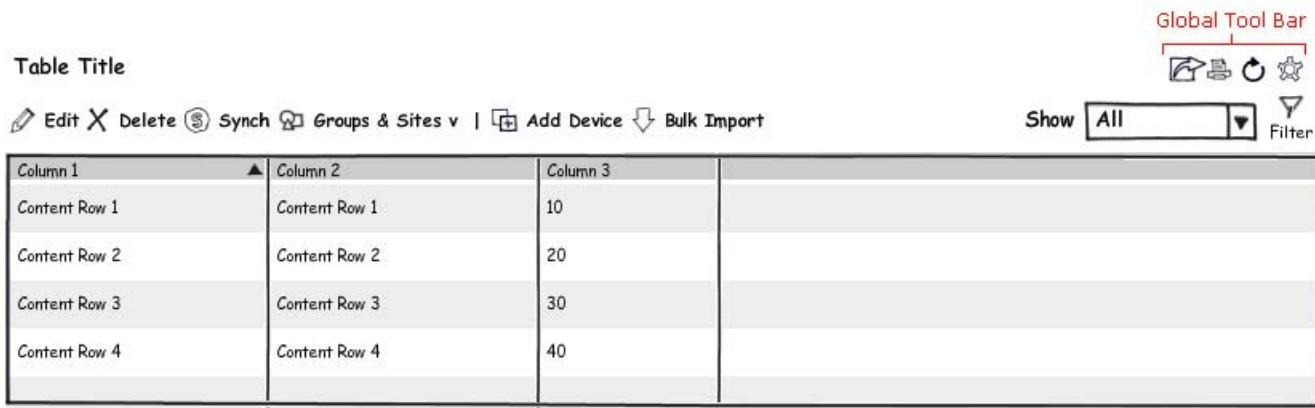


Figure I. Global Toolbar

The global toolbar is located in the table title area, on the extreme right. The global toolbar contains functions that apply to the entire table and its contents, such as:

- Refresh
- Print
- Export (cs, pdf, etc)
- Table Options/Settings

Each toolbar icon loads an associated dialog. Unlike the contextual toolbar, in case the table is resized, the global toolbar does not use an overflow mechanism to nest the toolbar items in a drop down list (triggered by a chevron icon >>). The toolbar items persist their current location.

Refresh

- For dynamic tables the auto-refresh should be enabled by default.
- The refresh button tool tip should include the update information (I.e. Last Updated on 10/24/09 18:43).
- Allow the user to turn auto-refresh off from the table global toolbar settings control. Upon clicking the refresh button the table will be updated, yet auto-refresh will remain disabled.
- If the table is sorted and a refresh has been applied, the table data will maintain the sort order and will not reset to any default sort state.
- If the table is filtered and a refresh has been applied, the table data will keep the table in a filtered state and will not reset to retrieve unfiltered data.

- If the table has been customized (column or rows reordered) and a refresh has been applied, the table rows and columns will persist the customized order and will not reset to a default state.

Print

- Allow the user to print a portion of the table by defining a print range (by pages, row numbers, or other criteria)
- Allow the user to print only selected rows or columns.
- Allow the user to select a printing style from a predefined list of styles. Print styles should be defined by the application specific requirements.

Export

- Allow the user to export a portion of the table by defining an export range (by pages, row numbers, or other criteria)
- Allow the user to export only selected rows or columns.
- The list of available export file formats should be closely tied with the application specific requirements. As an example; if it makes sense to send table data by email, provide the ability to export the data directly into an email message using an email application.

Settings

- Use tabs to separate the settings into a logical groups of items. An example: enabling/disabling auto-refresh should be grouped together with settings of table data polling rate.

Contextual Toolbar

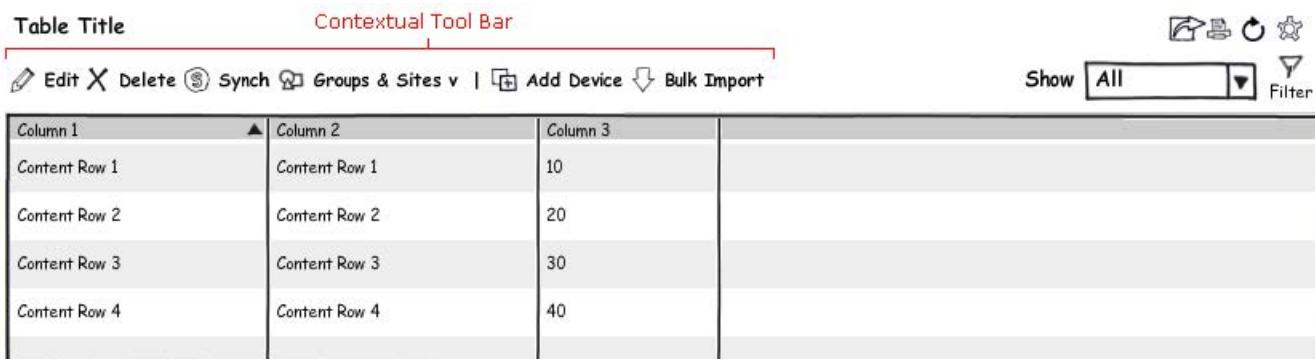


Figure J. Contextual Toolbar

The contextual toolbar is located right below the table title area, on the extreme left. The contextual toolbar should contain all the table actions (except global functions stated above) that apply to the table rows.

Settings

Only table generated buttons can be signified by icons. The button order for the table is as follows:

- Edit
- Delete

- Move To
- Move Up or Down
- Acknowledge
- Add Row
- Clear Selections

After a divider, any application specific buttons may follow. These can only be text buttons (no icon only or icon + text buttons).

Other Contextual Toolbar Button Guidelines

- Buttons should have a tool tip to convey the action behavior.
- Buttons should be positioned left-to-right. See the Action and Command Buttons section for recommendations on word selection
- When the action is appropriate for only one row at a time, the button should be disabled when multiple rows are selected.
- When the action is not appropriate for a particular item or selection, the button should be disabled.

In cases when the table is resized, the contextual toolbar is resized relatively and uses an overflow list mechanism to nest the extra toolbar items in a drop down list. The overflow list can be displayed by clicking the chevron icon >> on the far right. Items on the farthest right of the resized contextual toolbar will move into its overflow list first.

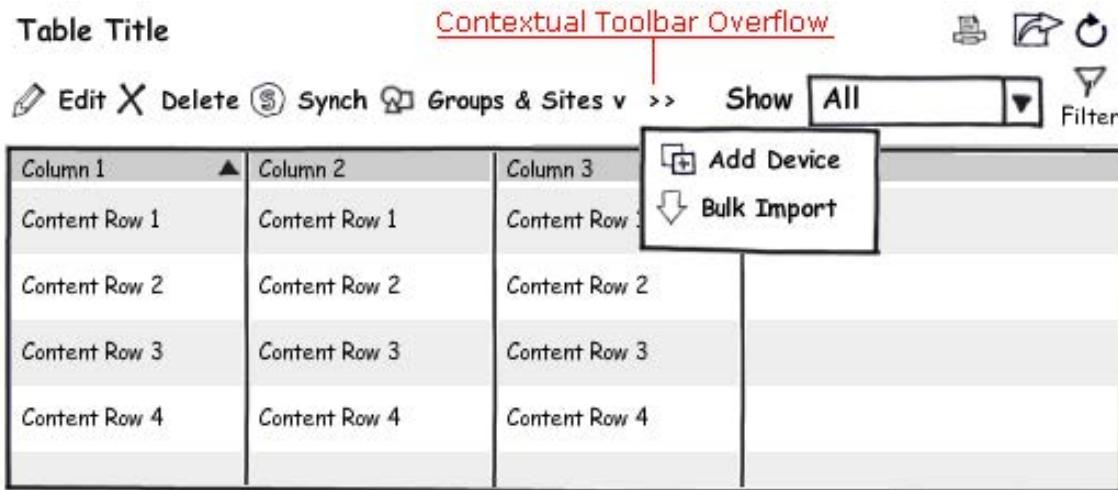


Figure K. Contextual Toolbar Overflow

- Edit
 - When no row is selected the 'Edit' button should be disabled
 - Editing multiple selected rows simultaneously should enable editing only for the common denominator attributes of the selected rows.
 - Use an 'Edit' dialog, an editor, when the data displayed in the table row is only a representation of an element and serves as an access point to its attributes. If the table row displays the actual editable data, you might want to consider using editable tables.
- Delete
 - Display a pop up dialog to confirm the 'Delete' command.

- Allow the user to choose not to display delete confirmation dialog window by checking a 'Do not show this window again' check box.
- Move To
 - For the 'Move To' input field follow the usage guidelines described in [Text Boxes and Areas](#).
 - Disable the 'Move To' toolbar item if no row is selected
 - Disable the 'Move To' toolbar item if all of the rows are selected
- Move Up or Down
 - Disable the Move Up and Move Down buttons if no row is selected
 - Disable the Move Up and Move Down buttons if all of the rows are selected
 - If the last row is selected then the 'Move Down' button should be disabled
 - If the first row is selected then the 'Move Up' button should be disabled
 - Disable the Move Up and Move Down buttons if the selected rows are not successive
- Acknowledge
 - Disable the Acknowledge button if the selected row data has already been acknowledged.
 - Disable the Acknowledge button if the selected multiple rows data are a mixture of acknowledged and unacknowledged data grid items.
- Add Row
 - Where possible, try using good default values.

Clear Selections

- it is recommended to include the 'Clear Selection' button when the 'Select All' check box is not implemented due to performance risks. In this case you may still want to provide the user a one click button to deselect multiple number of selections instead of manually deselecting them one by one.

Preset Filters

The Preset Filters is located on the right side of the Contextual Toolbar area. It is comprised of a set of a pre-defined filter criteria that the user can select from a drop down list. This functionality is optional and customizable, depending on the specific needs and requirements of the application using it. For more information on table filtering, see the [Table - Filterable](#) standards page.

Editable Table

Use an editable table to enable users to edit or add table data.

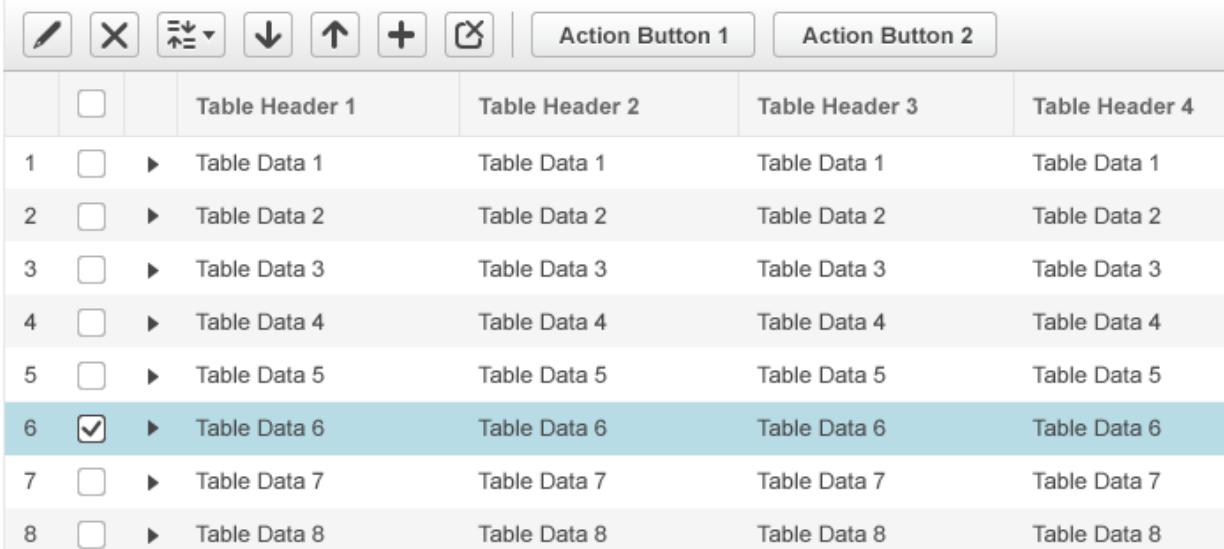
Keyboard and Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

Table Title Selected xx / Total xx   

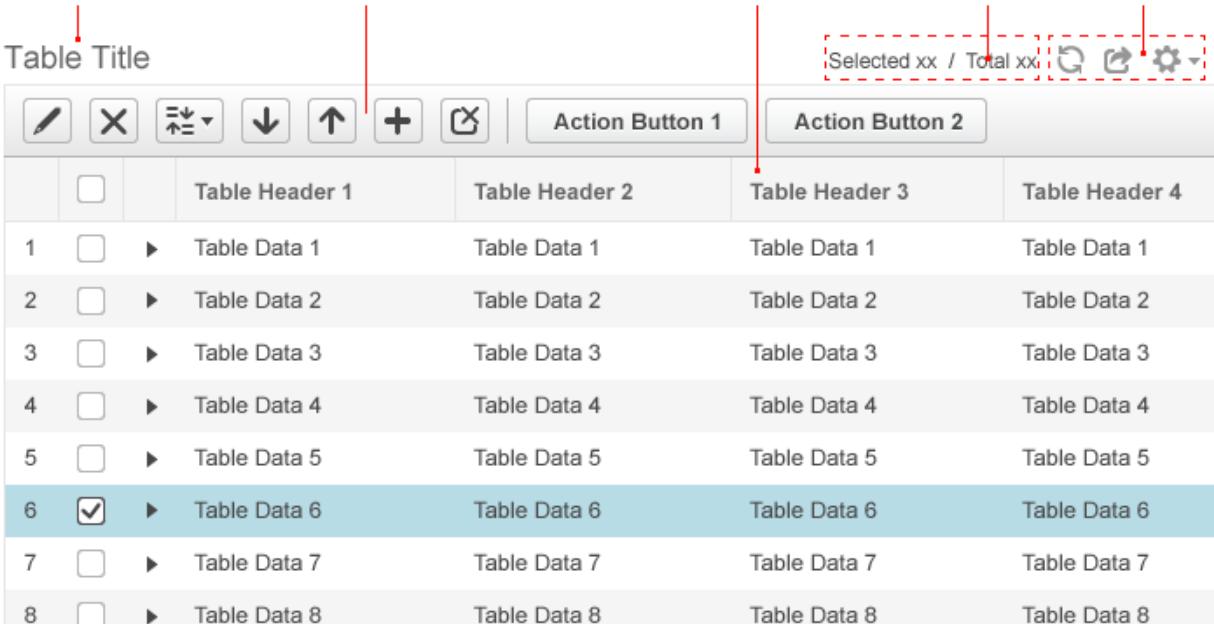


The table has a header row with four columns labeled "Table Header 1", "Table Header 2", "Table Header 3", and "Table Header 4". Rows 1 through 5 contain standard data. Row 6 is highlighted with a blue background and contains a checked checkbox in the first column. Rows 7 and 8 contain standard data.

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4
5	<input type="checkbox"/>	▶ Table Data 5	Table Data 5	Table Data 5	Table Data 5
6	<input checked="" type="checkbox"/>	▶ Table Data 6	Table Data 6	Table Data 6	Table Data 6
7	<input type="checkbox"/>	▶ Table Data 7	Table Data 7	Table Data 7	Table Data 7
8	<input type="checkbox"/>	▶ Table Data 8	Table Data 8	Table Data 8	Table Data 8

Figure 1. Table Basic

Table Title Selected xx / Total xx   



The table structure is identical to Figure 1, featuring a header row and 8 data rows. The 'Table Title' is explicitly labeled above the table. Red arrows point to the following elements: 'Table Title' (above the table), 'Contextual Toolbar' (the top row of icons), 'Column Headers' (the first column of the header row), 'Row Count Info' (the status bar at the top right), and 'Global Toolbar' (the settings icon in the top right corner).

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4
5	<input type="checkbox"/>	▶ Table Data 5	Table Data 5	Table Data 5	Table Data 5
6	<input checked="" type="checkbox"/>	▶ Table Data 6	Table Data 6	Table Data 6	Table Data 6
7	<input type="checkbox"/>	▶ Table Data 7	Table Data 7	Table Data 7	Table Data 7
8	<input type="checkbox"/>	▶ Table Data 8	Table Data 8	Table Data 8	Table Data 8

Figure 2. Table basic elements

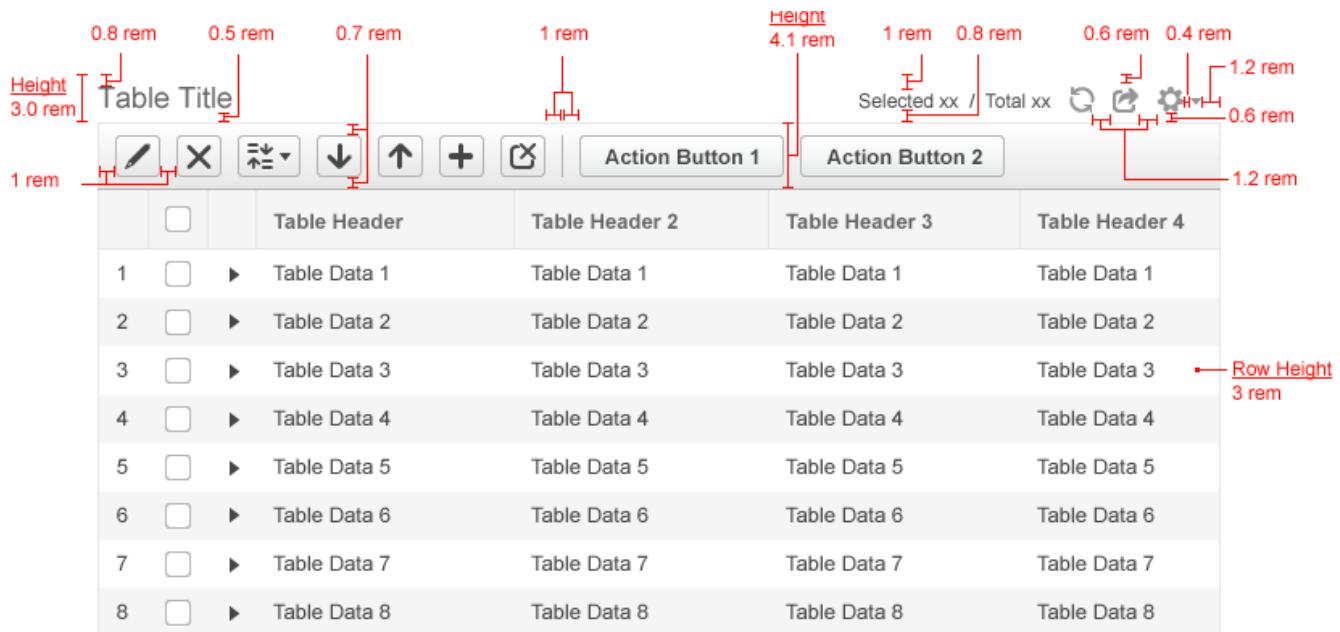


Figure 3. Table basic visual specifications

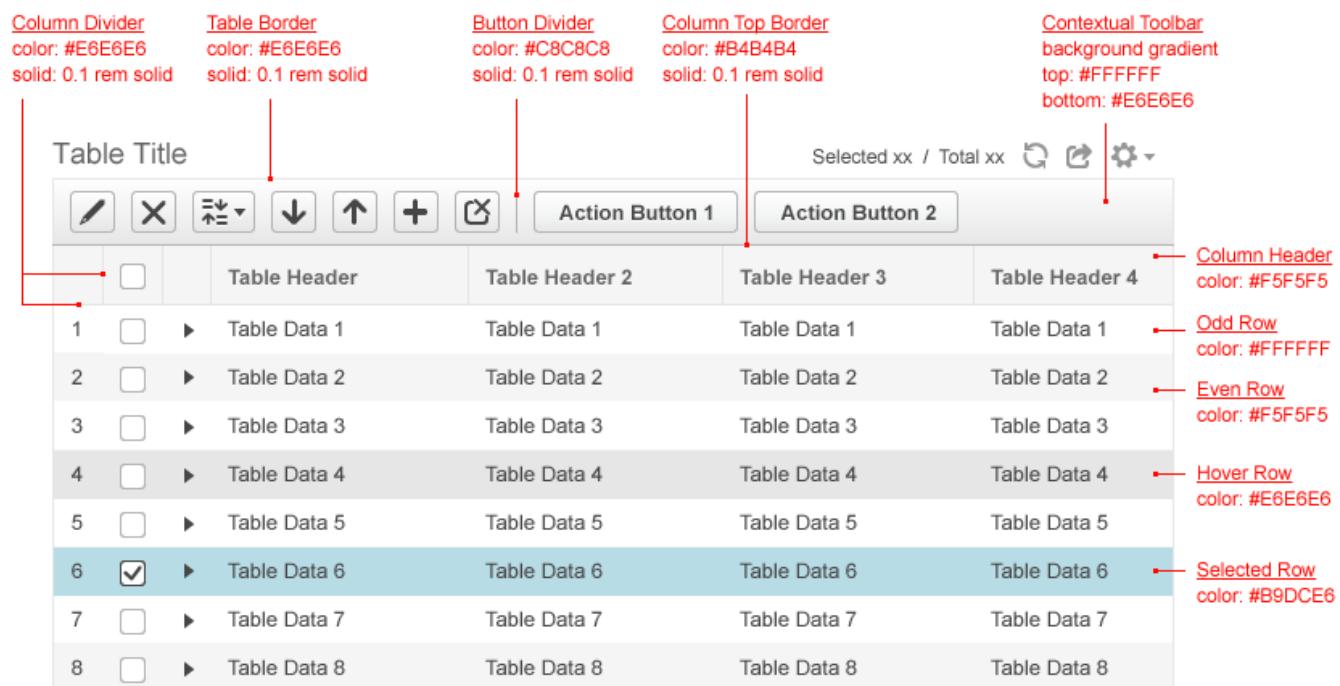


Figure 4. Table basic color specifications

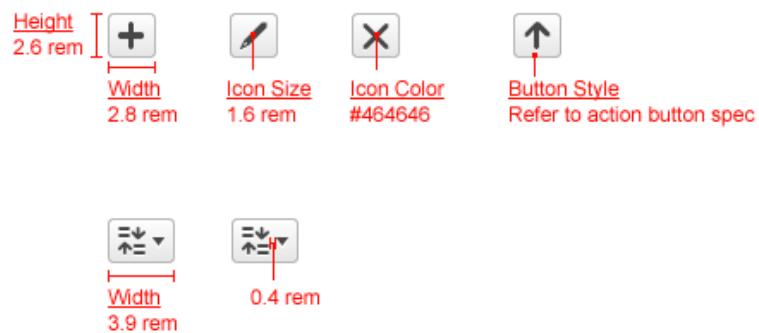


Figure 5. Table toolbar specifications

Table Title				Selected xx / Total xx			
	<input type="checkbox"/>	Table Header	Table Header 2	Table Header 3	Table Header 4		
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1		
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2		
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3		
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4		
5	<input type="checkbox"/>	▶ Table Data 5	Table Data 5	Table Data 5	Table Data 5		
6	<input type="checkbox"/>	▶ Table Data 6	Table Data 6	Table Data 6	Table Data 6		
7	<input type="checkbox"/>	▶ Table Data 7	Table Data 7	Table Data 7	Table Data 7		
8	<input type="checkbox"/>	▶ Table Data 8	Table Data 8	Table Data 8	Table Data 8		

Figure 6. Table Column header Specifications

Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Table Header	Table Header 2	▲	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1		Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2		Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3		Table Data 3	Table Data 3

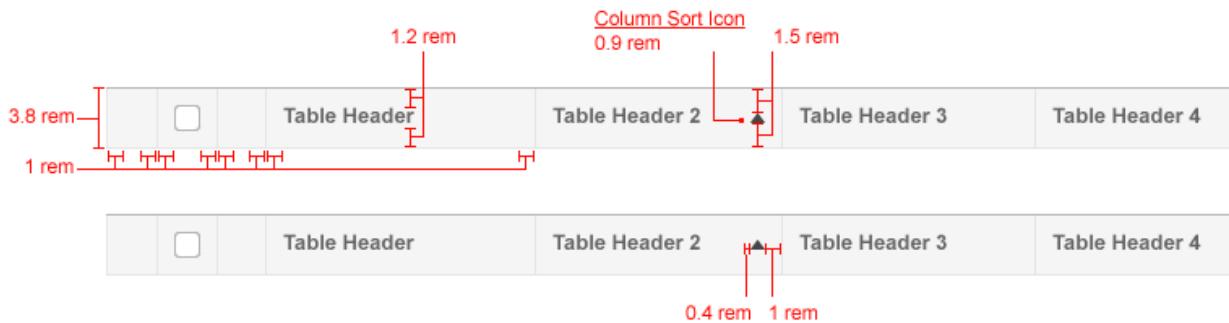


Figure 7. Table column header specifications

Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Name		Table Header 2	Table Header 3	Table Header 4
		First	Last			
1	<input type="checkbox"/>	▶ First	Last	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ First	Last	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ First	Last	Table Data 3	Table Data 3	Table Data 3

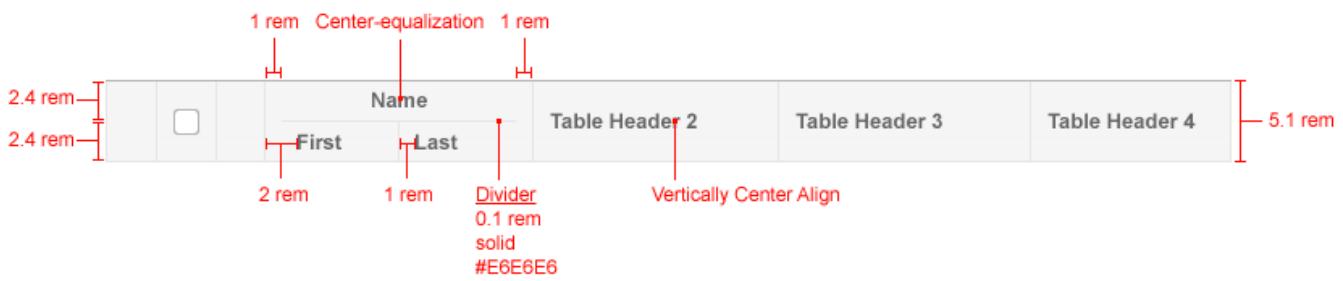


Figure 8. Table column grouping specifications

Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4
5	<input type="checkbox"/>	▶ Table Data 5	Table Data 5	Table Data 5	Table Data 5
6	<input checked="" type="checkbox"/>	▶ Table Data 6	Table Data 6	Table Data 6	Table Data 6

Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4
5	<input type="checkbox"/>	▶ Table Data 5	Table Data 5	Table Data 5	Table Data 5
6	<input checked="" type="checkbox"/>	▶ Table Data 6	Table Data 6	Table Data 6	Table Data 6

Figure 9. Table drag and drop

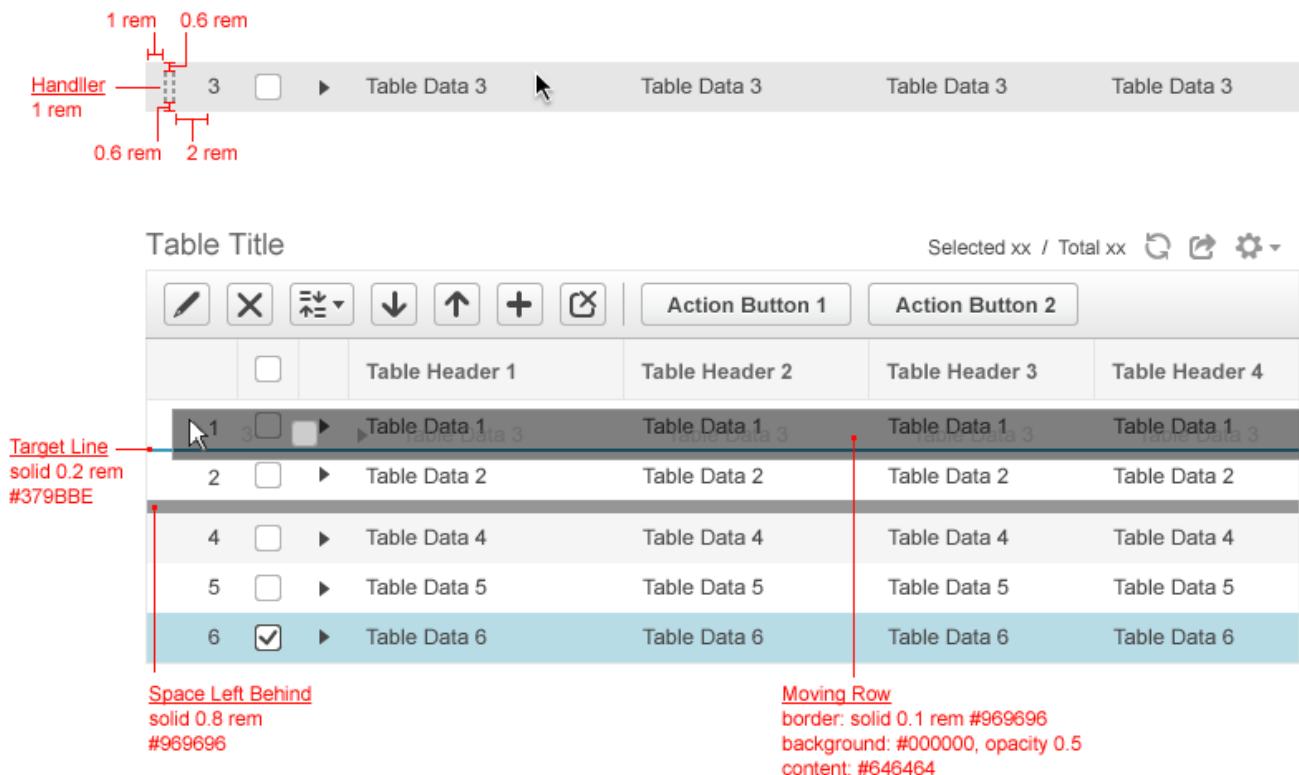


Figure 10. Table drag and drop Specification

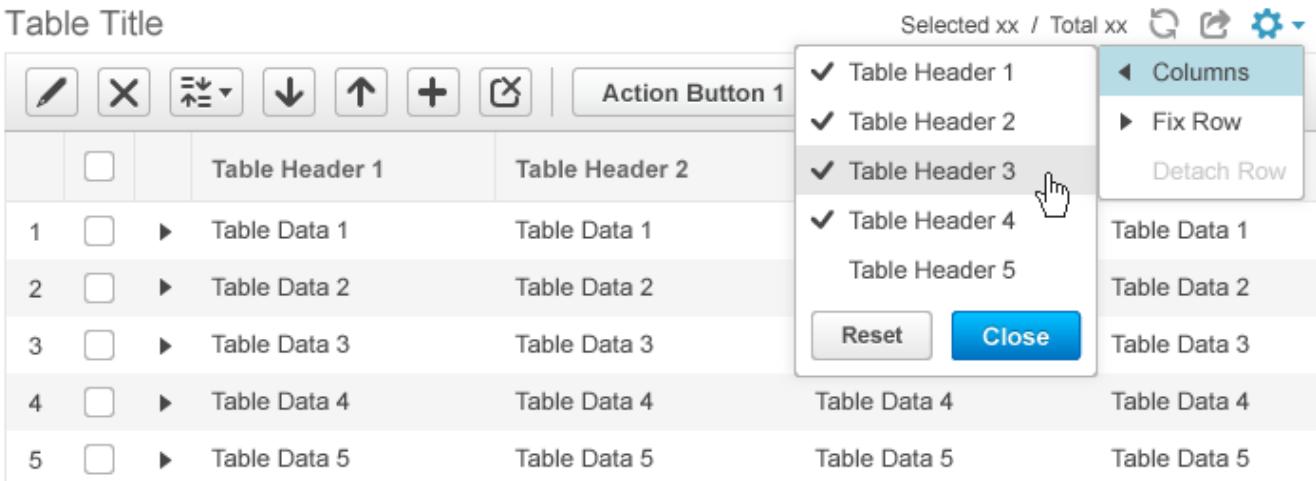


Figure 11. Show/Hide Columns Dropdown Menu

Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▼ Table Data 2	Table Data 2	Table Data 2	Table Data 2
		Define the ANA unit and AVM for the VNE			
		Name <input type="text" value="Jason E. Jeffrey"/>			
		Name <input type="text" value="Jason E. Jeffrey"/>			
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4

Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▼ Table Data 2	Table Data 2	Table Data 2	Table Data 2
		Selected Tab	Normal Tab	Normal Tab	Normal Tab
		Define the ANA unit and AVM for the VNE			
		Name <input type="text" value="Jason E. Jeffrey"/>			
		Name <input type="text" value="Jason E. Jeffrey"/>			
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4

Figure 12. Expanded Details Inlay Panel



Figure 13. Progress Ball/Loading Spec

Table Title					Selected xx / Total xx	Q	⚙️
		Action Button 1	Action Button 2				
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1		
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2	Fixed Row Guide 0.2 rem #646464	Fixed Background #FFFFFF
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3		Fixed Row Guide 0.2 rem #646464
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1		
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2		
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3		Ghost Row #F5F5F5 Transparency: 0.3 rem
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4		
5	<input type="checkbox"/>	▶ Table Data 5	Table Data 5	Table Data 5	Table Data 5		

Figure 14. Fixed row specification

Table Title Selected xx / Total xx   

		Table Header	Table Header 2 ▲	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3

1 rem    Page  1 of 3   Row 1 - 25

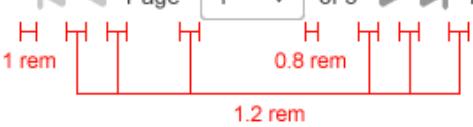


Figure 15. Paging Table specification

Table Title Selected xx / Total xx   

	Table Header	Table Header 2 ▲	Table Header 3	Table Header 4
No data available				

Table Title Selected xx / Total xx   

	Table Header	Table Header 2 ▲	Table Header 3	Table Header 4
No data available				

Figure 16. No data available specification

Font and Color Specification

Element	Font	Size	Style	Color	Behavior
Table Title	Arial	1.8 rem	Normal	#646464	
Column Header	Arial	1.3 rem	Bold	#646464	
Table Data	Arial	1.3 rem	Normal	#464646	
Table Data Link	Arial	1.3 rem	Normal	#28AAD7	
Table row count	Arial	1.2 rem	Normal	#464646	

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Pressed Color
Sort Arrow	▲		icon_rotate-90 (for rotation)	0.9 rem	#464646		
Expand Arrow	▶			0.9 rem	#464646		
Add Row	+			1.6 rem	#464646		
Edit	✎			1.6 rem	#464646		
Delete	✗			1.6 rem	#464646		
Move to	⤒			1.6 rem	#464646		
Move Up	↑		icon_rotate-90 (for rotation)	1.6 rem	#464646		
Move Down	↓		icon_rotate90 (for rotation)	1.6 rem	#464646		
Clear Selection	☒			1.6 rem	#464646		
Refresh	⟳			1.6 rem	#969696	#74bad1	#379bbe
Export	⤓			1.6 rem	#969696	#74bad1	#379bbe
Settings	⚙			1.6 rem	#969696	#74bad1	#379bbe

Table 2. Icons Specifications

Interaction Behavior

Rows

Table Title

Column 1	Column 2	Column 3	
Content Row 1	Content Row 1	Content Row 1	
Content Row 2	Content Row 2	Content Row 2	
Content Row 3	Content Row 3	Content Row 3	
Content Row 4	Content Row 4	Content Row 4	

#E6E6E6

Figure 17. Hover Row with cursor

Hover Row

Hover refers to the effects created when the user hovers over a row with the mouse cursor. The entire row should exhibit rollover behavior. If the user's cursor enters a row, the row should highlight in blue (#D3DFEA). Hover behavior should not change the cursor unless an element under the cursor is click able. Mouse over highlights the row, it does not select it.

Note! Upon hovering anywhere over a table row all of the that table row quickview access icons will be displayed. To show the associated quickview the user then needs to hover over each one of the access icons and the quickview will be shown upon hover delay of 500 ms.

Optional: Reorder Rows

In addition to using the contextual toolbar items 'Move Up' and 'Move Down' (see more details in the 'Contextual Toolbar' section on this page), users should also be able to reorder rows by click dragging a row from a grip handle on the left edge of

the row or from anywhere in the row, and dropping it in another location in the table. The dropped row will push down the rows below it by one row. While dragging the row transition state is visually indicated by a semi transparent row background color. The target location is highlighted to indicate that the row drop is viable.

For performance reasons drag and drop should be disabled for rows with expanded inlay details panel in an expanded state.

Note! Users should also be able to select and click - drag to reorder multiple number of rows at once. The order of the rows at the target table location should be the same as the order prior to the re-ordering. I.e. if row #3, #4, and #8 were selected, dragged and dropped simultaneously in between row #9 and #10 the resulted order will be: #9, #3 (now #10), #4 (now #11), #8 (now #12), #10 (now #13).

If a re-orderable table is sorted and the user reorder the rows, the sort is overridden and the sort indicator icon on the column header is removed. Once the user click the column header the sort is regained and the table rows are re-ordered according to that sort criteria.

Re-orderable tables are optional, and all the features and functions associated with re-orderable tables only appear if the table is set, at design-time, as re-orderable.

This storyboard represents an example component, tables, as it moves through an example sequence using drag and drop.

Starting Point (0:00)

Table Title

	<input type="checkbox"/>	Column 1	Column 2	▲	Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1		Content Row 1	
2	<input type="checkbox"/>	Content Row 2	Content Row 2		Content Row 2	
3	<input type="checkbox"/>	Content Row 3	Content Row 3		Content Row 3	
4	<input type="checkbox"/>	Content Row 4	Content Row 4		Content Row 4	
5	<input type="checkbox"/>	Content Row 5	Content Row 5		Content Row 5	

Figure 18. Basic Table with the capability to re-order rows.

In the above illustration, the page has loaded naturally and the user is hovering over a cell in row 3, which invokes the highlighted state of that row.

Invitation to Select (0:03)

Table Title						
	<input type="checkbox"/>	Column 1				
1	<input type="checkbox"/>	Content Row 1				
2	<input type="checkbox"/>	Content Row 2				
3	<input type="checkbox"/>	Content Row 3				
4	<input type="checkbox"/>	Content Row 4				
5	<input type="checkbox"/>	Content Row 5				

Handle Area →  A red box highlights the handle area of row 2, where a cursor is pointing at the vertical bar.

Figure 19. Handle Area for moveable row and checkbox provide invitations for selection to the user.

In the above illustration, the user sees invitations to select a single row when hovering over both the handle area (for temporary selection) and the checkbox (for sticky selection) in row 3. This row is not yet selected, but highlighted because the mouse is hovering over it.

Selection(s) made (0:08)

Table Title

	<input type="checkbox"/>	Column 1	Column 2	▲	Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1		Content Row 1	
2	<input checked="" type="checkbox"/>	Content Row 2	Content Row 2		Content Row 2	
3	<input type="checkbox"/>	Content Row 3	Content Row 3		Content Row 3	
4	<input type="checkbox"/>	Content Row 4	Content Row 4		Content Row 4	
5	<input type="checkbox"/>	Content Row 5	Content Row 5		Content Row 5	

Figure 20. Row 3 is selected

In the illustration above, row 3 has been selected via the checkbox (sticky method) and the user can then optionally select more rows. Additional rows can be selected using the checkboxes in each row or a (continuous) series with the shift key.

Dragging (0:12)

Table Title

	<input type="checkbox"/>	Column 1	Column 2	▲	Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1		Content Row 1	
2	<input type="checkbox"/>	Content Row 2	Content Row 2		Content Row 2	
3	<input type="checkbox"/>	Content Row 3	Content Row 3		Content Row 3	
4	<input type="checkbox"/>	Content Row 4	Content Row 4		Content Row 4	
5	<input type="checkbox"/>	Content Row 5	Content Row 5		Content Row 5	

Figure 21. Beginning drag, less than 50% moved

In this example the user has not selected any additional rows, instead has began to drag row 3 upward, using the handle area.

Dropping (0:15)

Table Title

	<input type="checkbox"/>	Column 1	Column 2	▲ Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1	Content Row 1	
2	<input type="checkbox"/>	Content Row 3	Content Row 3	Content Row 3	
3	<input type="checkbox"/>	Content Row 2	Content Row 2	Content Row 2	
4	<input type="checkbox"/>	Content Row 4	Content Row 4	Content Row 4	
5	<input type="checkbox"/>	Content Row 5	Content Row 5	Content Row 5	

Figure 22. Table with Drag and Drop (entering a disallowed area)

When selections are dragged near allowed locations, the invitation to drop is indicated by a blue line (or outline) indicating the drop area.

Table Title

	<input type="checkbox"/>	Column 1	Column 2	▲ Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1	Content Row 1	
2	<input type="checkbox"/>	Content Row 3	Content Row 3	Content Row 3	
3	<input type="checkbox"/>	Content Row 2	Content Row 2	Content Row 2	
4	<input type="checkbox"/>	Content Row 4	Content Row 4	Content Row 4	
5	<input type="checkbox"/>	Content Row 5	Content Row 5	Content Row 5	

Figure 23. Table with Drag and Drop (entering an acceptable target area)

Post Drop (0:17)

Table Title

	<input type="checkbox"/>	Column 1	Column 2	▲ Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1	Content Row 1	
2	<input type="checkbox"/>	Content Row 3	Content Row 3	Content Row 3	
3	<input type="checkbox"/>	Content Row 2	Content Row 2	Content Row 2	
4	<input type="checkbox"/>	Content Row 4	Content Row 4	Content Row 4	
5	<input type="checkbox"/>	Content Row 5	Content Row 5	Content Row 5	

Figure 24. Table After Move is Completed

Selection

For any type of table, you may optionally allow the user to select one or more rows. When initially displayed, the table should either have no selection or a default selection, whichever is most appropriate.

The standard way to allow selection in tables is to provide a column at left with a selector control, either a radio button or a check box. Use radio buttons if the user can only select a single row, as in Figure 24.

Use check boxes If the user can select multiple rows, as in Figure 25.

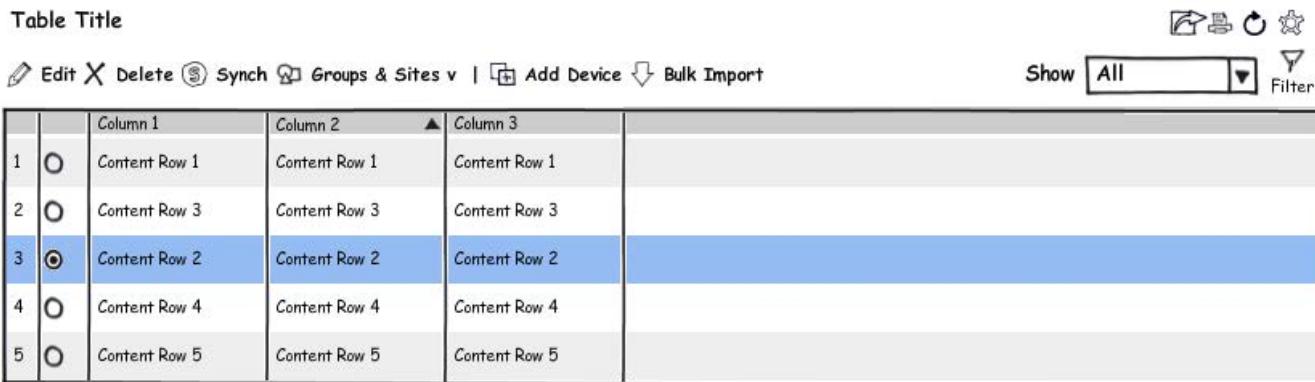
A row is selected when the user clicks the radio button/check box. In a read only table, as oppose to editable table, a row is selected when the user click anywhere along the row. The check box or radio button associated with the clicked row gets selected automatically and the row background color is highlighted. Selection feedback is provided both by the selector (I.e. check box, radio button) and the highlighted background color that spans the entire row.

Upon hovering a selectable table row the mouse cursor should change from the arrow head pointer to the pointing finger pointer to provide a visual hint the row is selectable.

Note! In editable table clicking anywhere in the row highlights the row but does not select it. The user needs to explicitly click the check box or radio button to select the row.

- When a row is selected, the selector control is populated and the entire row is highlighted.
- Any existing selection should be cancelled when filtering is performed
- When the user navigates to another page and comes back, an existing selection may be either retained or discarded. Choose the behavior that makes the most sense for your application, but use the same behavior across all tables in your application.
- If a row is not selectable, omit the radio button or checkbox for that row.
If selection is not relevant in a certain context the radio button or checkbox should be grayed out.
- In general, the purpose of selecting a row is to perform an action on the selected data. Some actions are only applicable to single rows while others are applicable to multiple selected rows.
Disable the action buttons or menu options that are not applicable for a given selection.
- Quick View options are available both when the row is selected and when it is not selected.
- Context Menu (Right Click Menu) is not supported and has been replaced by Quick View
- Upon refresh or sorting previous selections are retained, the table is reorganized according to the function and the table view scrolls, if necessary, to show the first selection according to the sort order.

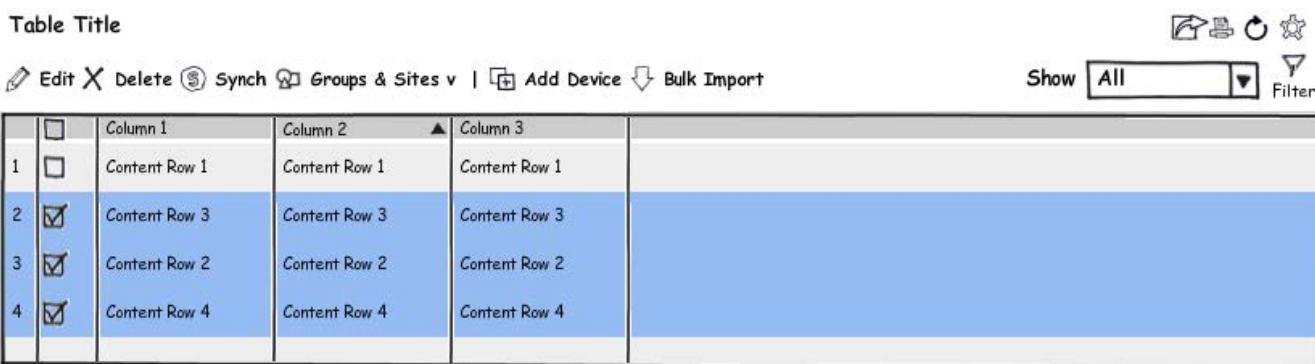
Table Title



	Column 1	Column 2	Column 3	
1	<input type="radio"/>	Content Row 1	Content Row 1	Content Row 1
2	<input type="radio"/>	Content Row 3	Content Row 3	Content Row 3
3	<input checked="" type="radio"/>	Content Row 2	Content Row 2	Content Row 2
4	<input type="radio"/>	Content Row 4	Content Row 4	Content Row 4
5	<input type="radio"/>	Content Row 5	Content Row 5	Content Row 5

Figure 25. Single Selection Table

Table Title



	Column 1	Column 2	Column 3	
1	<input type="checkbox"/>	Content Row 1	Content Row 1	Content Row 1
2	<input checked="" type="checkbox"/>	Content Row 3	Content Row 3	Content Row 3
3	<input checked="" type="checkbox"/>	Content Row 2	Content Row 2	Content Row 2
4	<input checked="" type="checkbox"/>	Content Row 4	Content Row 4	Content Row 4

Figure 26. Multiple Selection Table

Select All Functionality in Multiple Selection Tables <DRAFT>

Multiple selection tables could have a Select All checkbox in the column header, which works as follows:

- Checking the Select All checkbox selects only a maximum of the first 500 rows
- Un checking the Select All checkbox de-selects all selected rows
- If the user checks the ‘Select All’ box and uncheck any row in the table, the Select All check box is showing a partial selection indication, leaving all rows selected minus the one unchecked by the user.
- Partial selection indication is shown when only a part of the total number of the table records are selected. In other words, if the number of selected rows does not match the total number of table records – the ‘Select All’ check box is showing a partial selection indication.
- Since there is a hard limit of a maximum 500 selected rows when the user checks the ‘Select All’ check box, we could argue that for tables with a larger data set (i.e. whenever total rows n > 500 rows), any ‘Select All’ operation will result with a partial selection indication....
-While this is a correct description of the behavior, the table also supports another flavor; application designers can configure large data set tables to show as fully selected even though no more than 500 rows are actually selected. By setting up the table this way, the application is enabling bulk editing on the entire data set stored on the backend. In such a case, the select-all check box will be in checked state to reflect that the entire dataset, at that time, was selected and will be act upon.

- Note! For dynamic tables that are being updated automatically, based on a specified polling rate, checking the 'Select All' check box will show as checked until new rows are automatically added to the table data set. When these new rows are added they will not be shown as selected, and the 'Select All' check box will update to show a partial selection indication.
- Here is a description of the interaction flow for partial selection use case: Clicking the select-all checkbox, when it is in checked or partially selected state will clear the selection.
- When fixed rows are present:
- Clicking Select-all, selects all normal un-fixed rows and does not select the fixed rows. The select-all check box state is turned to partial because not all rows were selected.
- If fixed row is selected, the select-all checkbox changes to partial selection state. (Except for the fixed row exception described above)
- When checking the 'Select All' checkbox a toaster notification should show up with the following message: 'Select All Limit Exceeded.
For performance reasons, you can select a maximum of 500 rows at one time. Only the first 500 rows in the table have been selected.
[checkbox] Do not show this message again during this session.'
The toaster notification is dismissed after 5 seconds.
- Note! For a table with a potentially large data set, or a table with virtual scrolling, when only a subset of that data set is fetched and displayed, selecting all the table rows can become a performance bottleneck. In such a cases the application developer should consider removing the select all check box in the column header to prevent the end user from selecting all items and add the ['Clear Selections'](#) item to the contextual tool bar.

Using Ctrl and Shift for Row Selection

Optionally, you may allow users to use the Ctrl and Shift keys to make multiple row selections (as in a desktop application):

- In a read only table the user can click anywhere along the row while holding the CTRL key and that row will be added or removed from the selection stack.
- Holding down the Shift key allows a user to easily select a range of rows. For example, clicking on row #1 selection control (row selection check box) and then Shift-clicking on row #10 selects rows #1 through #10. In a read only table the user can also click anywhere along a row while holding the Shift key and a range of rows will be added or removed from the selection stack.
- Note! In this interaction behavior we would like to differentiate clicking anywhere in the row to start editing, in case an editable table is being used, from clicking the row selection control to select the row via this selection model. Having said that, tables that do not have selection controls will not be able to provide multi select functionality using a conjunction of click and CTRL/Shift keys.
- When clicking a shift select range of rows that exceeds 500 rows a toaster notification should show up with the following message:
'Shift-Select Limit Exceeded.
For performance reasons, you can select a maximum of 500 rows at one time. The selection exceeded the limit by [x number of] rows. Only 500 rows between [start row id number] and [end row id number] have been selected.
[checkbox] Do not show this warning again during this session.'
The toaster notification is dismissed after 5 seconds.

Selected Row Count | Total Row Count (optional)

The table row count is located on the upper right corner of the table title bar, left to the global toolbar, showing the total number of table rows. For a table where row selection is enabled the display format is 'selected x | total y' (e.g. Selected 4 | Total 512 or see 'Specifications for a table with selected and total records count in the table header' figure under 'Visual Specifications'). For tables without row selection the 'Selected' part should be turned off.

For tables with large data set a limited maximum number of 200,000 rows only will be displayed to address potential performance risks. In this case the row count number should adhere to the following guidelines:

For a large data set table with single or multiple rows selection the row count number should say 'Selected x | Total 200,000 of n' when 200,000 is the maximum rows displayed (i.e. the display limit) and n counts the total number of rows in the table. E.g. Selected 122 | Total 200,000 of 389,000.

Upon hovering the table row count label the following tooltip is displayed: "Only the first 200,000 rows are displayed. Use the table filter controls to display a smaller result set."

Displaying table row count is optional and should be based on application design specific requirements.

Note! For table with a large data set, it is highly recommended to show the table row count so that it provides a clear reading of the maximum rows display limit (e.g. 200,000).

Fix/Detach Rows

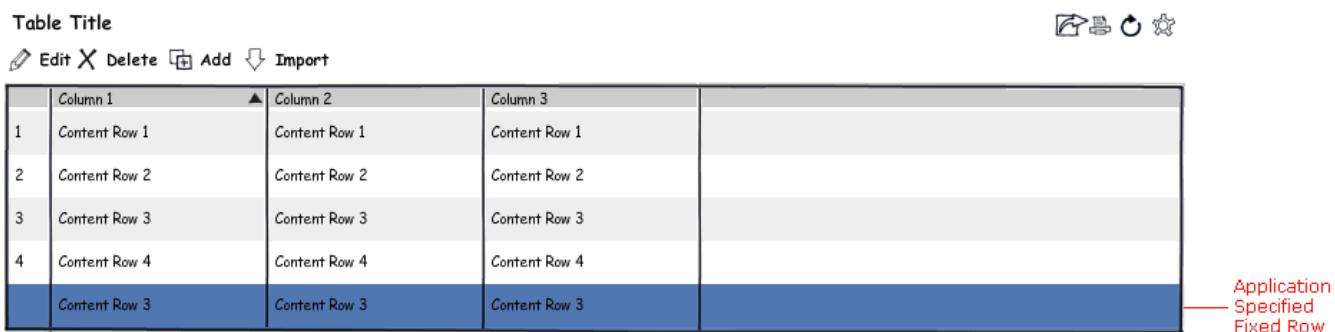
For tables with many rows, it may help the user maintain context to specify that one (or a range) of the rows be "fixed" in place while the remaining rows scroll. For instance, the first row of a table may contain values you wish to compare against other rows of data in the table. As you scroll down through the table, it is helpful to keep the initial row in view as a reference while viewing other rows.

You may choose between two implementations of fixed rows.

1. Application specified fixed rows
2. User specified fixed rows

Application Specified Fixed Rows

If there are only one or two rows that could conceivably benefit from fixed placement, your application can determine which rows to fix without allowing the user to specify a preference. In Figure 26, most bottom row has been fixed. This is a design time decision.



The screenshot shows a table with the following structure:

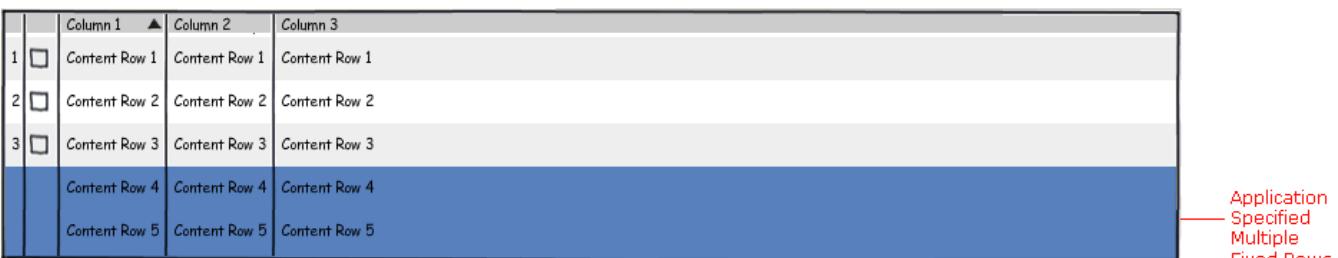
	Column 1	Column 2	Column 3	
1	Content Row 1	Content Row 1	Content Row 1	
2	Content Row 2	Content Row 2	Content Row 2	
3	Content Row 3	Content Row 3	Content Row 3	
4	Content Row 4	Content Row 4	Content Row 4	
	Content Row 3	Content Row 3	Content Row 3	

At the top left, there is a toolbar with icons for Table Title, Edit, Delete, Add, Import, and other document-related functions. A red arrow points to the last row of the table, labeled "Content Row 3", with the text "Application Specified Fixed Row".

Figure 27. Table with Application Specified Fixed Row

Table Title

 Edit  Delete  Add  Import



The screenshot shows a table with three columns and five rows. The first three rows have a light gray background, while the last two rows have a blue background. Each row contains three cells labeled 'Content Row 1' through 'Content Row 5'. A vertical scroll bar is visible on the right side of the table. On the far right, there is a red callout box with the text 'Application Specified Multiple Fixed Rows'.

	Column 1	Column 2	Column 3
1	Content Row 1	Content Row 1	Content Row 1
2	Content Row 2	Content Row 2	Content Row 2
3	Content Row 3	Content Row 3	Content Row 3
	Content Row 4	Content Row 4	Content Row 4
	Content Row 5	Content Row 5	Content Row 5

Figure 28. Table with Multiple Application Specified Fixed Rows

User Specified Fixed Rows

Alternatively, or in addition to application specified fixed rows, you may allow a user to declare which rows are fixed.

Setting a fixed row requires a selector for each row to allow the user to choose the row or rows they wish to fix as well as a settings menu items to fix the row to the top or bottom of the table.

- The user should be able to select and fix a row so that it becomes the most top table row, first row from the top, or the last row on the table display, bottom of the table. In case a vertical scroll bar is displayed the fixed rows will retain their position and will not scroll out of the visible table display.
- To fix/detach row to the table display a user would select a row, using the selection check box on the left, and then click the global toolbar 'Settings', to expand the drop down list and select either the 'Fix Row' or 'Detach Row' menu items.
- When the user selects 'Fix Row' a cascading secondary sub menu will display containing two options: 'Fix to Top' and 'Fix to Bottom'.
- Selecting 'Fix to Top' will fix the selected row to the top of the table, to become the first row on the table display.
- Selecting 'Fix to Bottom' will fix the selected row to the bottom of the table, to become the last row on the table display.
- A phantom copy of the fixed row is left in the location it was originally at when it was fixed, marked as disabled by a 30% transparent overlay. The user cannot interact with the fixed row phantom copy and selecting, dragging or any other action is disabled. The only way to manipulate the row is by applying the actions to the fixed row itself. When the user detach the fixed row that transparent-disabled phantom copy of the fixed row becomes active again.
- To detach a fixed row the user needs to select the row and then select 'Detach Row' menu item from the 'Setting' global toolbar icon drop down menu.
- Multiple rows can be selected and fixed in the same time. The order of the fixed rows will retain their relative order to one another before they were fixed. All rows will retain their position in case a vertical scroll bar is displayed. The fixed rows will not be scrolled along with the other columns in the table.
- In case of fixing multiple rows at different times, the users will not be able to fix one row to the top and another to the bottom. Either all rows are fixed to the top or the to the bottom. In addition, when a user fixed one row to the top, the 'Fix Row to Bottom' will be disabled and vice versa. The menu item is disabled until the user detach the row.
- For tables using rows numbers column the fixed rows will not show the row numbers. The number is omitted because it is no longer relevant. Fixed rows can either be on top or the bottom, so it's number no longer indicates their respective location in the table or their permanent id.

Table Title

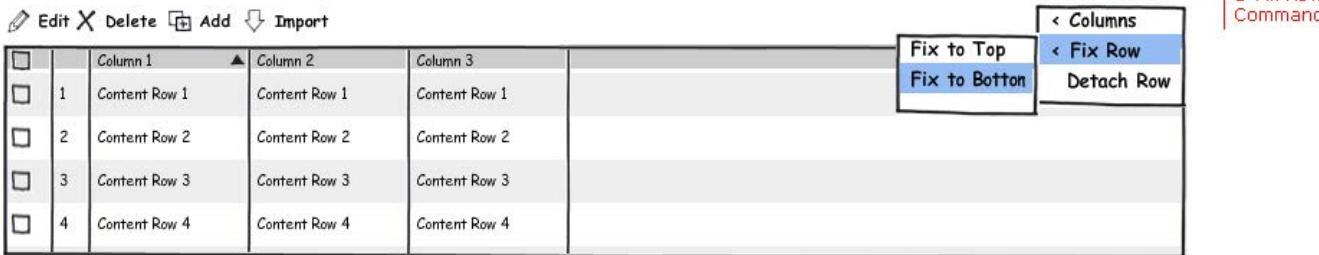


Figure 29. Selecting a Fix Row Command

Table Title

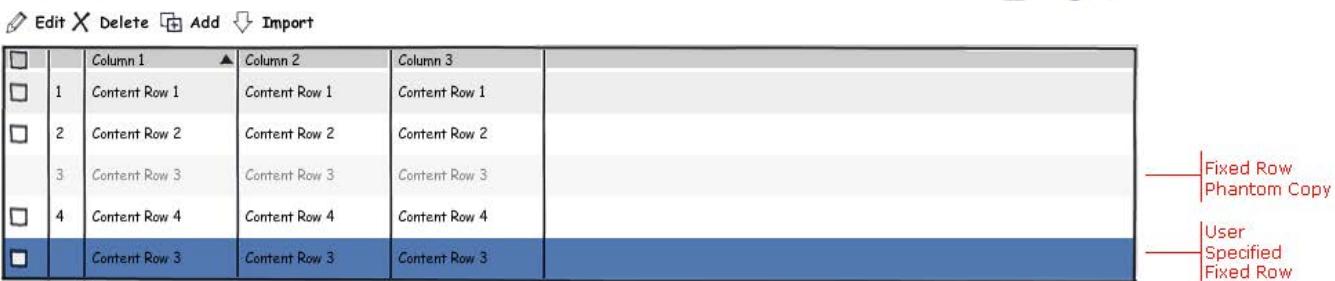


Figure 30. Fixed Row. Note the phantom copy in row #3.

Handling Display of Multiple Fixed Rows

In most cases, a user will only utilize a few fixed rows or less. However, if a user chooses many fixed rows, the table widget will not resize to accommodate a display of these fixed rows. In case of an application specified fixed rows it is the responsibility of the application developer to make sure the table space can accommodate to show all fixed rows without scrolling. In case of a user defined fixed rows it is up to the user to resize the table to show all fixed rows if necessary.

When possible:

- Provide vertical flexibility for table height to accommodate large numbers of fixed rows
- Try to leave at least three normal rows visible
- Limit application specified fixed rows so the majority of visible rows are normal rows (non-fixed)

If it is not possible to adjust table height to accommodate many fixed rows as described above, it is up to the user to deselect some of the fixed rows until the table is in a usable state.

Interaction

Use the following guidelines when implementing fixed rows.

- Fixed rows remain visible when the rest of the table data requires scrolling.
- Fixed rows are ignored when filtering tables, so that they remain visible and are not filtered out of view.
- Fixed rows are ignored when sorting tables and always maintain their user-specified fixed position.
- Unlike Excel, fixing a row fixes only that row. (ie: if a user fixes the 10th row, only the 10th row is fixed to the top, not rows 1-10).
- Once fixed user should still be able to select a fixed row and apply different toolbar actions or any other commands applicable.

Expandable Table Row

- In case additional details are associated with a table row, an expand details inlay panel button is displayed on the left edge of the row. Clicking the button will expand an inlay panel. The inlay panel may include additional content that is not displayed in the table, yet is associated with the table data. All columns attributes and values, including hidden columns customized by the user, should be displayed in the details inlay panel.
- Hovering over the expand details panel button should display a tooltip that reflect the required action. The tooltip should show "Expand" if its collapsed, and "Collapse" if its expanded.
- The inlay panel may include any layout variation that aligns with reboot standards and specifications. As an example, it may show tabs to divide the content of a network device properties. Error messages and visual indications will follow the base component directives the inlay panel is containing. In other words and as an example, if the inlay panel uses tabs, the visual specifications and interaction behavior guidelines should be used.
- Only in an editable table the expanded details inlay panel would include editable content.
- Clicking the expand details inlay panel button again will collapse the expanded details inlay panel.
- Only one single inlay panel can be expanded at a time to avoid scale and performance decrease

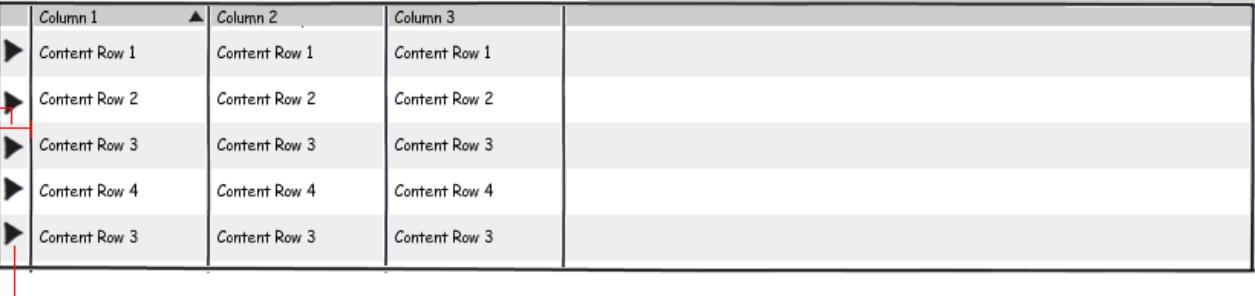


Table Title

Edit X Delete + Add Import

	Column 1	Column 2	Column 3
▶	Content Row 1	Content Row 1	Content Row 1
▶	Content Row 2	Content Row 2	Content Row 2
▶	Content Row 3	Content Row 3	Content Row 3
▶	Content Row 4	Content Row 4	Content Row 4
▶	Content Row 3	Content Row 3	Content Row 3

20 px

Expanded inlay details panel button centered horizontally and vertically in its column

Figure 31. Expandable Table Row

Table Title



Column 1	Column 2	Column 3	
Content Row 1	Content Row 1	Content Row 1	
Content Row 2	Content Row 2	Content Row 2	
<div style="border-bottom: 1px solid black; padding-bottom: 5px;"> General SNMP Telnet/SSH ICMP Polling </div> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> Unit and AVM for VNE Unit 125 AVM 603 </div>			
Content Row 3	Content Row 3	Content Row 3	
Content Row 4	Content Row 4	Content Row 4	
Content Row 3	Content Row 3	Content Row 3	

Expanded inlay details panel

Figure 32. Expanded Details Inlay Panel

Columns

Columns Resize

- Columns width can be resized by placing the mouse cursor anywhere along the column vertical border and click dragging it to a new location, creating the desired width size.
- Columns resize can occur when the table is resized as a result of user resizing the browser window. Please see specifications under Usage Guidelines, Table Resizing Behavior.
- Note! Columns used for selection (checkboxes or radio buttons), expandable row arrow, and row numbers (index) can not be resized.

Table and Column Sorting

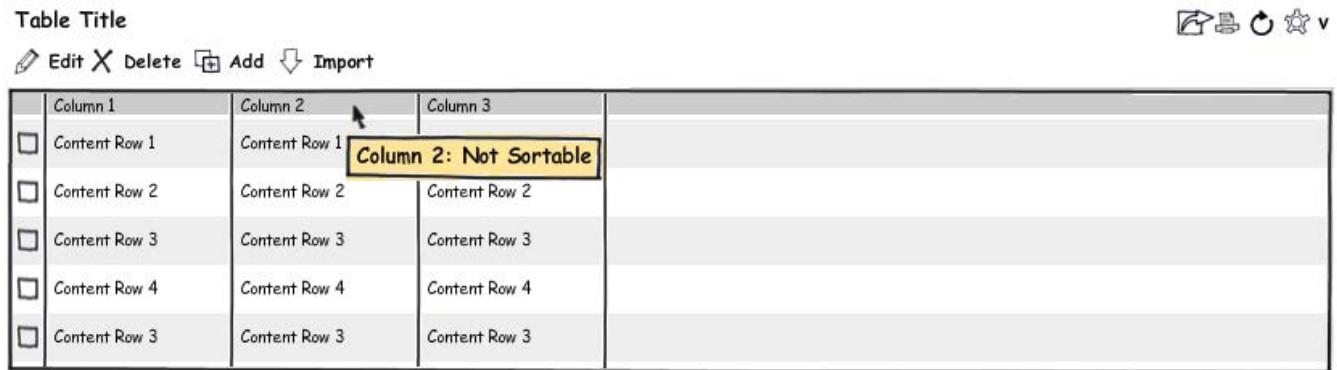
Column sorting is performed by clicking on the column header. The column sorts alphabetically or numerically, depending on the column content. Another click will toggle the sorting from ascending to descending or vice versa. The sort arrow icon will toggle from arrow up or arrow down to indicate the sorting direction. Clicking a different column header will remove sorting for the first column and apply it to the new one

The following lists sorting conventions:

- In the case of sortable tables it is strongly recommended to define one column that is sorted by default, either in an ascending or a descending order, when the table is displayed. This is a design time decision based on a case by case analysis of what would be the most appropriate default sorted column and in what order. E.g. For a table displaying a list of group members and their attributes, the most appropriate default sorted column would probably be the one listing each member name, ordered alphabetically from A-Z.
- If the default sort is based on a visible column, always indicate the sort column with a sort indicator.
- The sort indicator is right aligned in the sorted header's cell.

- The sort indicator is an up-arrow when the current sort order is ascending, a down-arrow when the current sort order is descending.
- Clicking the header of a non-sorted column sorts the table by that column; each subsequent click reverses the column sort order.
- Sorting should be case insensitive; e.g. 'A' and 'a' are treated as identical for the purpose of sorting.
- When the user navigates to another page and then comes back, the table sort order must be preserved.
- After a sort is performed in a scrollable table, the focus should automatically be set back to the last selected row if possible. If this is not feasible, the selection should be cancelled.
- Table column headers tooltips should include a combination of the column title and the sort state of the column. Upon hovering the column title the tooltip should read one of the following options:
 - Column Name: Sortable.
 - Column Name: Currently Sorted.
 - Column Name: Not Sortable.
- Note!** Columns used for selection (checkboxes or radio buttons), expandable row arrow, and row numbers (index) can not be sorted.

Unsortable Column



The screenshot shows a table with three columns: Column 1, Column 2, and Column 3. The header row has a 'Content Row 1' entry in Column 2. A mouse cursor is hovering over the header of Column 2. A yellow tooltip box appears with the text 'Column 2: Not Sortable'. The table body contains six rows, each with a checkbox in Column 1 and content entries in Columns 2 and 3.

	Column 1	Column 2	Column 3
<input type="checkbox"/>	Content Row 1	Content Row 1	Column 2: Not Sortable
<input type="checkbox"/>	Content Row 2	Content Row 2	Content Row 2
<input type="checkbox"/>	Content Row 3	Content Row 3	Content Row 3
<input type="checkbox"/>	Content Row 4	Content Row 4	Content Row 4
<input type="checkbox"/>	Content Row 3	Content Row 3	Content Row 3

Figure 33. Unsortable Column. The tooltip combines the column title and its sort state.

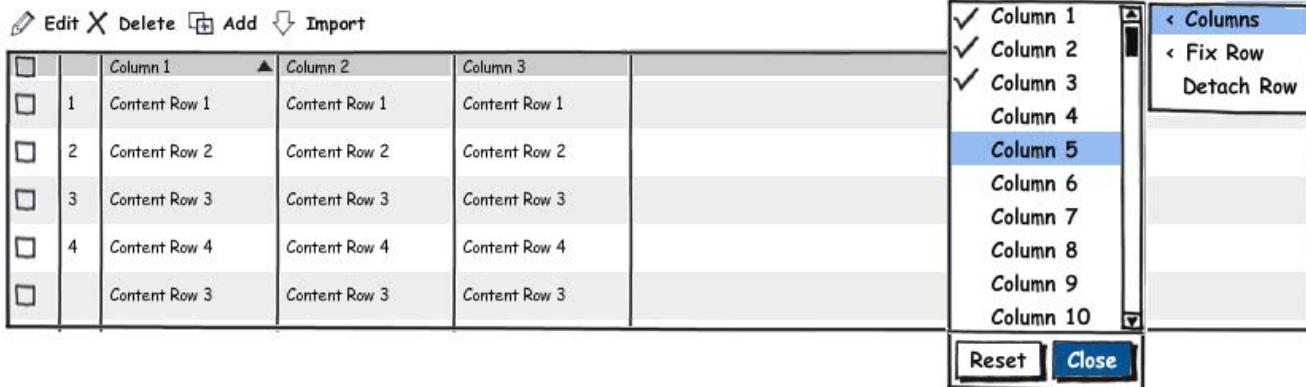
On hover, a tool tip lets the user know why they cant click to sort.

Add/Remove Columns

- To add/remove columns to the table display a user would click the global toolbar 'Settings', expand the drop down list and select the 'Add/Remove Column'.
- A cascading secondary menu list will display to show all available columns titles.
- For a long list with over 15 column titles a scrollbar should be shown. Otherwise the list use of scrollbar should be dependent on how far the dropdown edge is from the browser bottom edge. In other words: if the display of the list is constrained by the browser edge a scrollbar should be shown automatically to allow the user to scroll the complete list.
- Listed column titles with check marks on the left are the columns that are currently displayed in the table. Columns with no check marks are hidden.
- Clicking any of the column titles check or uncheck that title depending on its initial state. The user can check/uncheck multiple items on the list. When done the user clicks the close button on the bottom left of the secondary dropdown menu. The dropdown list is closed and the changes to the table are made.

- Users should be able to navigate the list as they would in any drop down list using the keyboard up and down arrow keys.
- Clicking the 'Reset' button, on the right bottom of the dropdown list, retrieves the original factory settings for the table column display.
- Note! Columns used for selection (checkboxes or radio buttons), expandable row arrow, and row numbers (index) cannot be added/removed.

Table Title



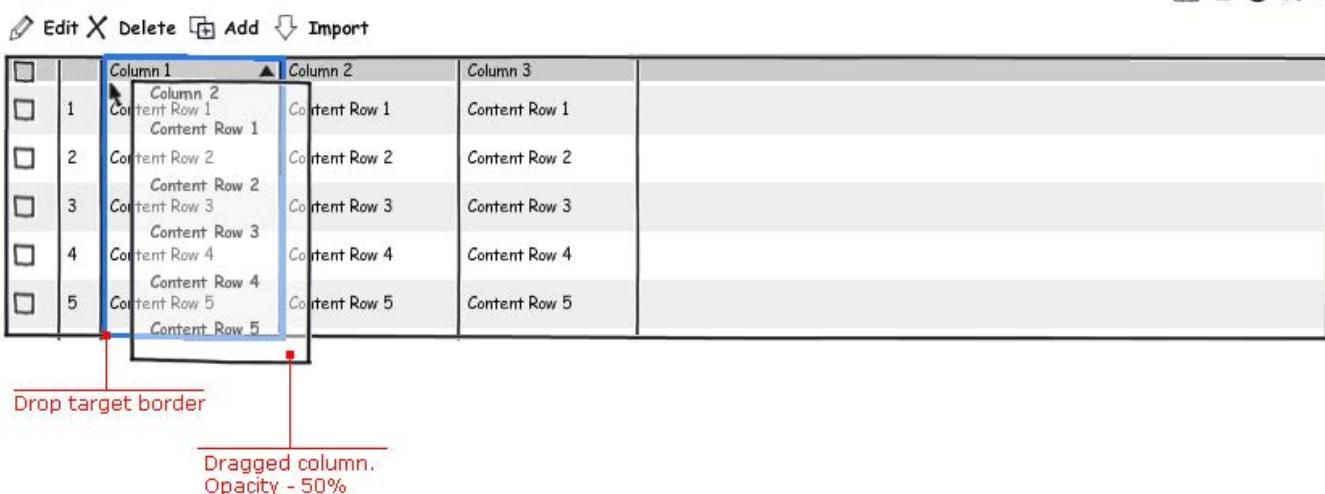
The screenshot shows a table editor interface. At the top, there are buttons for Edit, Delete, Add, Import, and other file operations. The table itself has 5 columns and 5 rows of content. To the right of the table is a context menu with options like 'Columns', 'Fix Row', and 'Detach Row'. Below the menu, a list of columns is shown, with 'Column 5' currently selected. At the bottom of the menu are 'Reset' and 'Close' buttons.

Figure 34. Add/Remove a Column from the Table Display

Reorder Columns

- Users should be able to click-drag a column title, to drag it and place it in a different location.
- While re-locating a column the destination target is visually indicated by highlighting a frame around the column to be replaced by the dragged column. The destination column will be pushed to the right by one column and the dragged column will take its place in the columns order.
- Note! Columns used for selection (checkboxes or radio buttons), expandable row arrow, and row numbers (index) can not be reordered.
-

Table Title



The screenshot shows a table editor interface. A column titled 'Column 1' is being dragged from its original position. The column is shown with a red border and a semi-transparent effect, indicating it is being moved. A red border labeled 'Drop target border' highlights the position where the column is being moved to. The table has 5 columns and 5 rows of content.

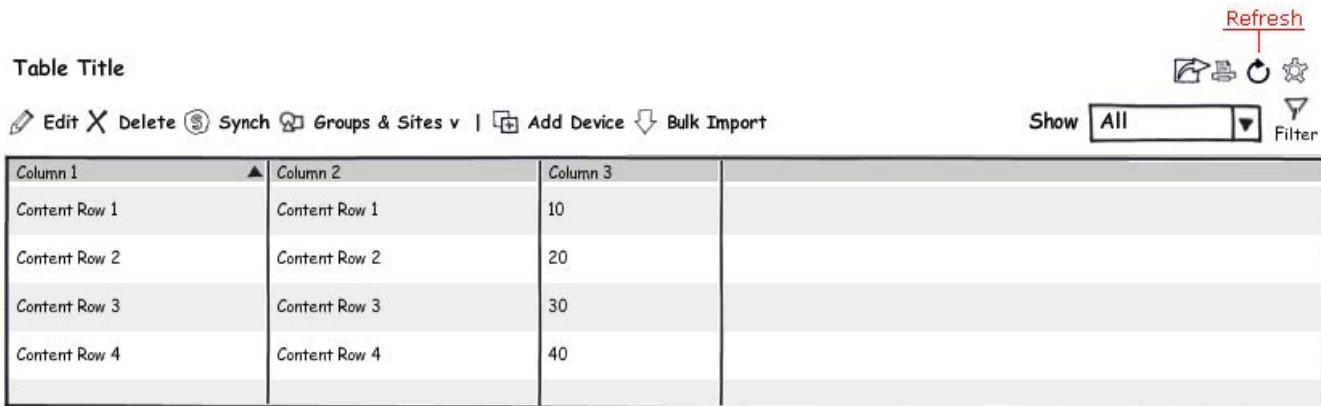
Figure 35. Click and Drag to Reorder a Column

Global Toolbar

The global toolbar located in the upper right corner of the table title bar, includes toolbar functions that can be applied to the table data globally. While these functions are optional, it is recommended to implement them as they are so commonly used. There are only two type of button groups, table & application specific buttons.

Refresh

The global toolbar refresh button is being used in dynamic tables that require the ability to immediately perform an update of the table data in between polling intervals. Upon clicking the 'Refresh' button the table data is being refreshed to show the most recent available information.

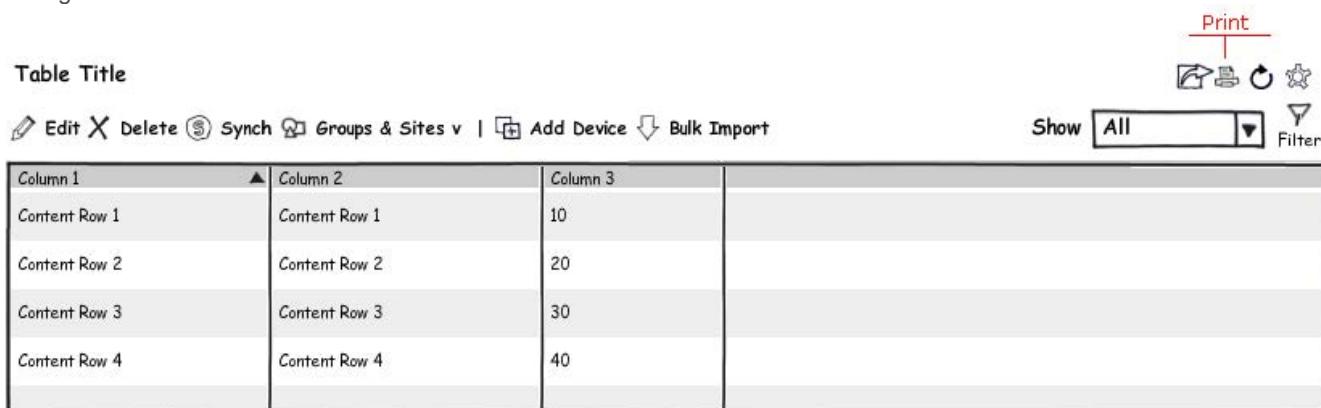


Column 1	Column 2	Column 3
Content Row 1	Content Row 1	10
Content Row 2	Content Row 2	20
Content Row 3	Content Row 3	30
Content Row 4	Content Row 4	40

Figure 36.Global Toolbar - Refresh

Print

The global toolbar 'Print' button is used to print the table data, by accessing either the client installed printer driver or a pre-defined print format such as an xsl style sheet. Upon clicking the 'Print' button, a dialog is displayed including options for printing.

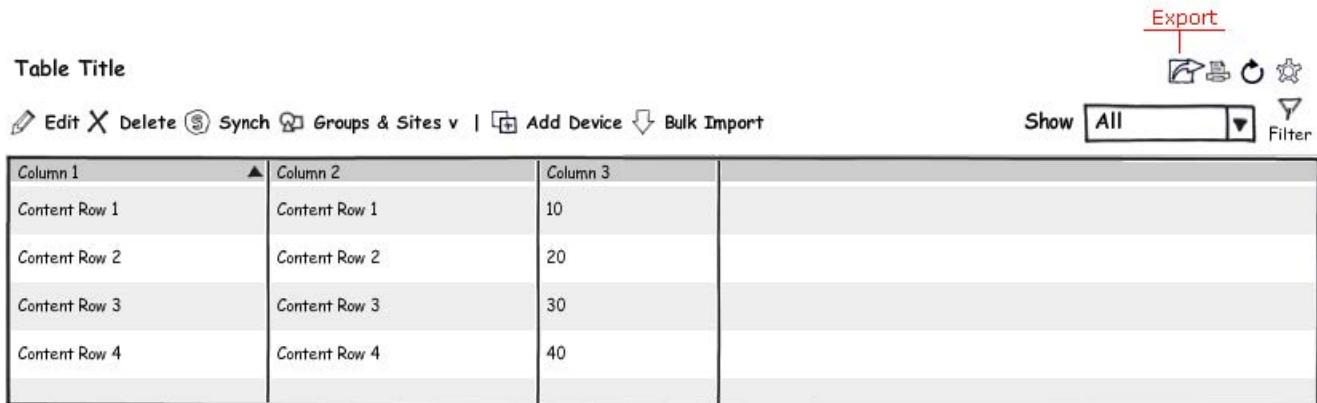


Column 1	Column 2	Column 3
Content Row 1	Content Row 1	10
Content Row 2	Content Row 2	20
Content Row 3	Content Row 3	30
Content Row 4	Content Row 4	40

Figure 37.Global Toolbar - Print

Export

The global toolbar 'Export' button is used to export the table data to other file formats (e.g. .xml, .pdf, .csv, .txt) and storage locations. Upon clicking the 'Export' button, a dialog is displayed including options for exporting.

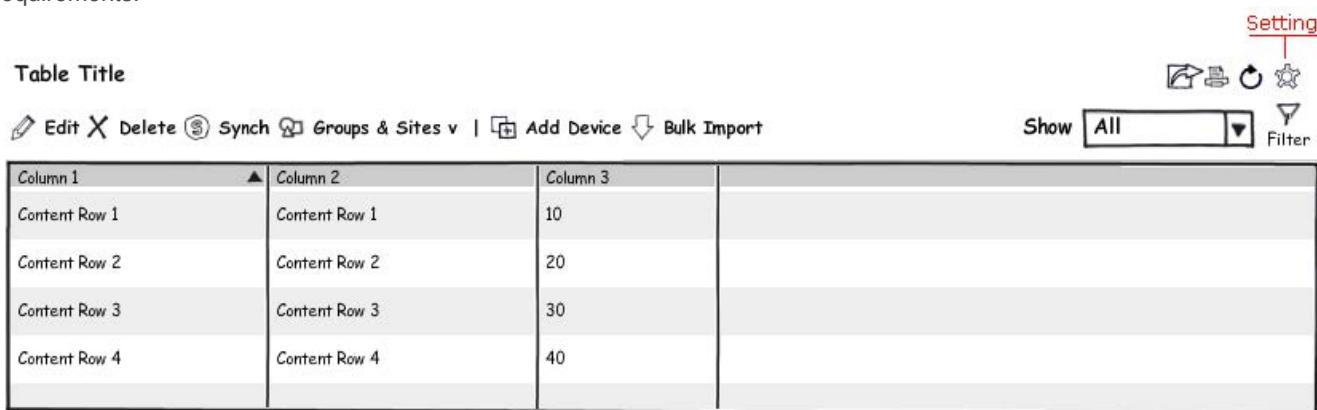


Column 1	Column 2	Column 3	
Content Row 1	Content Row 1	10	
Content Row 2	Content Row 2	20	
Content Row 3	Content Row 3	30	
Content Row 4	Content Row 4	40	

Figure 38.Global Toolbar - Export

Settings

The global toolbar 'Settings' drop down list is used to modify the table various settings . Upon clicking the 'Settings' button, a drooped list is displayed to allow the user modify various table settings. Table settings can include: columns customization such as adding or removing a column from the table display, change dynamic table polling rate, turning off/on table auto-refresh, defining the number of rows shown per each table page, and others depending on the application specific requirements.



Column 1	Column 2	Column 3	
Content Row 1	Content Row 1	10	
Content Row 2	Content Row 2	20	
Content Row 3	Content Row 3	30	
Content Row 4	Content Row 4	40	

Figure 39.Global Toolbar - Settings

Contextual Toolbar

The contextual toolbar is located right below the table title area, on the extreme left. The contextual toolbar should contain all the table actions (except global functions stated above) that apply to the table rows. The contextual toolbar items can be divided into two or more groups based on the type of actions, separated by toolbar dividers.

Table Actions Group				Application Specific Actions Group				
Device Group > All								
<input type="checkbox"/> Edit <input checked="" type="checkbox"/> Delete <input type="checkbox"/> Move to v ▲ ▼ ↑ ↓ * Clear Selections				<input type="checkbox"/> Groups & Sites v <input type="checkbox"/> Add Device		Show All ▼		
<input type="checkbox"/>	Device Name	▲	Reachability	IP Address	Device Type	Collection Status	Collection Time	Software Version
<input type="checkbox"/>	3750-stack-1		Unreachable	172.20.110.68	Cisco 3750 Stackblade Series	Managed with Warning	August 6 2012 3:16:32	12.2(35)SE5
<input type="checkbox"/>	Aruba620		Reachable	172.23.208.110	Aruba 620 Controller	Managed	August 29 2012 3:00:03	16.1.2.3
<input type="checkbox"/>	BetaC1.example.com		Reachable	172.23.208.204	Cisco 1812	Managed with Warning	August 29 2012 3:09:45	16.1.2.3
<input type="checkbox"/>	Branch Device #001		Reachable		Cisco Catalyst 3560	Managed	August 29 2012 3:09:45	16.1.2.3

Figure 40. Contextual Toolbar Grouping: Contextual Action and Bulk Action

While these functions are optional, the following list of functions and interactions can serve as a common example of contextual toolbar items.

Bulk Edit

A user may select multiple rows by following one of the methods described in the 'Selection' section of this specification. Upon clicking the 'Edit' toolbar button an 'Edit' dialog is displayed to allow the user to change various attributes of the row. Clicking 'OK' closes the dialog and applies the changes immediately to the selected row.

Editing multiple selected rows simultaneously will enable editing only for the common denominator attributes of the selected rows.

A description of the 'Bulk Edit' is provided in the [editable table specifications page](#).

For a single row by row edit please follow the [editable table specifications page](#).

Delete

Upon selecting a row or multiple rows and clicking the 'Delete' button in the table contextual toolbar the selected rows are removed from the table. In some cases, depending on the application requirements, a confirmation popup dialog will be displayed with a Yes/No options to confirm the action.

Move To

The user can move a selected row to a specific row number. Upon selecting a row and clicking the 'Move To' button in the table contextual toolbar, a drop down menu with one single input field is displayed.

The user types in the required row number and hits the keyboard 'Enter' key. The selected row is moved from its current location to the specified row number and the table scrolls the viewable port, if necessary, to bring the specified row into view and highlight it.

Note! In case the user types a number that exceeds the total number of rows in the table, the row will move to the end of the table as the last table row.

Move Up or Down

Upon clicking the 'Move Up' or 'Move Down' button in the table contextual toolbar the selected row or rows will move up or down by one row.

Add Row

- Upon clicking the 'Add Row' button in the table contextual toolbar a row is added to the bottom of the table (in a non-sorted table), or at its correct sorted position based on the id provided to it. The view is always scrolled to bring the new row into focus.
- A new added row can display empty cells or populated data depending on the application specific requirements. This is a design time decision.

Acknowledge

Upon clicking the 'Acknowledge' button in the table contextual toolbar a selected row, representing a new event or a ticket (e.g. in a tickets table), is modified to visually indicate the new information has been acknowledged by the user. The visual indication can be either changing the 'Acknowledged' column attribute from 'False' to 'True' or by changing an acknowledgement badge icon.

Clear Selections

By clicking the 'Clear Selection' button all previously selected rows will be deselected. It is recommended to include the 'Clear Selection' button when the 'Select All' check box is not implemented due to performance risks. In this case you may still want to provide the user a one click button to deselect multiple number of selections instead of manually deselecting them one by one.



Figure 41. Clear Selected Rows in Contextual Toolbar

Progress Indicator

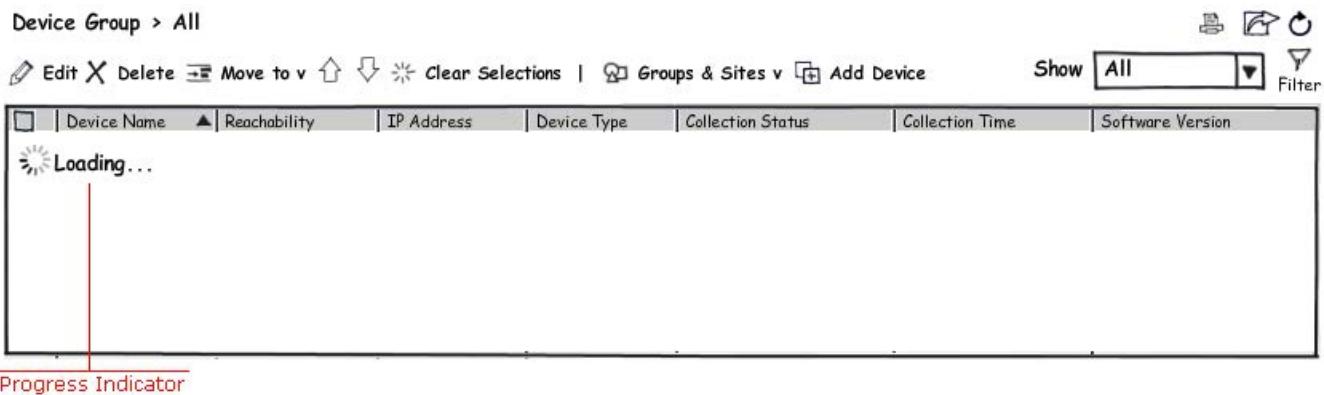
For a table with a potentially large data set, when the table starts loading or when a subset of the table data set is fetched and displayed, upon virtual scrolling, sorting or filtering, a progress indicator may be displayed to notify the user that the required data is being fetched from the server side and is loading up to populate the target rows.

Follow these guidelines in implementing progress indicator in table:

- The progress indicator should show only if the delay time before the table rows are populated is greater than 3 seconds.
- To avoid continuing appearance of the progress indicator upon scrolling, the progress indicator will be initiated only after the user paused scrolling for at least 250 ms.
- The progress indicator type used is the [progress ball](#) accompanied by a textual message (see figure 40).
- By default the textual message should say 'Loading...' yet application developers should be able to customize the message to fit with their product needs.
- The progress indicator (the progress ball + the textual message) is displayed at the top most row aligned to the left, as an opaque overlay on top of the first row in the viewable port of the table spanning the entire table width.
- The textual message entire content should always be displayed whether it is the short default message or a long customized one.
- While the progress indicator is running the table should be still showing partial data that was already loaded or was previously loaded to support the case of slow scrolling.

- While most of the table data manipulation actions in the global and contextual toolbar items should be disabled until the data is displayed, application developers should be able to decide whether a specific toolbar item should remain enabled while the data is loading.
- Scrollbars should remain enabled while the progress indicator is running.
- Application developers should be able to turn off the progress indicator completely if they wish to do so.

Device Group > All



The screenshot shows a table header with columns: Device Name, Reachability, IP Address, Device Type, Collection Status, Collection Time, and Software Version. Below the header, a single row is visible with the text "Loading..." and a small circular progress icon. A vertical red line is drawn through the center of the table, extending from the top to the bottom of the "Loading..." row. At the bottom of the table area, the text "Progress Indicator" is written in red.

<input type="checkbox"/>	Device Name	Reachability	IP Address	Device Type	Collection Status	Collection Time	Software Version
Loading...							

Figure 42. Table Progress Indicator

Read - Only / RBAC

Use Cases

User has permission to view some rows and some inlays, but not all

Interaction Sequence

Initial State

- Upon navigation to the view/page containing the table:
 - Rows that the user does not have permission to view are hidden
 - All visible rows are read-only in appearance because this is a read-only table
 - Disclosure icons are **visible** for rows that contain additional information
 - Disclosure icons are **not visible** for rows that do not contain additional information
 - Disclosure icons are **available** for rows where the current user has permission to see expanded information
 - Disclosure icons are **disabled** for rows that have additional information that the current user does not have permission to see

Disclosure icon interactions

- Upon hovering over an **available** disclosure icon, a tool tip is displayed "View additional information" (or words to that effect)
- Upon hovering over a **disabled** disclosure icon, a tool tip is displayed "You do not have permission to view additional information for this row." (or words to that effect)
- Upon selecting an available disclosure icon
 - The inlay is displayed.
 - Any tabs in the inlay that the user does not have permission to view for this row are disabled
- Upon selecting a disabled disclosure icon
 - A tool tip is displayed: "You do not have permission to view additional information for this row." (or words to that effect)

User does not have permission to view any inlays

Interaction Sequence

Initial state

1. Upon navigation to the view/page containing the table:
 - Rows that the user does not have permission to view are hidden
 - All visible rows are read-only in appearance because this is a read-only table
 - Disclosure icons are not visible for any rows because the current user cannot access them.
2. User does not have permission to view some columns in a table

Columns that a user does not have permission to view are hidden

Some toolbar actions require a selection, and others don't

Interaction Sequence

Toolbar icon interactions

1. Table toolbar icons that require a row selection are disabled
2. Table toolbar icons that do not require a row selection are enabled
3. Upon making a selection, toolbar icons that require a selection are enabled.

Current user has permission to perform some toolbar actions on some rows, but not others

Interaction Sequence

Toolbar icon interactions

1. Table toolbar icons that the user does not have permission to perform on the current object type in this context are hidden.
2. Table toolbar icons that require a row selection are disabled
3. Table toolbar icons that do not require a row selection are enabled
4. Upon making a row selection, toolbar icons that the user has permission to perform on the selection are enabled.
5. Upon making a row selection, toolbar icons that the user does not have permission to perform on the selection are disabled. (even if just one row of the selection set does not apply)
6. Hovering over the disabled icon displays words to the effect: "You do not have permission to [action] on one or more of the current selections."

NOTE: this may not be handled by the RBAC framework, but may be handled by individual application teams—we are including this use case here because if it is required, we want to have the interaction behave uniformly across applications

EDITABLE TABLE

Use an editable table to enable users to edit or add table data. Table Editable

Description

An inline editable table allows the user to quickly and easily enter multiple rows of data when each row contains the same set of columns. Most tables are not like spreadsheets - they are lists of atomic objects, each row represents an object and its attributes. Therefore the primary table editing model we suggest is where the entire row becomes editable, and not a single cell at a time and a cell-by-cell edit mode. This model makes the repetitive task of data entry quick and easy.

Usage Guidelines

Use an editable table...

- When you want to allow the user to edit a large amount of repetitive data quickly.
- When table columns are not displaying all the associated information required for editing, yet this information can be accessed via the details inlay panel.
- To simplify access to complex table data by freely adapting any UI layout and widget into the details inlay panel.
- To avoid horizontal scrolling by displaying a few frequently used columns first and allow access to others in the details inlay panel.

Additional Guidelines

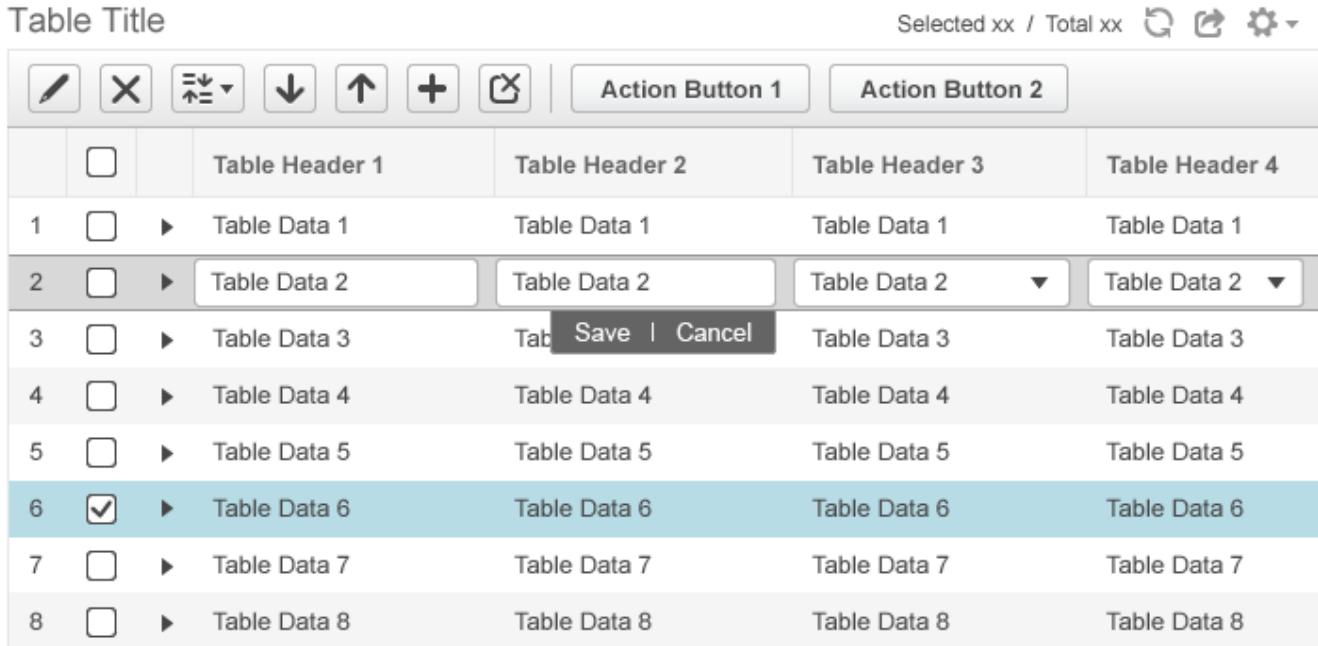
- In order to support many use cases when users need to further communicate and edit table content allow users to copy table row, cell and inlay panel content to paste into another application or format.
- Allow users to copy content from an external data source (e.g. MS Excel) and paste into editable table content.
- In case fixed rows are used in an editable table, they should be editable as well, in the very same way any other row in the editable table is. For a description of fixed rows and their interaction behavior, see the [basic table specifications page](#).

Keyboard and Accessibility

- All elements must be accessible by keyboard.
- Focus can be moved from cell to cell using the Tab key. Focus changes cells from left to right, proceeding from one row to the next.
- Shift-Tab is used to change focus from right to left.
- Arrow keys can also move the focus from cell to cell.
- The space bar or Enter key can be used to make the in focus row editable.
- All tool tips can be reached using the Tab key.
- When the focus is on the rightmost cell in the last row, a Tab brings the focus to the next appropriate control or data in the use case workflow.

Visual Specifications

Table Title

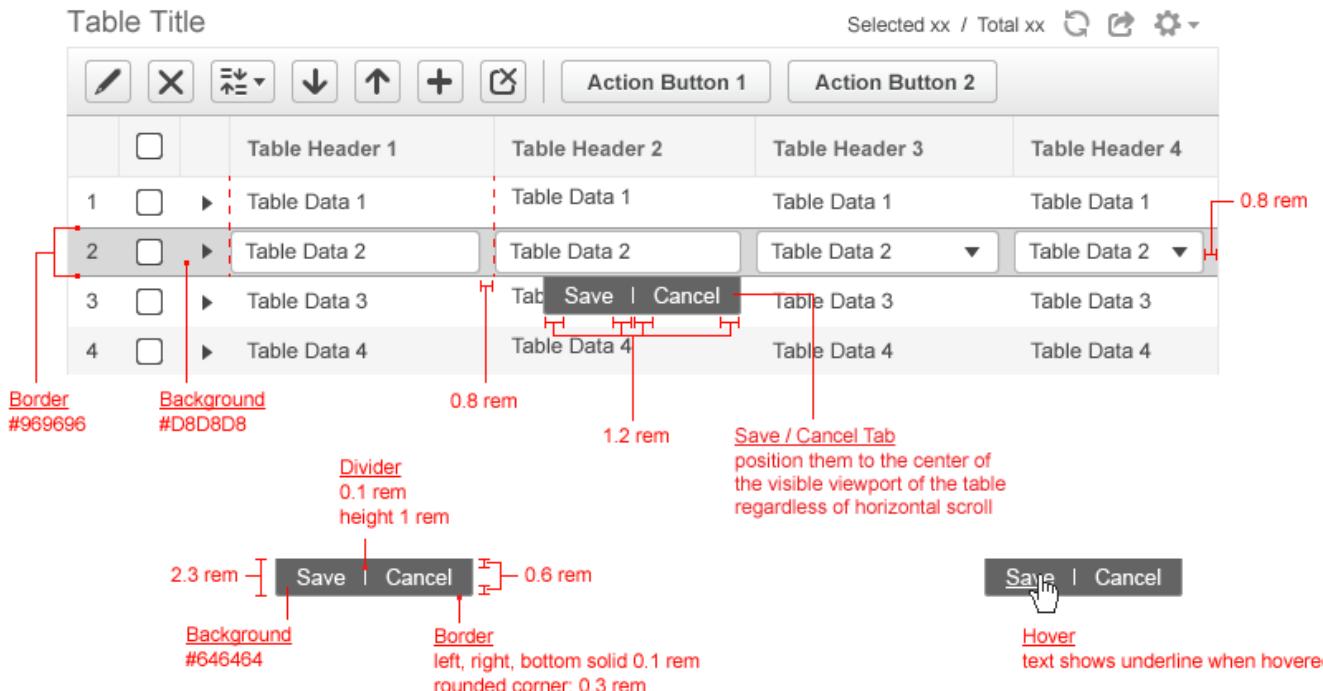


The table has 8 rows and 5 columns. The columns are labeled: Table Header 1, Table Header 2, Table Header 3, Table Header 4, and Action Buttons. The first column contains checkboxes. The last column contains buttons for 'Save' and 'Cancel'. Row 6 is highlighted with a light blue background and has a checked checkbox in the first column.

	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	Table Data 4	Table Data 4	Table Data 4	Table Data 4
5	Table Data 5	Table Data 5	Table Data 5	Table Data 5
6	Table Data 6	Table Data 6	Table Data 6	Table Data 6
7	Table Data 7	Table Data 7	Table Data 7	Table Data 7
8	Table Data 8	Table Data 8	Table Data 8	Table Data 8

Figure 1. Editable Table Elements

Table Title



Detailed visual specifications for the table elements:

- Border:** #969696
- Background:** #D8D8D8
- Dividers:** 0.1 rem height 1 rem
- Save / Cancel Tab:** position them to the center of the visible viewport of the table regardless of horizontal scroll
- Save / Cancel Button Dimensions:**
 - Width: 2.3 rem
 - Height: 0.6 rem
 - Background: #646464
 - Border: left, right, bottom solid 0.1 rem rounded corner: 0.3 rem
 - Hover state: text shows underline when hovered
- Table Headers:** 0.8 rem width
- Table Rows:** 0.8 rem height
- Table Cells:** 0.8 rem width
- Action Buttons:** 0.8 rem width

Figure 2. Editable Table Specifications

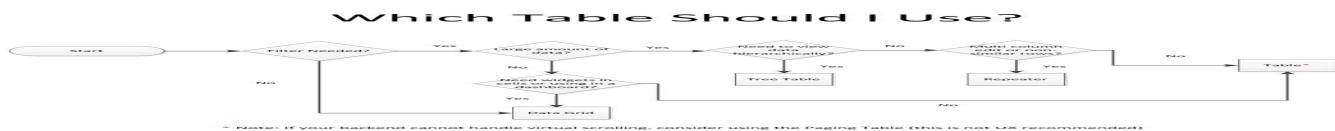
Table Title

Selected xx / Total xx   

	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	Table Data 2	Table Data 2	Table Data 2	Table Data 2
Define the ANA unit and AVM for the VNE <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> ANA Unit <input type="text"/> </div> <div style="width: 30%;"> AVM <input type="text"/> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> Save Cancel </div>					
3	<input type="checkbox"/>	Table Data 3	Table Data 3	Table Data 3	Table Data 3

Figure 3. Editable Table Elements - Details Inlay Pane

Fonts and Colors Specifications



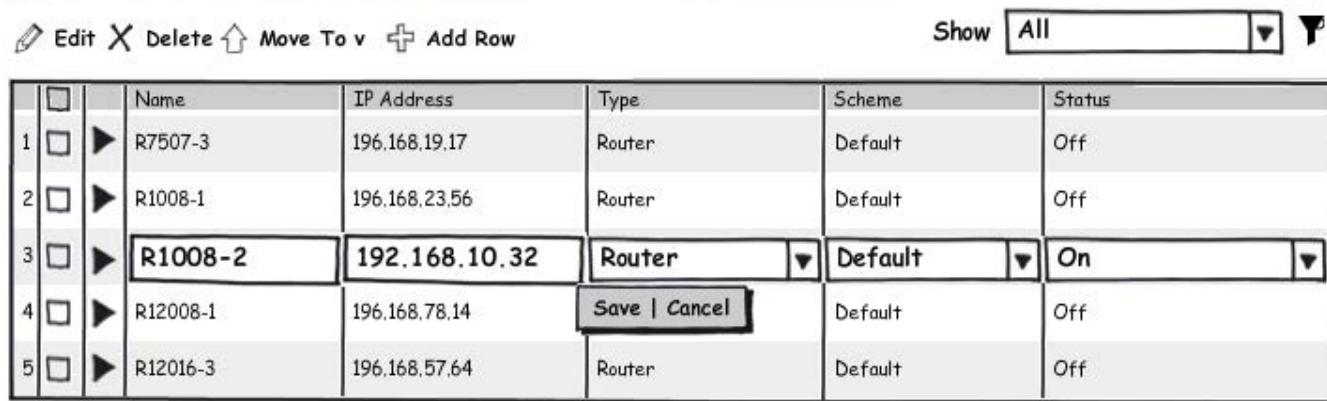
Interaction Behavior

- To initiate an edit mode the user should do one of the following options:
 - Click (single left mouse button click) anywhere in the row, except for a cell with a checkbox/radio button or hyperlink. In case a table cell contains a hyperlink, clicking on the hyperlink will navigate to the link while clicking anywhere on the row background space will initiate the edit mode.
 - Moving up or down using the keyboard arrow keys, highlights the row. Clicking 'Enter' enables edit mode for a highlighted row. In case of hyperlink or checkbox/radio button cells, the user needs to use the 'Tab' key to navigate to the specific cell which in turn is highlighted (indicated by browser default highlight visual indication). Clicking 'Enter' when a cell with hyperlink is highlighted links to the hyperlink target. Clicking 'Enter' when a cell with check box / radio button is highlighted checks the check box/radio button.
- Edit mode is visually indicated by highlighting the row with a blue gradient color background specified in figure #1 (Top:#86A2BE. Bottom: #688098).
- The user can edit the content directly by typing in new content into empty cells, or overwriting existing content with a new one just like with any other typical word processing software.
- Optional: as the user places the cursor inside an input field, a drop down list is displayed to suggest possible options. While She is typing the first letters, the auto suggest drop down list is truncated to display only the relevant options

associated with the input. The user can use the keyboard or mouse to select an option. This behavior is similar to the one described in the [Combo Box](#) specifications web page (figure #3).

- When appropriate a drop down list can also be used to allow the user to change a given cell option with another. The dropdown arrow will be displayed only in an edit mode.
- Editable cells that contain mandatory input fields should be visually indicated by adding an asterisk (*) preceding that cell column header label. This is a design time decision made by the application team.
- Content that should not be changed is disabled and grayed out.
- When the user types a wrong input the cell background color is changed to bright red and a [slide down alert message](#) appears on top of the table. This visual indication is displayed when the user change focus away from the particular cell he was editing.
- Whenever possible, and if supported by the application, input validation should be provided immediately. I.e. while the user types in a wrong input, the error indication should be displayed. If that can not be done, then the application should provide input validation when the user change focus to a new input field (cell). Upon submit ('Save' or 'Save and Edit Next') a [slide down alert message](#) appears on top of the table to provide guiding information about the nature of the error and a next step recommendation.
- In case a long time consuming round trip to the server for previously edited content is completed only after the user has already moved the focus away from an edited row, the specific incorrect cell background color should be changed to bright red, and a slide down alert message should appear on top of the table to notify the user that the previously edited content resulted with an error. In any case the user should be able to move immediately to the next row to continue editing other rows and not be delayed by the remote validation process. (See figure #8).
- In case additional details are associated with the edit table row, an expand details inlay panel button is displayed on the left edge of the row. Clicking the button will expand an inlay panel. The inlay panel may include editable content that is not displayed in the table, yet is associated with the table data. All columns attributes and values, including hidden columns customized by the user, should be displayed in the details inlay panel.
- The inlay panel may include any layout variation that aligns with Cisco Prime standards and specifications. As an example, it may show tabs to divide the content of a network device properties. Error messages and visual indications will follow the base component directives the inlay panel is containing. In other words, if the inlay panel uses text boxes and text area boxes, the error messages and indications guidelines for these components should be used.
- The inlay panel content will open in an editable mode and not in a read only mode. However, application developers can decide to use a mixture of read only content with editable content within the editable inlay panel.
- The expanded details inlay panel includes command button to save or cancel the changes. Clicking the 'Save' or 'Cancel' buttons collapses the inlay panel and closed the row edit mode turning it back into normal mode.
- Optionally a 'Save and Edit Next' button is provided to allow the user to save changes, close the expanded details inlay panel and move on to the next row or the next selected row in an expanded details inlay panel edit mode. All in one click.
- While in edit mode user should be able to click on other rows and interact with other part of the table ui, e.g. interacting with a quickview access icon and quickview panel). To exit the edit mode the user needs to explicitly click the 'Save' or 'Cancel' button.
- Only one single inlay panel can be expanded at a time to avoid scale and performance decrease. In case the user tries to expand a new inlay panel, the already expanded panel will be automatically closed. If the previously expanded panel has unsaved changes a dialog window should be displayed to prompt the user to save or cancel the changes before trying to expand a new inlay panel.
- While the in line row editing and the inlay details panel editing can cover most of the table editing use cases, there could be other use cases where a fairly complex editing should be handled by a pop up dialog which allows more flexibility to form layout and widgets usage (i.e. use of repeaters, pop over containing object selector, etc.). Which paradigm to use is a design time decision.
- Note! While in edit mode clicking the sort icon in the column header is ignored and should not work in order to avoid conflicts with the row being edited. The 'Preset Filters' dropdown should also be disabled while in edit mode.

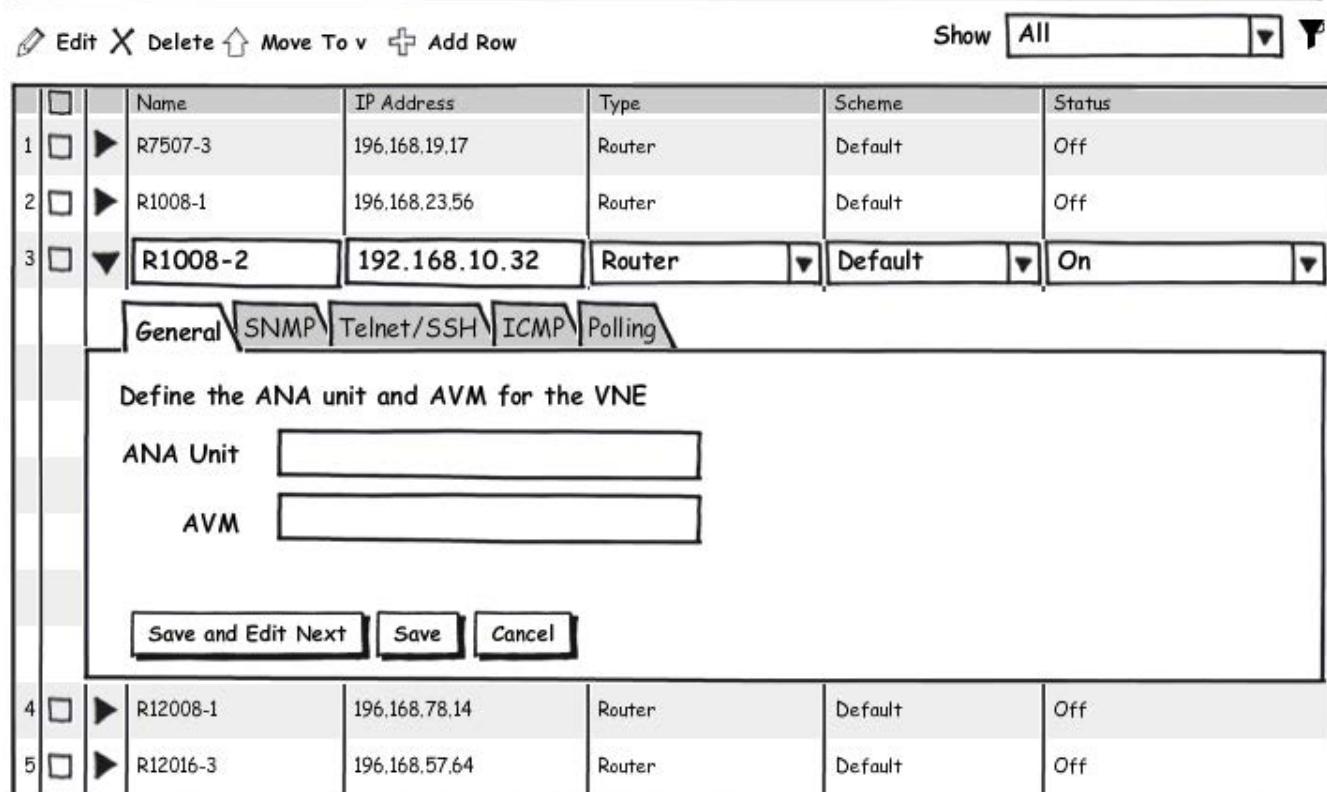
Devices



	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2	192.168.10.32	Router	Default	On
4	R12008-1	196.168.78.14	Router	Default	Off
5	R12016-3	196.168.57.64	Router	Default	Off

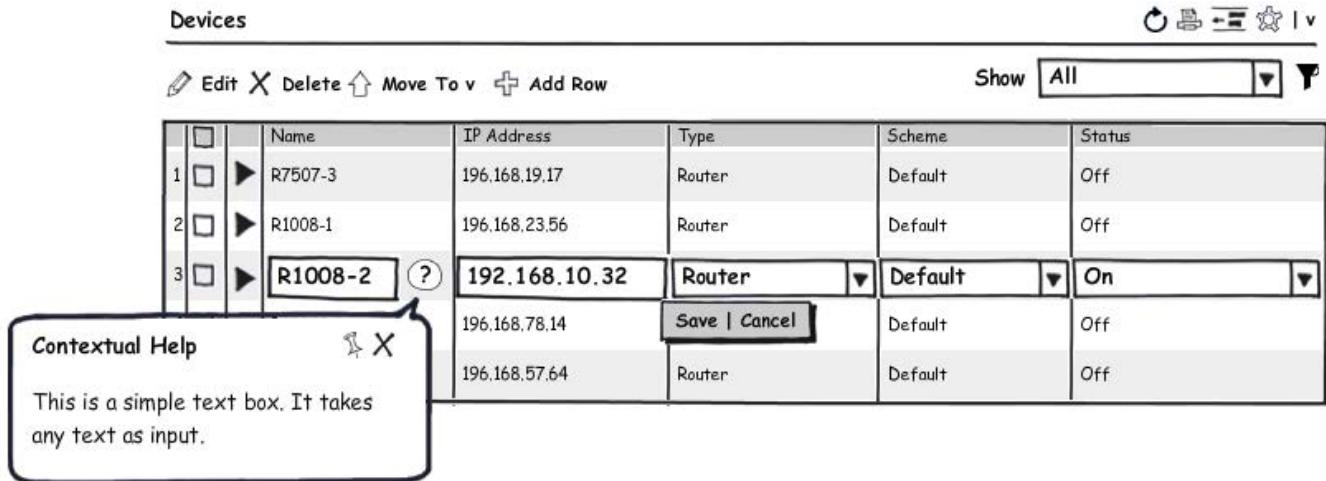
Figure 4. Editable Table

Devices



	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2	192.168.10.32	Router	Default	On
4	R12008-1	196.168.78.14	Router	Default	Off
5	R12016-3	196.168.57.64	Router	Default	Off

Figure 5. Editable Table - Expanded Details Inlay Panel



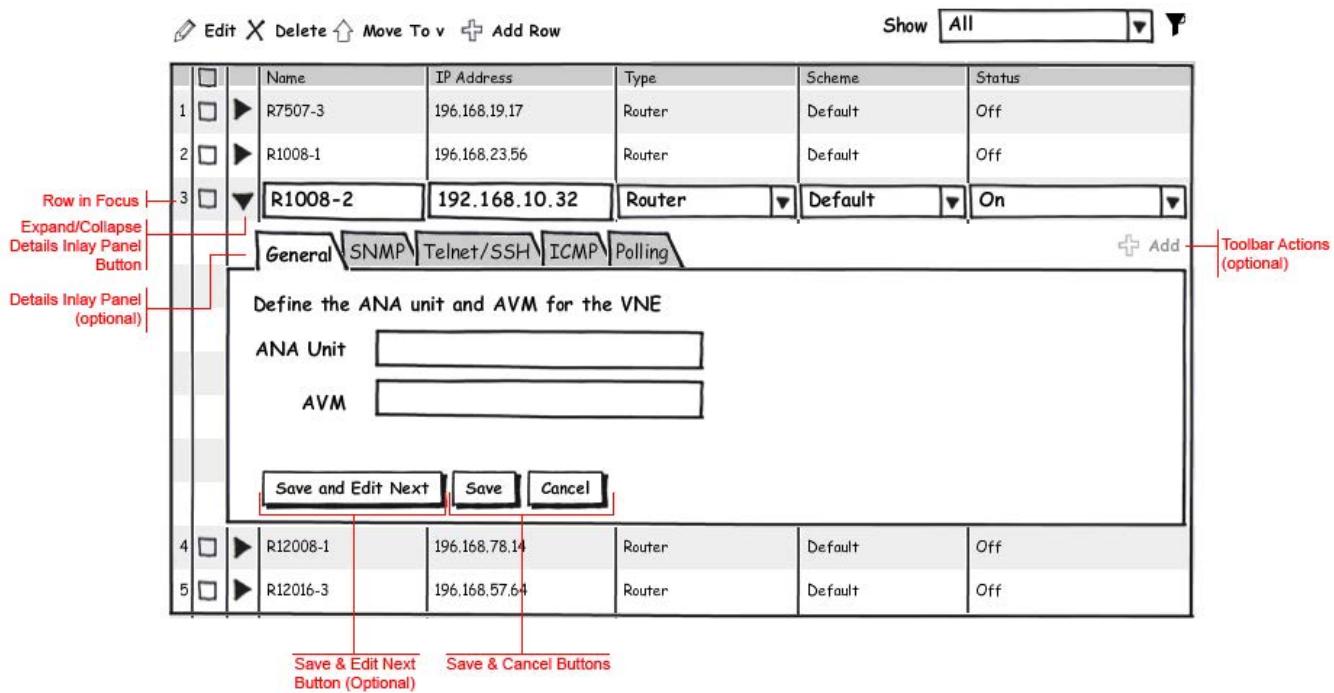
The screenshot shows an 'Devices' table in edit mode. A row for 'R1008-2' is selected. A context help popover titled 'Contextual Help' appears over the row, containing the text: 'This is a simple text box. It takes any text as input.' A question mark icon in the top right corner of the table triggers this popover.

	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2	192.168.10.32	Router	Default	On
		196.168.78.14	Router	Default	Off
		196.168.57.64	Router	Default	Off

Figure 5A. When the table is in edit mode, a help appears besides table cells. Hover/ Click on the help icon launches popover hint

Interaction behavior for this widget is the same as described in the Popover usage guideline under [Popover hover hint](#) section.

Basic Elements



This screenshot shows an 'Devices' table with several UI annotations:

- Row in Focus:** Points to the third row ('R1008-2').
- Expand/Collapse Details Inlay Panel Button:** Points to the triangle icon in the second column of the third row.
- Details Inlay Panel (optional):** Points to the expanded panel for 'R1008-2' which contains tabs for General, SNMP, Telnet/SSH, ICMP, and Polling.
- Toolbar Actions (optional):** Points to the '+' Add button in the top right.
- Save and Edit Next, Save, Cancel Buttons:** Points to the bottom right buttons of the expanded panel.
- Save & Edit Next Button (Optional):** Points to the bottom left buttons of the expanded panel.

	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2	192.168.10.32	Router	Default	On
4	R12008-1	196.168.78.14	Router	Default	Off
5	R12016-3	196.168.57.64	Router	Default	Off

Figure 6. Editable Table Elements - Details Inlay Panel

There are a few common elements included in editable tables:

- **In Focus Row**

The row that is currently in focus is visually indicated by a blue gradient color background specified in figure #1 (Top:#86A2BE. Bottom: #688098). An editable row becomes in focus when the user clicks anywhere inside the row or using the keyboard arrow keys, up or down, browsing through the table rows.

- **Expand/Collapse Details Inlay Panel Button (optional)**

The expand/collapse details inlay panel button is located at the far left hand side of the row (dropdown arrow) and is used to allow the user an access to more details and information associated with the row. By clicking the button, an inlay panel is expanded to show the additional information. This feature is not exclusive to editable tables and should also be available for read only tables.

To close the details inlay panel the user clicks the expand/collapse details inlay panel button again and the panel is collapsed.

Note! In case changes were made to the editable content of the expanded details panel before collapsing it, clicking the button to collapse is equal to clicking the 'Cancel' button. All unsaved changes will be lost. In this case a confirmation dialog should be displayed to notify the user that unsaved changes will be lost asking if she wants to collapse the panel or leave it open to save the changes ("By collapsing the panel all unsaved changes will be lost. Do you wish to collapse the panel now and cancel all unsaved changes? [-] Yes [-] No").

Note! Due to current software implementation constraints, in case the user made changes to any of the expandable details panel values and then undo these changes (either by removing the changes or retying back the previous values that were there before the changes were made), upon collapsing the panel, the confirmation dialog will be displayed even though no changes were actually made.

- **Toolbar Actions (optional)**

Editable tables may include contextual toolbar items to allow the user to interact with the editable content . As an example, 'Bulk Edit' may be used to allow the user to edit multiple rows simultaneously.

Note! While in edit mode the toolbar is disabled to avoid possible conflicts with the row being edited. Application developers should also be able to disable any custom application specific toolbar items they added to the table toolbar when a row is in edit mode.

- **Details Inlay Panel (optional)**

The details inlay panel is used to display additional information associated with the row. It should also show all available columns information, including hidden columns customized by the user. The panel is expanded by clicking on the expanded details inlay panel button located at the far left hand side of the row (dropdown arrow) and may display any layout variation to show associated editable content. The details inlay panel uses command buttons at the bottom right of the panel to save or cancel the changes.

Note! The editable features of editable table, the editable row and the inlay editable details panel, need to be configurable to allow an application developer the flexibility to use the following possible options:

1. Not editable - a read only table as described in the basic specification, with or without the expanded inlay details panel.
2. An editable inline cell (in focus row edit) without an editable expanded details inlay panel
3. An editable expanded inlay details panel without an editable inline cell (in focus row edit)
4. An editable inline cell (in focus row edit) with an editable expanded details inlay panel

For option #3 & #4 the inlay details panel is made editable when the row is expanded using the expand/collapse details inlay panel button

- **Save/Cancel Buttons**

The 'Save' and 'Cancel' buttons below the editable row are mandatory functions that allow the user to save editorial changes or cancel them. By clicking either 'Save' or 'Cancel' the changes are saved/canceled, the details inlay panel collapses and the row edit mode is closed and back to normal mode.

Note! Clicking the the expand/collapse details inlay panel button is equal to clicking the 'Cancel' button. A confirmation dialog should be displayed to notify the user all unsaved changes will be lost.

Before any changes are made the 'Save' button is in a disabled state. Clicking the 'Save' button will submit any changes done to the row content and again the button is disabled until further changes are made. Hitting the 'Cancel' button closes the edit session and returns the table row to its normal appearance.

- **Save and Edit Next Button (optional)**

When appropriate, a 'Save and Edit Next' button is recommended to streamline the flow of edits when the user needs to edit multiple table rows one by one. By clicking the 'Save and Edit Next' button the user will automatically save the changes, close the details inlay panel and open up the next row or next selected row in details inlay panel edit mode.

- **Slide Down Alert Message**

When the user submits a wrong input value, a slide down alert message is displayed above the table.

Note! The slide down alert message will be displayed only upon user submit ('Save', 'Save and Edit Next'). This means a round trip to the server and back has taken place.

- **Cell Error Background Color**

When the user types in a wrong value cell background color is changed to light red (#f23e2c).

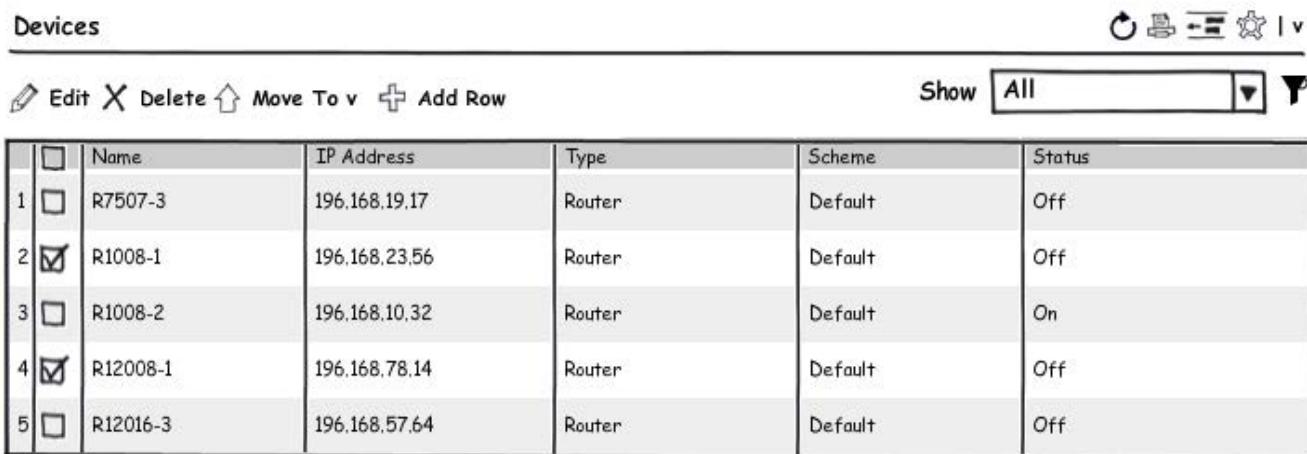
Error Messages

See the [Notifications Spec](#) for a description of error messages in tables.

Bulk Edit

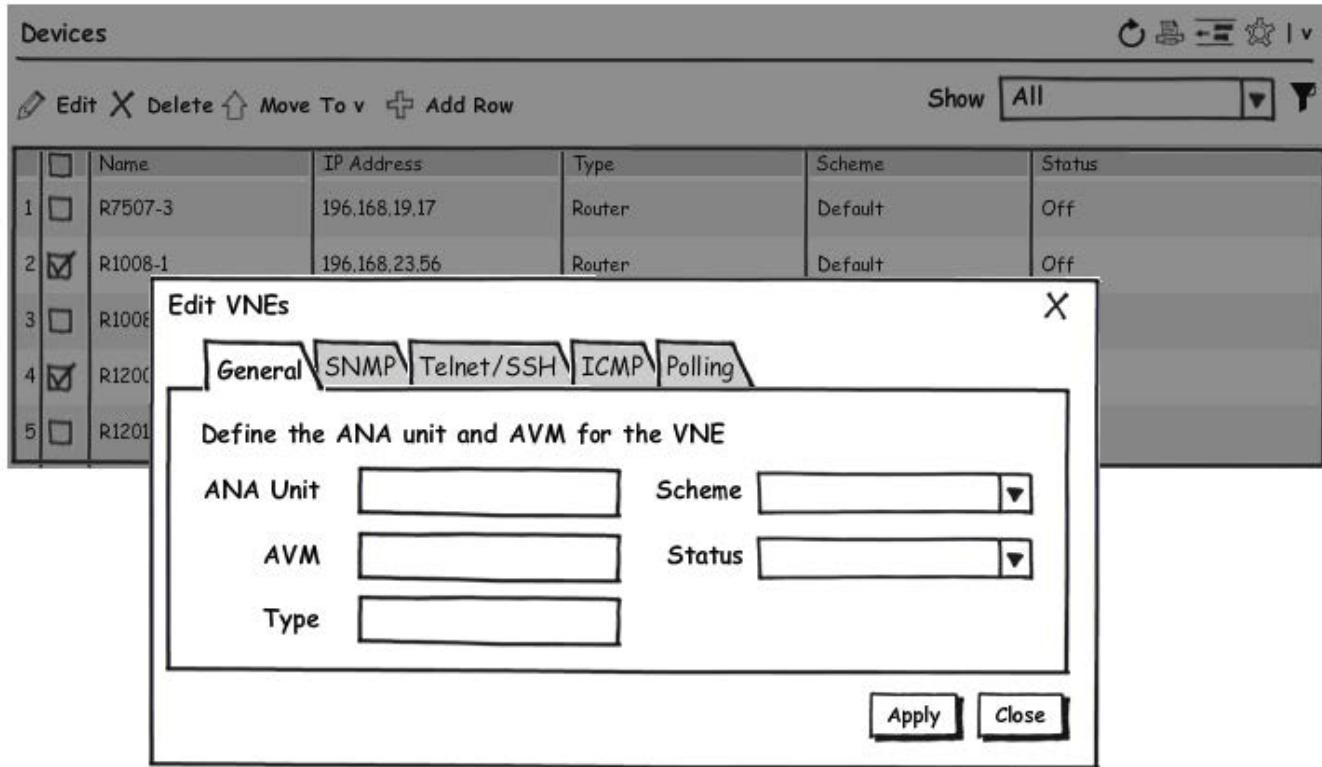
Editable tables allow the user to select and edit multiple table rows.

User can select multiple rows by checking in the row select check box and then clicking the 'Bulk Edit' toolbar button. A [dialog](#) is open (Figure #9), and the editable content available is based on the common denominator of all selected rows.



	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2	196.168.10.32	Router	Default	On
4	R12008-1	196.168.78.14	Router	Default	Off
5	R12016-3	196.168.57.64	Router	Default	Off

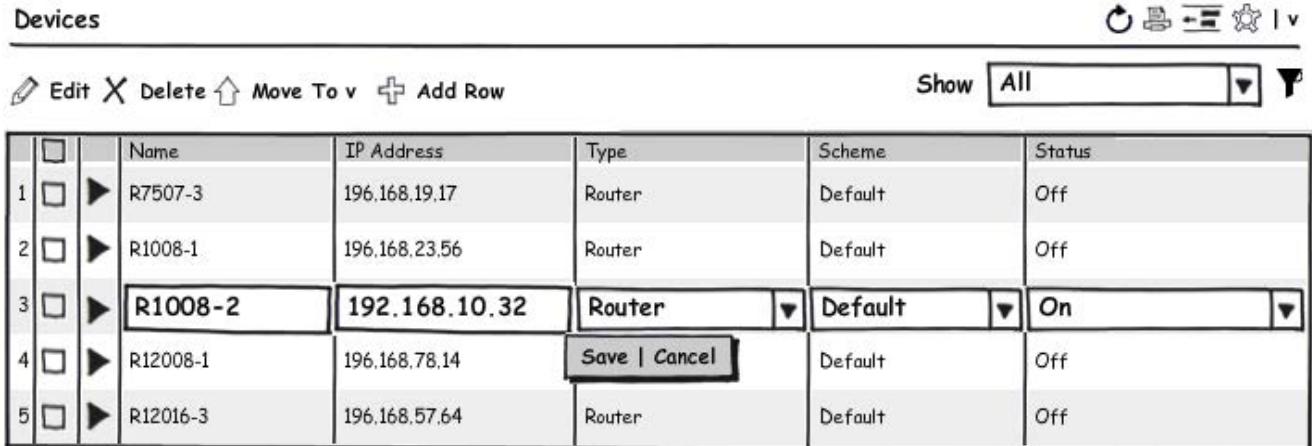
Figure 7. Multiple Rows Selection



The screenshot shows a 'Devices' list interface. At the top, there are buttons for Edit, Delete, Move To, Add Row, and a dropdown for Show (set to All). Below the list is a modal dialog titled 'Edit VNEs' with tabs for General, SNMP, Telnet/SSH, ICMP, and Polling. The General tab is active. Inside the dialog, there are fields for ANA Unit, Scheme, AVM, Status, and Type. At the bottom are 'Apply' and 'Close' buttons.

	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	<input checked="" type="checkbox"/> R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2				
4	<input checked="" type="checkbox"/> R12008-1				
5	R12016-3				

Figure 8. Multiple Rows Edit Dialog



The screenshot shows a 'Devices' list interface. The third row (R1008-2) is selected and has its details displayed in a modal dialog at the bottom. The dialog contains fields for Name (R1008-2), IP Address (192.168.10.32), Type (Router), Scheme (Default), and Status (On). At the bottom of the dialog is a 'Save | Cancel' button. The rest of the list shows other devices: R7507-3, R1008-1, R12008-1, and R12016-3.

	Name	IP Address	Type	Scheme	Status
1	R7507-3	196.168.19.17	Router	Default	Off
2	R1008-1	196.168.23.56	Router	Default	Off
3	R1008-2	192.168.10.32	Router	Default	On
4	R12008-1	196.168.78.14		Default	Off
5	R12016-3	196.168.57.64	Router	Default	Off

Figure 9. Explicit Save and Cancel in a Row Edit Mode

TABLES FILTERING

Description

Tables filtering allows users to narrow down the displayed data to provide a quick and easy way to identify a specific table record that matches a given criteria provided by the user. The three table filtering methods described in this specification web page are the 'Preset Filters', the 'Quick Filter' and the 'Advanced Filter'.

Default System Preset Filters and User Defined Saved Filters: facilitates commonly used criteria for a given table data as a set of predefined filters (system and user defined). The default system preset filters and user defined saved filters are displayed in the filter drop down list.

Quick Filter: allows the user to narrow down table data by applying a filter to a specific table column or columns. The operator used with Quick Filter is 'Contains'. To apply different operators the user should use the advanced filtering options.

Advanced Filtering: allows the user to narrow down table data by applying a filter using multiple operators.

Usage Guidelines

Use these components when...

- Table data set is large and user may benefit from filtering it to a smaller subset of data.
- Use preset filters when there is an obvious set of filter criteria that are commonly used.

Do not use these components when...

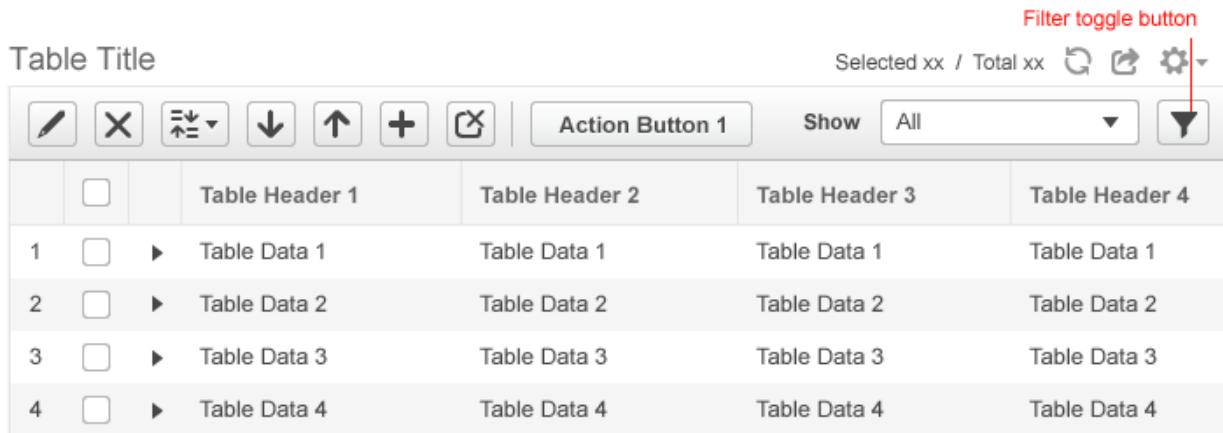
- The type of data does not require any filtering as it is simple and short.
- Don't use table filtering for tables that contains data that does not require any user filtering where column sorting is sufficient to find a specific record.

Guidelines

- If a table filter is required for an application use case design, quick filter is mandatory and cannot be turned off.
- Application developers can disable/hide quick filter for specific table columns while keeping the quick filtering functionality for others. Disabling the quick filter is required in cases when quick filtering for certain columns does not make sense. E.g., time stamp column in live logs where the table is supposed to show X most recent records refreshed constantly, or high refresh rate table used as a dashboard for monitoring where it would be too expensive to accommodate the filtering functionality in almost a real time data conversion.
- There are use cases when a match criteria should be already pre - populated into one or more of the quick filter input fields so that when the user launches the table view the table is filtered and the quick filter match criteria is displayed in the quick filter input field of one or more of the table columns. In that case it is mandatory that the column that the criteria is applied to is displayed by default and not hidden.
- Upon filtering, the table should be filtered within 1 sec. If that can not be achieved due to performance issues, please use a progress indicator and follow the response and delay times guidelines.
- A visual indication should be provided to show that the preset filters is active
- If there are no results, the string "No results found" should be displayed in the center of the first table row.
- Filters are persistent for the duration of the session as well as across sessions, i.e. if the user applies a filter, then leaves the page, and then returns to the page, the filter should still be in place. By 'leaving the page' we mean to say, leaving the page within the application to go to another page within that same application. If it's a collection of applications that impacts one another then we refer to their respective pages as if they belong to the same application.

- The filter should be re-applied each time the user returns to the page. So if the user: applies a filter, then leaves the page and creates an item that meets the filter parameters, and returns to the page, the new item should be visible in the filter list. Similarly, an item that is removed elsewhere should no longer be visible in the filtered list.
- In quick filter icons (decorators) columns should be presented in the column quick filter dropdown by their textual value.

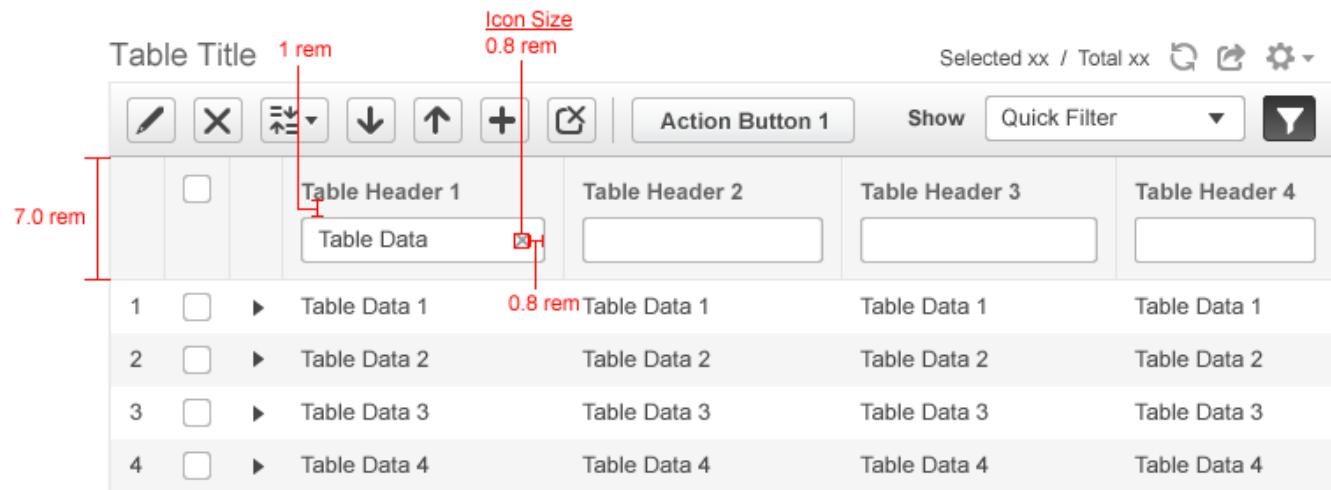
Visual Specification



	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4

Figure 1. Table - Filter default state.

Note! To avoid clipping of the 'Advanced Filter' controls a minimum table width of 850px should be kept for tables with 'Advanced Filter'.



	<input type="checkbox"/>	Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4

Figure 2. Table - Quick filter specification.

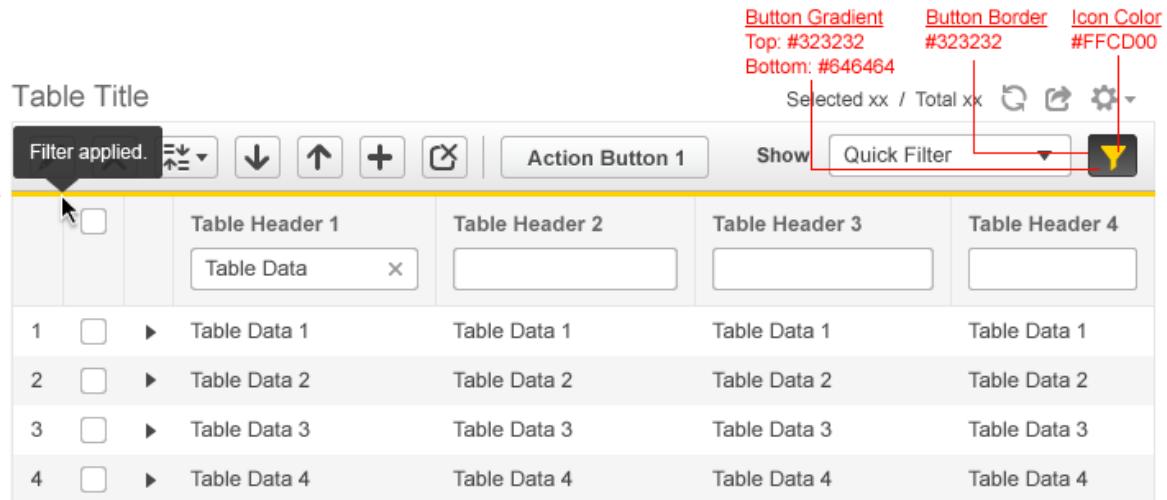


Figure 3. Table - Quick filter applied with open panel.

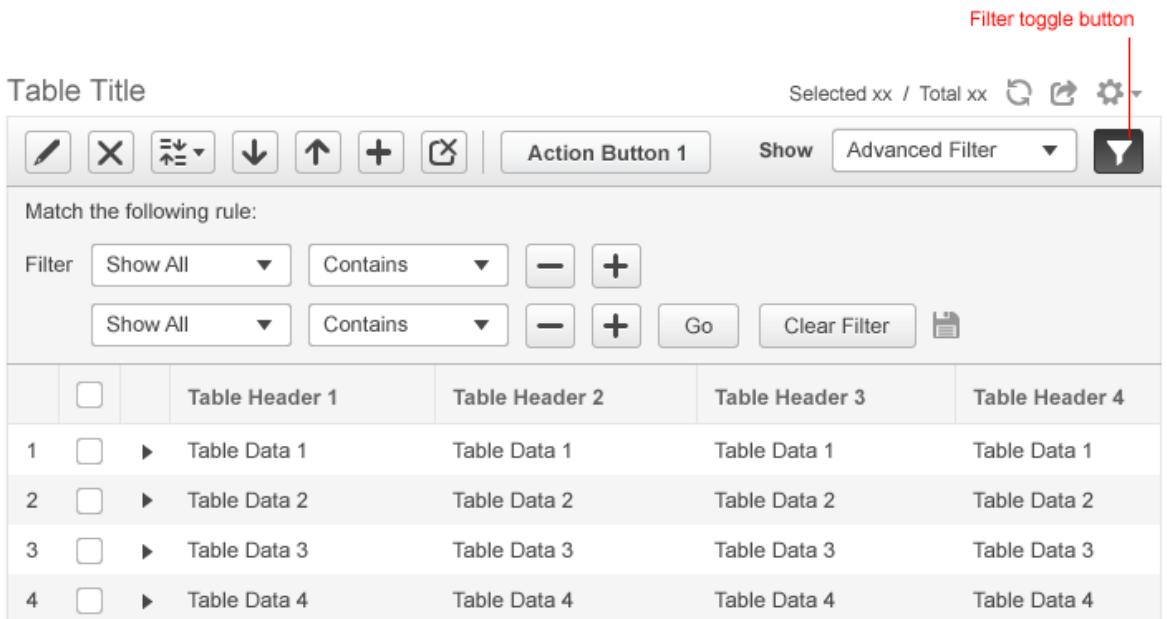


Figure 4. Table - Advanced filter with open panel.

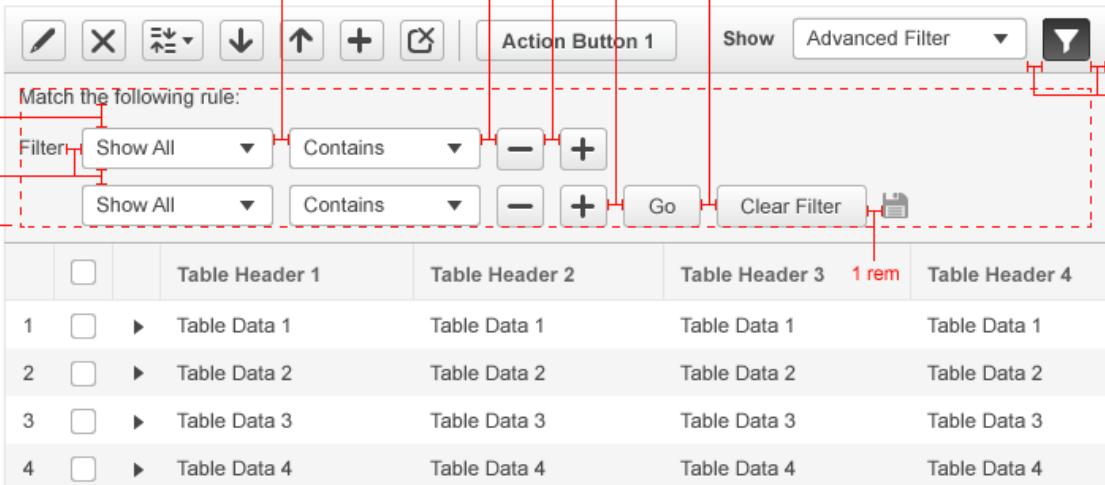


Table Title

Advanced filter activated by user

Match the following rule:

1 rem

1.5 rem

1 rem

1 rem padding all around

1 rem

Action Button 1

Show Advanced Filter

Selected xx / Total xx

Table Header 1 Table Header 2 Table Header 3 Table Header 4

1 Table Data 1 Table Data 1 Table Data 1 Table Data 1

2 Table Data 2 Table Data 2 Table Data 2 Table Data 2

3 Table Data 3 Table Data 3 Table Data 3 Table Data 3

4 Table Data 4 Table Data 4 Table Data 4 Table Data 4

Figure 5. Table - Advanced filter with open panel specifications.

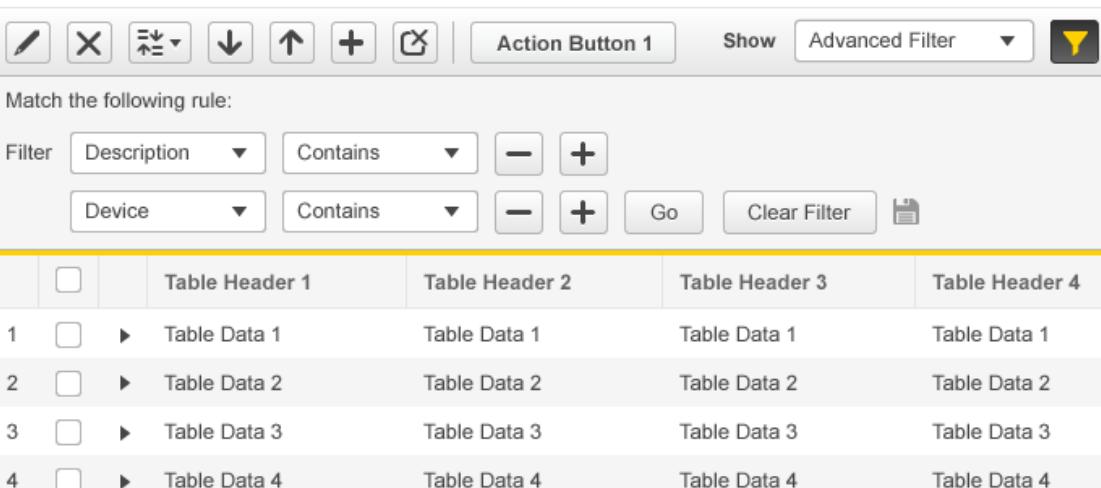


Table Title

Selected xx / Total xx

Match the following rule:

Filter Description Contains +

Device Contains + Go Clear Filter

Table Header 1 Table Header 2 Table Header 3 Table Header 4

1 Table Data 1 Table Data 1 Table Data 1 Table Data 1

2 Table Data 2 Table Data 2 Table Data 2 Table Data 2

3 Table Data 3 Table Data 3 Table Data 3 Table Data 3

4 Table Data 4 Table Data 4 Table Data 4 Table Data 4

Figure 6. Table - Advanced filter applied with open panel.

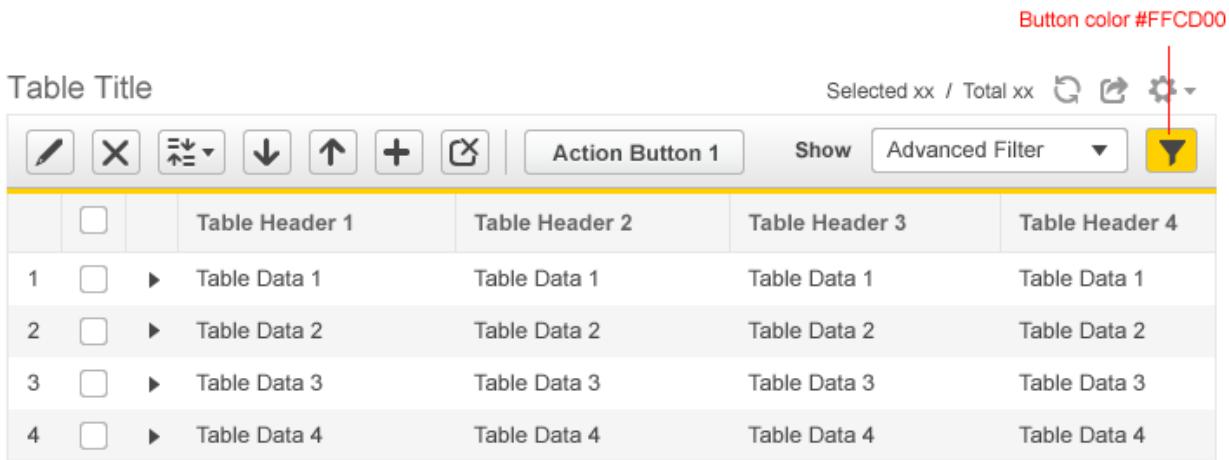


		Table Header 1	Table Header 2	Table Header 3	Table Header 4
1	<input type="checkbox"/>	▶ Table Data 1	Table Data 1	Table Data 1	Table Data 1
2	<input type="checkbox"/>	▶ Table Data 2	Table Data 2	Table Data 2	Table Data 2
3	<input type="checkbox"/>	▶ Table Data 3	Table Data 3	Table Data 3	Table Data 3
4	<input type="checkbox"/>	▶ Table Data 4	Table Data 4	Table Data 4	Table Data 4

Figure 7. Table - Advanced filter applied with collapsed panel

Font and Color Specification

Filter	Element	Notes
Saved Filters	Drop down list font & color	as defined in Dropdown List
Quick Filters	Text box input field font color	#464646
Quick Filters	Text box input fields font family	Arial
Quick Filters	Text box input fields font size	1.3 rem
Advanced Filters	Font and Color	as defined in Text Box Area and Action / Command Buttons

Table 1. Specifications for Fonts and Color

Interaction Behavior

Tables filtering allows users to narrow down the table data and provides a quick and easy way to find a specific table record that matches the filter criteria defined by the user. There are three table filtering methods:

1. Quick Filter: Allows the user to narrow down the table data by applying a filter to a specific table column or multiple filters to multiple columns. The operator used with Quick Filter is 'Contains'.
2. Advanced Filtering: allows the user to narrow down table data by applying a filter using multiple operators.
3. Default System Preset Filters and User Defined Saved Filters: Facilitates commonly used criteria for a given table data as a set of predefined filters (system and user defined). The default system preset filters and user defined saved filters are displayed in the filter drop down list.

It is recommended that all tables are initially displayed with some data, as opposed to being empty. If there is a reason for a table to be empty when initially displayed (e.g., list download time), display a message with the following text (left justified in a cell spanning all columns): "No active filter. Define your search criteria by selecting a filter option from the filter dropdown menu on the top right tool bar." Filter Dropdown Menu and Toggle Button

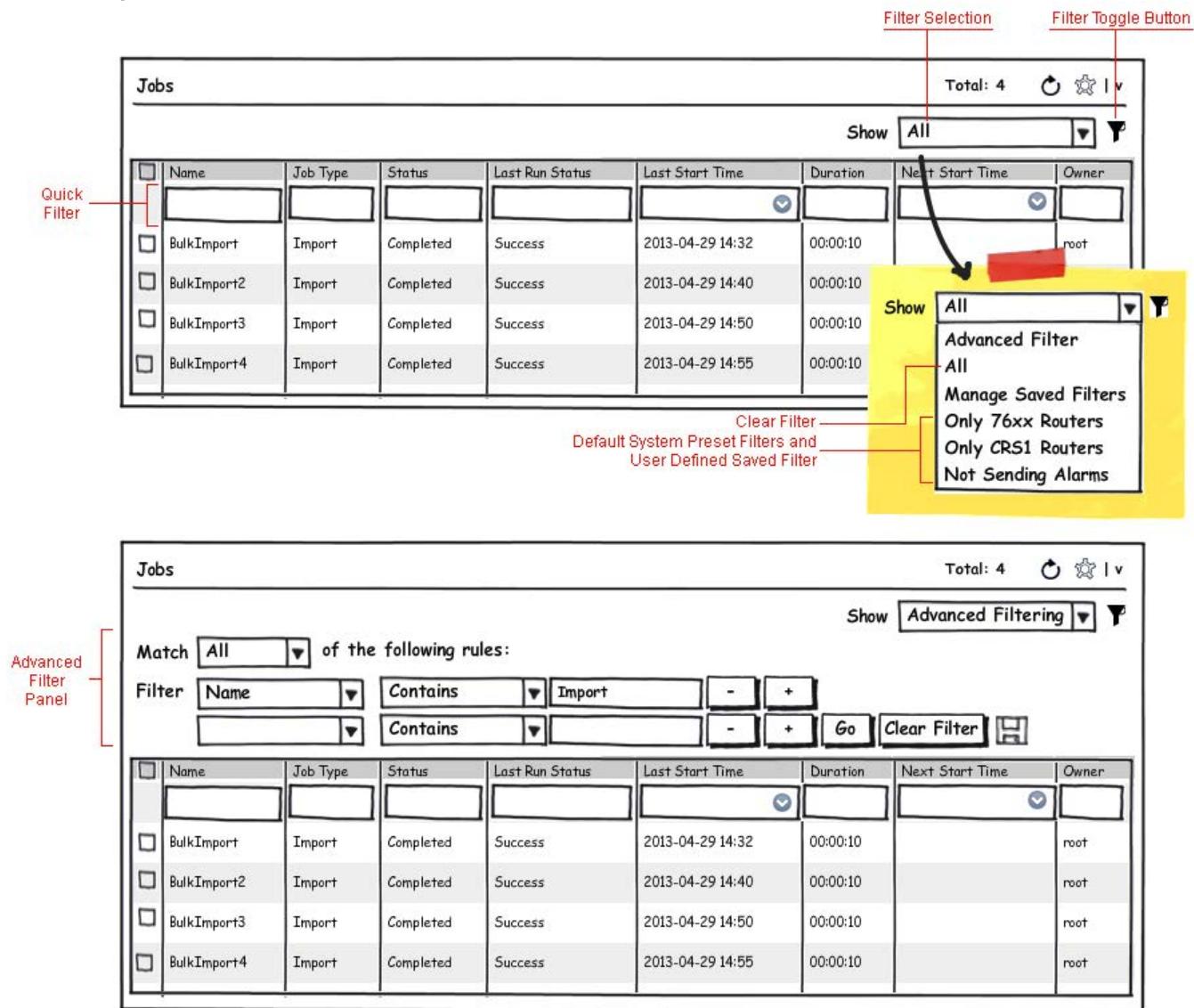
The filter dropdown menu on the table contextual tool bar right hand side is a combination of a dropdown menu, allowing the user to select a filtering option, and a toggle button to expand/collapse the filter panel.

Page Types & Page Regions

Filter table can be displayed in any of the following page types and regions:

- Any application page main content area
- As a tabular data in a vertical or horizontal master details page layout in either the master or details portions or both.
- In dashboard dash let table view
- In any type of pop over or dialog. E.g. quick picker, pop over..

Main Components



The figure consists of two screenshots of a 'Jobs' filter interface. The top screenshot shows a basic filter with a yellow callout for the 'Advanced Filter' button, which reveals a dropdown menu with options like 'All', 'Advanced Filter', 'All', 'Manage Saved Filters', 'Only 76xx Routers', 'Only CRS1 Routers', and 'Not Sending Alarms'. The bottom screenshot shows an advanced filtering panel with a 'Match All' dropdown and a 'Filter' section with two rows of dropdowns and operators. Both screenshots show a table of job data with columns: Name, Job Type, Status, Last Run Status, Last Start Time, Duration, Next Start Time, and Owner.

Figure 8. Table Filter Main Components.

- Filter Selection
- Filter Toggle Button
- Quick Filter
- Advanced Filter

Required/Recommended/Optional/Not Permitted

Image	Filter State	Expand/Collapse State	Quick Filter	Advanced Filter
Image	Filtered	Expanded	x	x
Image	Filtered	Collapsed	— (filters are cleared)	x
Image (Default)	Non-Filtered	Expanded	x	x
Image (This is also the state for 'All')	Non-Filtered	Collapsed	x	x

Table 1-1. Filter Button States

Filter Button States

Component	Description	Status
Filter Selection	The filter drop down menu is allowing the user to select a filtering option. E.g. Show All (no filter applied)/ Advanced Filter/Manage Preset Filters/ Default System Preset Filter / User Defined Saved Filter	Required for a Filtering Table
Filter Toggle Button	The filter toggle button expand/collapse the advanced filter panel.	Required for a Filtering Table
Quick Filter	The quick filter allows the user to narrow down table data by applying a filter criteria to a specific table column or columns.	Required for a Filtering Table
Advanced Filter	The advanced filter allows the user to narrow down table data by applying a filter using a multiple operators filter criteria.	Optional for a Filtering Table

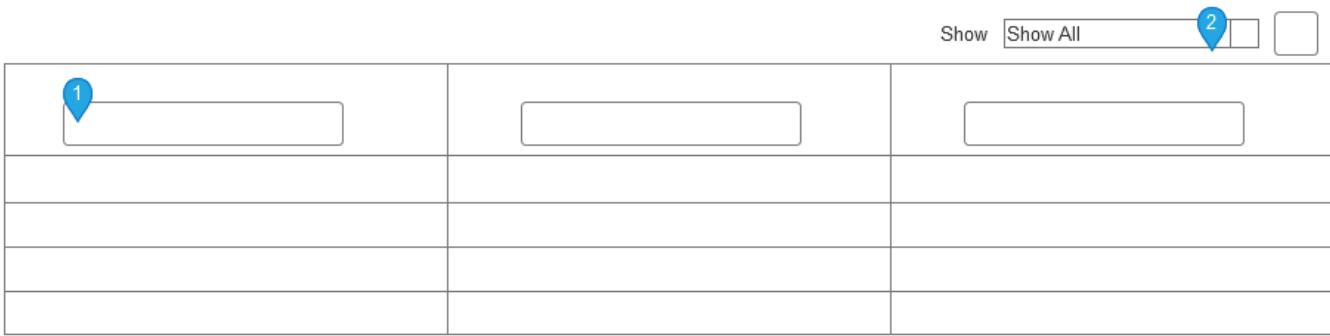
Table 1. Required/Recommended/Options/Not Permitted

Flows

Use a Quick Filter to Prune the Table Data

- When a table supporting filtering is used in a design solution, default quick filter input fields are displayed right below the column headers.
- By default the filter drop down list is set to 'Show All.' although the quick filter is displayed by default.
- Even when the quick filter is applied by the user typing into one of its input field, the filter drop down list is still set as Show All.
- There is a flag to allow Application Teams to close the Quick Filter by default if they so desire.
- When the user types into the quick filter input field an auto suggest drop down list is displayed.
- The auto suggest drop down list is updated along the user's input displaying only the relevant options associated with the input.
- The user can select an option in the auto suggest list and press the 'Enter' key to populate the selection into the quick filter input field.
- For enumerated data type columns, as the user places the cursor inside an input field, a drop down list is displayed automatically to suggest possible options without any additional user input.
- The user can also use the keyboard or a pointing device to select an option from the auto-suggest drop down list.
- When typing a match criteria that does not have any corresponding matches in the table data a 'No Data Available' message shown over an empty table.
- When the user starts typing, a clear 'x' button is displayed inside the input field to allow clearing the field and starting all over again.
- The filter is applied a short while (250 ms) after the user stops typing, or after moving to somewhere else in the UI.
- User can move on to the next quick filter input field, by using the tab keyboard key or a pointing device, and type an additional input to further refine the filter criteria match results.

- Any additional criteria applied to other columns is added to the previous quick filter choices already made.
- A new filter is applied with every change made to the input fields and the table data is refreshed.
- Once the filter is applied, the 'Clear Filter' button ('x') remains displayed on the right hand side of the filter input field.
- Alternatively to using the 'Clear Filter' button, the user can also highlight the input text and press the keyboard 'Delete' key.
- The quick filter is an integral part of the table filtering, therefore it should not be turned off if a filtering table is used.
- Rationale: Quick Filter presents functionality that the users will want to use frequently before trying to use the advanced filtering option. Therefore, it should be easily discovered and accessed without any additional preceding interaction.
- However, if application designers have a solid use case where it is justified to have other filters but not the quick filter they should be able to turn it off. E.g. A table with preset filters without any need for advanced or quick filter features.
- Unsortable or unfilterable columns should not have a quick filter input field
- When the user selects from the filter drop down list options, advanced filter or other saved/preset filter, the quick filter is replaced with that option.

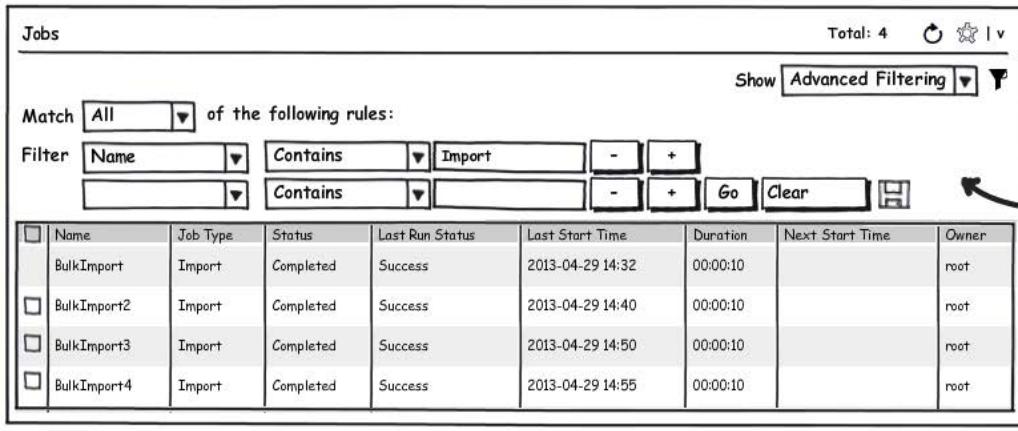


The diagram shows a table with three columns. The first column has a header cell containing a blue location pin icon with the number '1'. Above the table, there is a navigation bar with the text 'Show' and 'Show All'. To the right of 'Show All' is a dropdown menu with the number '2' above it, indicating two items in the list. The table body consists of five rows, each with three empty cells.

1 - Quick Filter open in the column header

2 - Show All shown in the dropdown

Figure 9. Table Quick Filter is displayed by default.

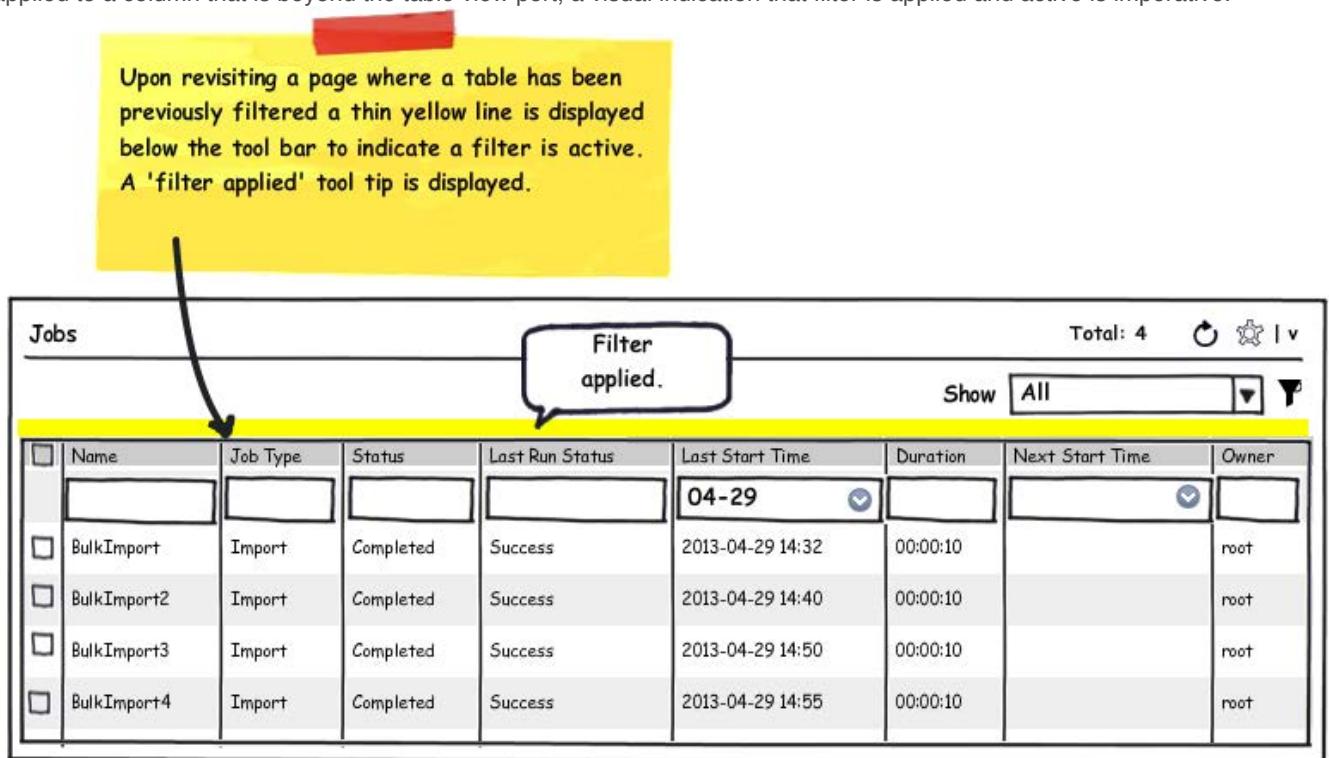


The screenshot shows a table titled 'Jobs' with four items listed. The top right corner shows 'Total: 4' and icons for refresh, star, and list view. Below the title, there's a note 'Match All of the following rules:' followed by a 'Filter' section. The 'Filter' section contains two dropdown menus: 'Name Contains Import' and 'Contains' (with an empty input field). There are also buttons for '+', 'Go', and 'Clear'. The table itself has columns: Name, Job Type, Status, Last Run Status, Last Start Time, Duration, Next Start Time, and Owner. The data rows are: BulkImport (Import, Completed, Success, 2013-04-29 14:32, 00:00:10, null, root); BulkImport2 (Import, Completed, Success, 2013-04-29 14:40, 00:00:10, null, root); BulkImport3 (Import, Completed, Success, 2013-04-29 14:50, 00:00:10, null, root); BulkImport4 (Import, Completed, Success, 2013-04-29 14:55, 00:00:10, null, root). To the right of the table, a yellow sticky note with a red arrow points to the 'Advanced Filtering' button. The note contains the text: 'When the user selects from the filter drop down list options, advanced filter or other saved/preset filter, the quick filter is replaced with that option.'

Figure 10. Table Advanced Filter is replacing Quick Filter.

Persist Filter Upon Leaving and Revisiting Pages

- Users may use the table quick or advanced filters in a page, navigate away, and then revisit the same page.
- In this case the filter state and results should persist and the user should see the filter at the state it was when he left the page
- Filter states should persist within the same user session (from initial user's log in until he logs out of the application) and across sessions.
- Persistent filters requires that the user is aware that an active filter is in place, when revisiting a page where a table filtering was previously applied.
- Therefore a thin yellow line appears at the top of the table and a "Filter applied" tooltip is displayed.
- After 2 seconds it automatically disappears. To retrieve the tooltip the user hovers on the thin yellow line
- Also, in case of an horizontal scrolling table where there are many columns in its columns set, and quick filter is applied to a column that is beyond the table view port, a visual indication that filter is applied and active is imperative.



Upon revisiting a page where a table has been previously filtered a thin yellow line is displayed below the tool bar to indicate a filter is active. A 'filter applied' tool tip is displayed.

Jobs								Total: 4				
	Name	Job Type	Status	Last Run Status	Last Start Time	Duration	Next Start Time	Owner	Show	All		
<input type="checkbox"/>					04-29							
<input type="checkbox"/>	BulkImport	Import	Completed	Success	2013-04-29 14:32	00:00:10						root
<input type="checkbox"/>	BulkImport2	Import	Completed	Success	2013-04-29 14:40	00:00:10						root
<input type="checkbox"/>	BulkImport3	Import	Completed	Success	2013-04-29 14:50	00:00:10						root
<input type="checkbox"/>	BulkImport4	Import	Completed	Success	2013-04-29 14:55	00:00:10						root

Figure 11. Filter Persistency Indication.

Using Advanced Filter

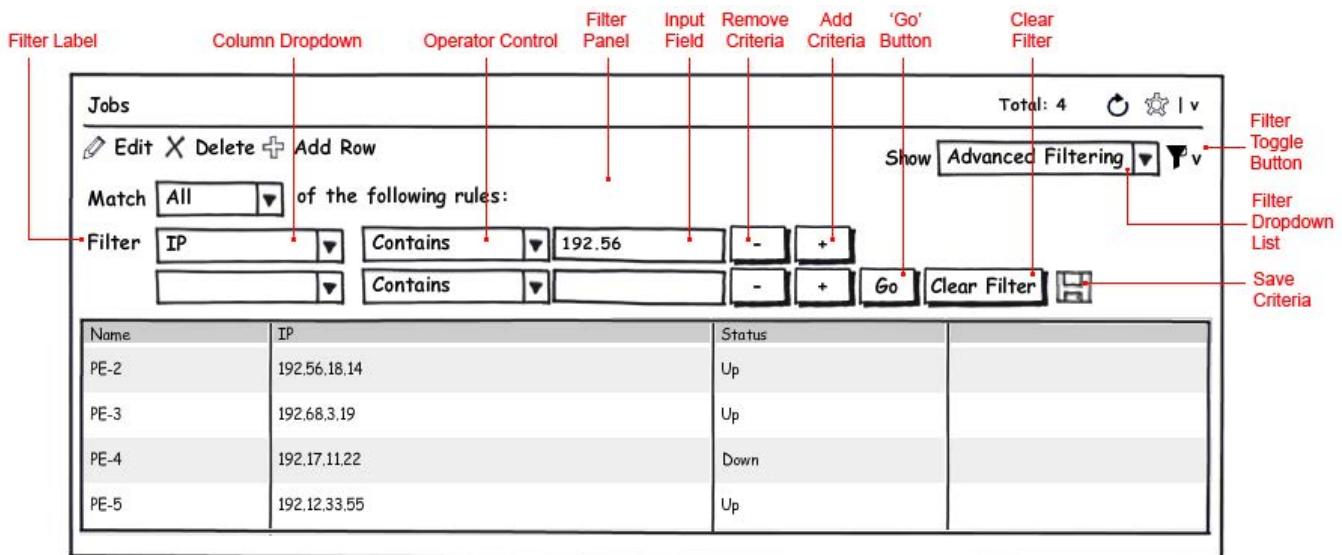
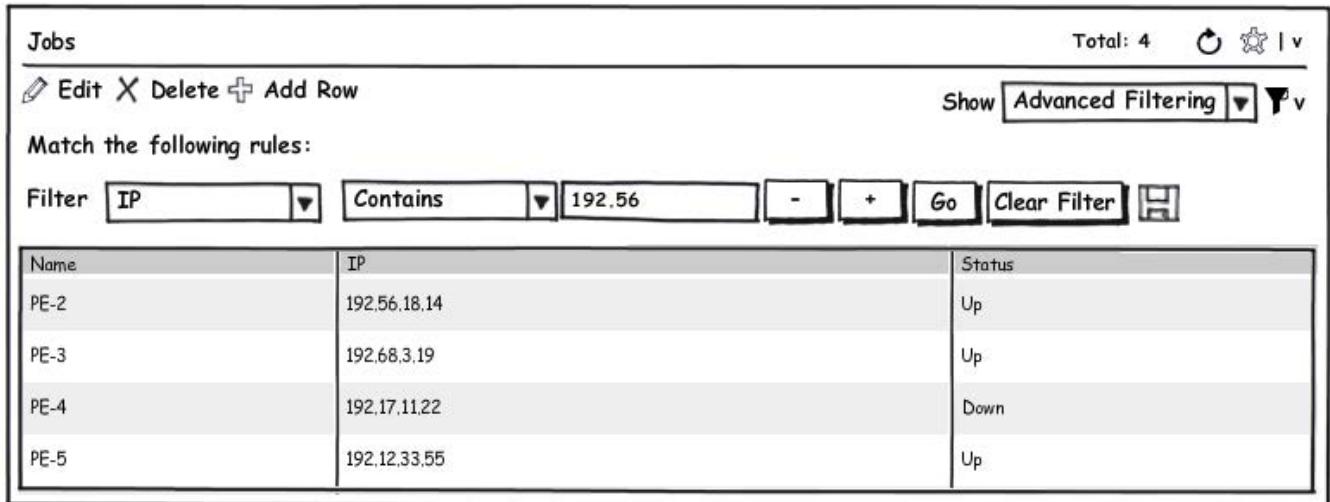


Figure 12. Advanced Filter Components.

Filter	Element	Mandatory
Filter Label		Yes
Column Drop down	To select the column to filter by.	Yes
Operator Control Drop down	A dropdown list to select the operator type to filter by.	Yes
Text Field	To type in data attributes. The field displays a minimum of 12 visible characters. Up to 40 characters can be entered, although some may be hidden.	Yes
Remove Criteria	To remove a single criteria from the criteria stack	Yes
Add Criteria	To add a single criteria to the criteria stack	Yes
'Go' Button	Applies the filter criteria to table data	Yes
'Clear' Button	Clears the filter criteria input fields to allow the user to type or select a new input.	Yes
Save icon	to save the criteria.	Yes
Filter Panel	Upon selecting the Advanced Filter option from the filter dropdown menu the advanced filter panel is expanded to display the advanced filter various options and controls. To collapse/expand the advanced filter panel the user can click the toggle button while Advanced Filter is selected in the filter dropdown menu	
Controls Overflow Button	The advanced filter controls overflow button slides the filter panel to display any clipped controls in case the table container width is lower than the recommended width. For interaction behavior details see the 'Controls Overflow Button' section below.	

Table 2. Advanced Filter Components

- Selecting the Advanced Filter option from the filter dropdown list will automatically expand and display the Advanced Filter panel and change the filter toggle button to an 'expanded' state.
- By default the advanced filter input fields are blank. Selecting an option from the Column dropdown list automatically populates the appropriate default operator for that column type in the operator field. For string type columns the default operator is 'Contains'. (I.e. 'Device Name' + 'Contains'+...). For enumerated type columns the default operator is 'Is exactly (or equals)'. (I.e. 'ID' + 'Is exactly (or equals)'+...).
- When the 'Advanced Filter' list item is selected then the 'Quick Filter' is replaced by the 'Advanced Filter' panel.
- If the advanced filter is launched from a source external to the table, the table should be filtered and the filter dropdown list should default to 'Advanced Filter'. Filter panel should be closed by default. The user can click on the filter toggle button to expand the panel.
- When the 'Advanced Filter' is active , clicking the filter toggle button only collapses the 'Advanced Filter' panel and does not revert back to 'Show All'.



Name	IP	Status
PE-2	192.56.18.14	Up
PE-3	192.68.3.19	Up
PE-4	192.17.11.22	Down
PE-5	192.12.33.55	Up

Figure 13. Advanced Filter Inlay Expanded.

The filter controls are modified slightly depending on the filter stage (i.e. before filter is applied, during filter processing, and after the filter is applied).

Before the filter is applied, the 'Go' button is enabled, the 'Clear Filter' button is disabled, and the Save icon is disabled. The 'Go' button is disabled if the blank field default state remains blank until the user selects one of the dropdown options.

Note! If one of the table column headers is only using an icon as its title the dropdown list of the advanced filter 'Filter' input must show also a label alongside the icon.

Match the following rules:

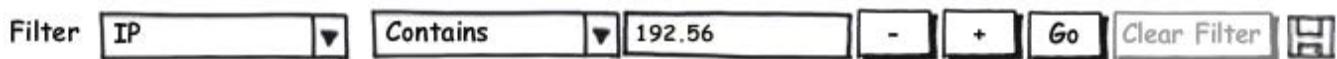


Figure 14. Before Filter is Applied.

While the system is executing the filter command:

- The 'Go' button is disabled. (This assumes that the filter is executing and cannot be interrupted with a new filter.)
- The 'Clear Filter' button is disabled. (This assumes that the filter is executing and cannot be interrupted.)
- The 'Save' icon is disabled. (This assumes that the filter is executing and cannot be interrupted.)

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Pressed Color
Sort Arrow			icon_rotate-90 (for rotation)	0.9 rem	#4d4d4d		
Expand Arrow			icon_rotate-90 (for rotation)	0.9 rem	#4d4d4d		
Add Row			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d		
Edit			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d		
Delete			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d		
Move Up			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d		
Move Down			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d		
Clear Selection			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d		
Refresh			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d	#373ab7	#373ab7
Settings			icon_rotate-90 (for rotation)	1.6 rem	#4d4d4d	#373ab7	#373ab7

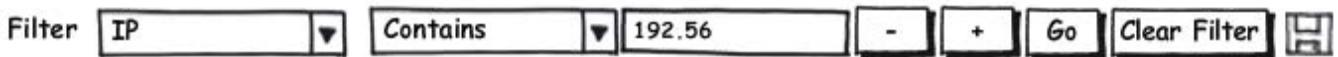
Figure 15. While the System is Executing the Filter

After the filter has been applied:

- The filter parameters remain visible
- The 'Go' button is enabled
- The 'Clear Filter' button is enabled. If the user clicks 'Clear Filter' button, the input fields are cleared and the results table returns to the unfiltered set

- The user could also clear the filter by manually deleting all text from the free form input text field, resetting the dropdown selection to blank and clicking the 'Go' button.
- The 'Save' icon is enabled to allow the user to save the criteria.

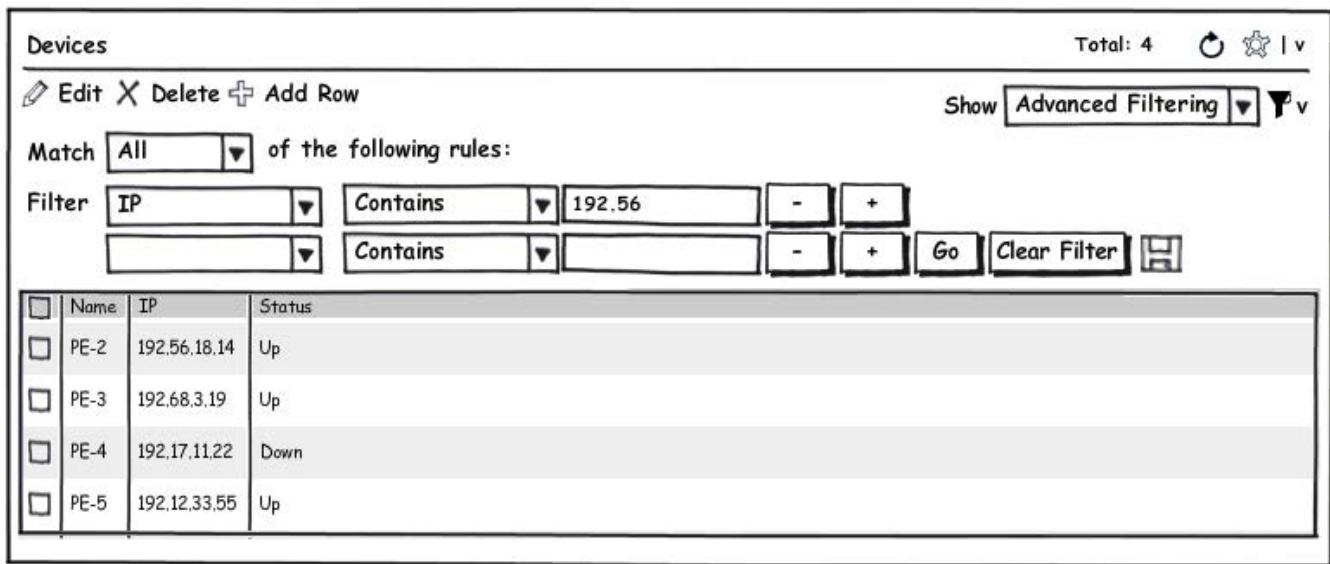
Match the following rules:



The screenshot shows a horizontal filter bar with the following components: 'Filter' button, dropdown menu set to 'IP', dropdown menu set to 'Contains', input field containing '192.56', a minus button, a plus button, a 'Go' button, a 'Clear Filter' button, and a refresh icon.

Figure 16. After the Filter is Applied.

- Clicking the 'Add Criteria' button will add a single criteria input row below the criteria row where the 'Add Criteria' button was invoked, allowing the user to create complexed criteria combinations.
- Clicking the 'Remove Criteria' button will remove a single criteria input row from the criteria stack.



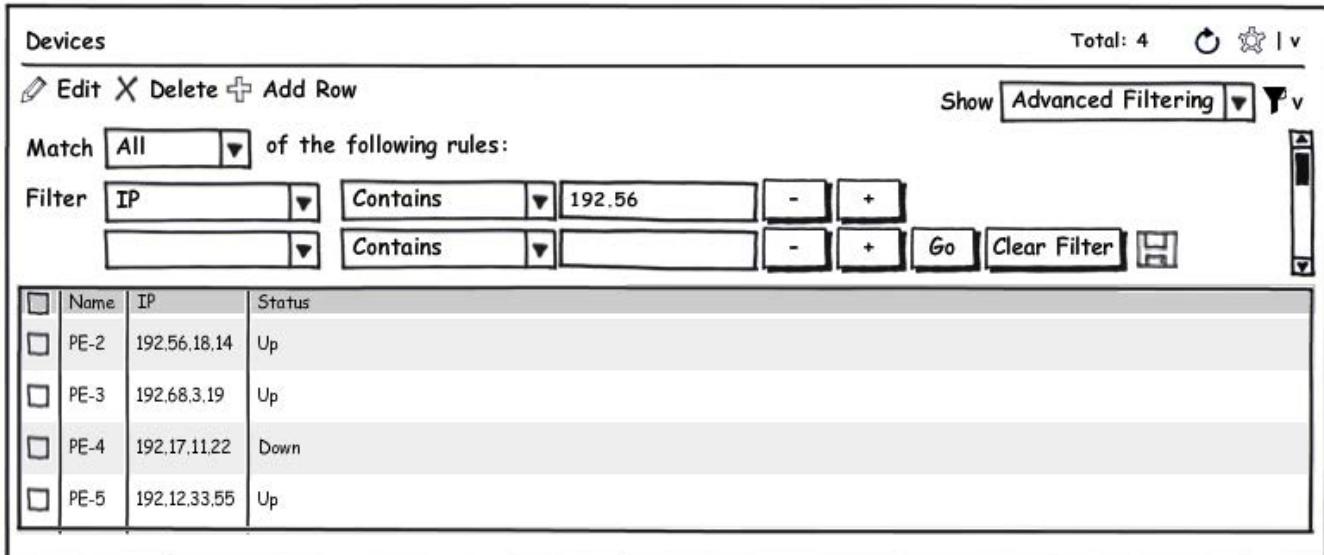
The screenshot shows a 'Devices' page with the following interface elements:

- Header: 'Devices' and 'Total: 4' with icons for refresh, star, and dropdown.
- Action buttons: 'Edit', 'Delete', 'Add Row'.
- Filtering controls: 'Show Advanced Filtering' and a dropdown menu.
- Criteria input area: 'Match All' dropdown and 'of the following rules:' label followed by the filter bar shown in Figure 16.
- Table: A scrollable table with columns 'Name', 'IP', and 'Status'. It contains five rows for devices PE-2, PE-3, PE-4, and PE-5, each with a checkbox in the first column.

Figure 17. Advanced Filter - Multi Criteria.

- Criteria Rows Scroll Area - while there is no limit to the number of multiple criteria rows that can be added to the advanced filter panel, when an additional criteria is added after the first 3 criteria rows were created, a scroll bar should be displayed. The criteria rows shown in the viewable scroll area should be the last 3 added with the last one in focus. While a maximum number of 3 criteria rows without a scroll bar is a ux recommendation to support most common use cases, application developers should be able to customize this number to align with any specific application requirement.

Note! The advanced filter panel (with or without criteria) will not be affected by a manual re size of the table.



	Name	IP	Status
<input type="checkbox"/>	PE-2	192.56.18.14	Up
<input type="checkbox"/>	PE-3	192.68.3.19	Up
<input type="checkbox"/>	PE-4	192.17.11.22	Down
<input type="checkbox"/>	PE-5	192.12.33.55	Up

Figure 18. Advanced Filter Panel - Multi Criteria Rows with a Scrollable Area

- Once a criteria has been defined, clicking the 'Go' button will apply the filter to the table data and the table data will be filtered.
- Note!** Table filter should be case sensitive by default. Yet, application developers should be able to turn it off if needed.
- When set to true the following conditions should apply:
 - Case is not ignored for the operator controls - exactly equals, does not equal, greater than, less than
 - Case is ignored for the operator controls- starts with, ends with, contains, not contains
- Clicking the 'Clear Filter' button will clear the input fields to allow the user to type in and select a new criteria.
- Clicking the 'Save' icon will allow the user to save and name a defined criteria. A 'Save Filter' popup dialog is displayed requiring the user to provide a name.
- If the name already exists, upon clicking the save button in the dialog, a slide down alert message should be displayed to warn the user from overwriting an existing saved filter. The message should be: "A saved filter by this name already exists. Click 'yes' if you would like to keep this name and overwrite this filter, or 'No' if you would like to provide a new name." [Yes] [No].
- Also include a 'Don't show me this message again' check box to allow the user to disable the display of this message.
- The filter name should be displayed exactly the way it is specified by the user (of course, being managed by the application naming convention and validation logic which is an application design decision). For example, if the user is allowed to use multiple spaces between words, then the name should be displayed with multiple spaces and no HTML truncation should occur.
- Saved filters will be displayed in the filter dropdown list.

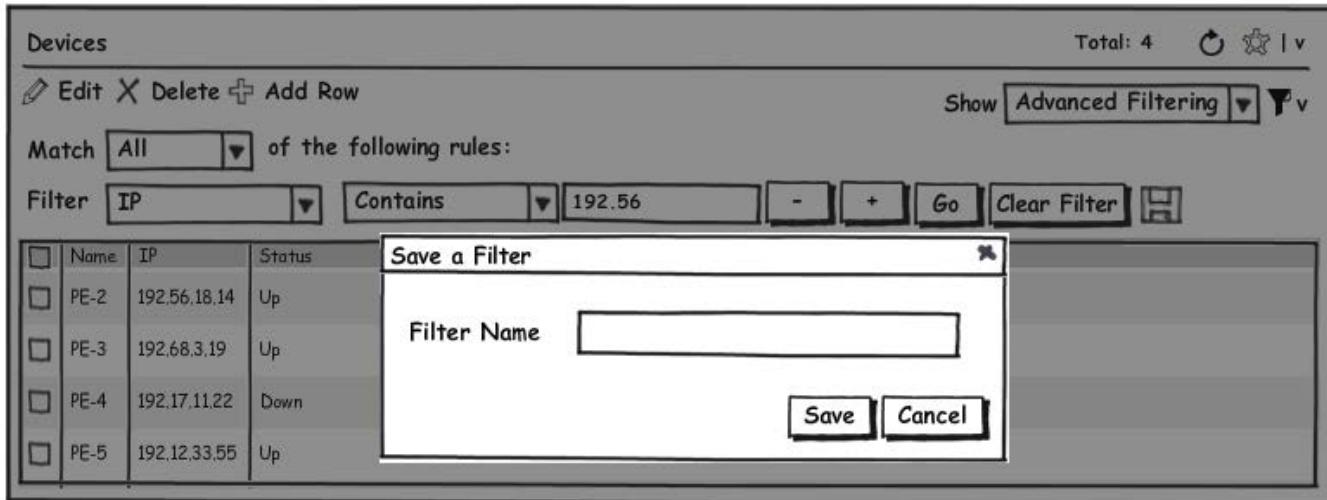
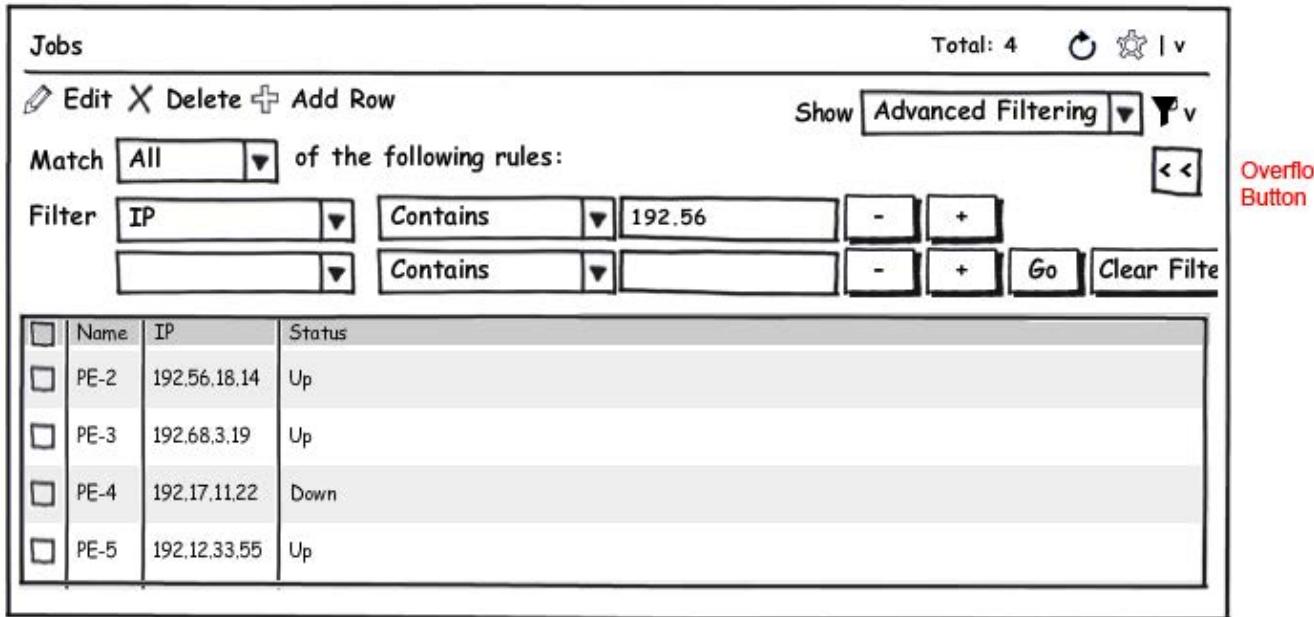


Figure 19. Advanced Filter - Save a Preset Filter.

- The user can remove or edit a saved filter from the saved filters list by selecting the 'Manage Saved Filters' menu item from the filter dropdown menu. See Manage Saved Filters edit and remove description.
- Note!** Both 'Save' and 'Manage Saved Filters' are optional and application developers should be able to turn them off if they wish to do so. If the 'Manage Saved Filters' menu item is disabled then the 'Save' button should also be disabled when the user defines an Advanced Filter.

Controls Overflow Button

- In case the container that contains the table is smaller than the recommended minimum width of 850 px, and the advanced filter controls are not all displayed on the expanded filter panel, the advanced filter controls overflow button should be displayed on the far top right corner of the filter panel. (see figure #21 below)
- Clicking the overflow icon will slide the filter panel content to the left and will reveal the clipped controls to allow the user to interact with them when necessary. E.g. clicking the overflow button will reveal the hidden save button to save the criteria. (see figure #19).
- The overflow icon button acts like a toggle button. Once clicked the double arrow icon will flip horizontally to change direction and point to the right, denoting that clicking the button again will slide the filter panel to the right, back to where it was before the initial click has taken place.
- Note!** The controls overflow button is provided as a safety mechanism to always allow the user access to the advanced filter controls regardless of a given table container width. However, it is strongly encouraged for application developers to design the application filter tables with enough horizontal space so that all of the advanced filter controls are displayed so that users are not required to go through extra interaction. The recommended minimum width to display all of the advanced filter controls without clipping is 850 px.



Jobs Total: 4

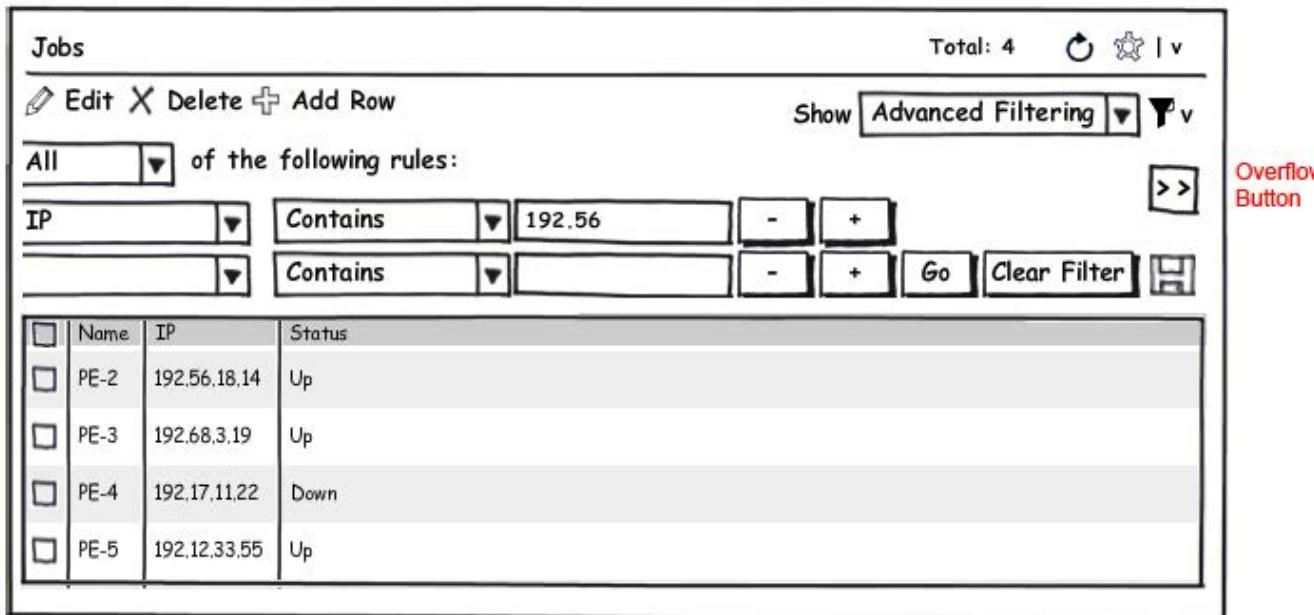
Edit X Delete + Add Row Show Advanced Filtering ▾

Match All of the following rules:

Filter IP Contains 192.56 - + Go Clear Filter

	Name	IP	Status
<input type="checkbox"/>	PE-2	192.56.18.14	Up
<input type="checkbox"/>	PE-3	192.68.3.19	Up
<input type="checkbox"/>	PE-4	192.17.11.22	Down
<input type="checkbox"/>	PE-5	192.12.33.55	Up

Figure 20. Advanced Filter - Controls Overflow Button



Jobs Total: 4

Edit X Delete + Add Row Show Advanced Filtering ▾

All of the following rules:

IP Contains 192.56 - +

Contains - + Go Clear Filter

	Name	IP	Status
<input type="checkbox"/>	PE-2	192.56.18.14	Up
<input type="checkbox"/>	PE-3	192.68.3.19	Up
<input type="checkbox"/>	PE-4	192.17.11.22	Down
<input type="checkbox"/>	PE-5	192.12.33.55	Up

Figure 21. Advanced Filter - Controls Overflow Button Reveals Clipped Controls.

Operator Controls

The operator controls for different field types are shown in Table 5.

Relational Operators	Alphanumeric	String	Numeric	Boolean	Quick Picker
Contains	X	X	-	-	X
Does not contain	X	X	-	-	X
Start with	X	X	-	-	-
Ends with	X	X	-	-	-
Is empty	X	X	-	-	-
Is not empty	X	X	-	-	-
Is exactly (or equals)	X	X	X	-	-
Does not equal	X	X	X	-	-
Is greater than	X	-	X	-	-
Is less than	X	-	X	-	-
Is greater than or equal to	X	-	X	-	-
Is less than or equal to	X	-	X	-	-
Is true	-	-	-	X	-
Is false	-	-	-	-	X

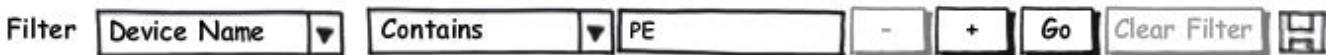
Table 3. Relational Operators for Different Field Types

Multiple Conditions

The following list describes interaction and usage guidelines for multiple filter conditions:

- By default once the user selected 'Advanced Filter' from the filter dropdown menu, only one criteria input row will be displayed in the advanced filter panel. Note the line above it: 'Match the following rule.'
- After clicking the 'Add' ('+') button the text will change to 'Match [All/Any] (selected by a dropdown list) of the following rules'.
- The remove button on the first row is fixed, it cannot be removed. Instead it is disabled when it is the only row, or is required by the application.
- After clicking "Add" (shown as a plus sign), the additional condition is located below the original ones.
- As rows of filters are added, the "Go" and "Clear Filter" buttons remain on the newest / lowest row of the set.

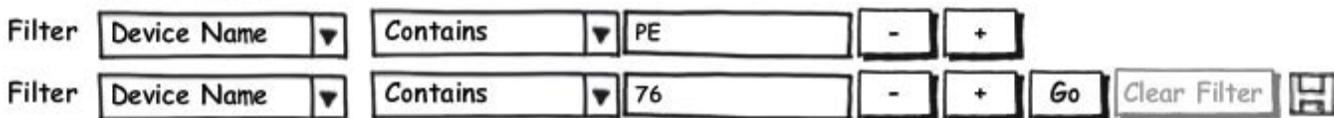
Match the following rules:



Filter Device Name ▼ Contains ▼ PE - + Go Clear Filter H

Figure 22. Multiple Conditions - Step 1

Match All ▼ of the following rules:



Filter Device Name ▼ Contains ▼ PE - +
 Filter Device Name ▼ Contains ▼ 76 - + Go Clear Filter H

Figure 23. Multiple Conditions - Step 2

Match All of the following rules:

Filter	Device Name	Contains	PE	-	+			
Filter	Device Name	Contains	76	-	+			
Filter	Device Name	Contains	75	-	+	Go		
Filter	Device Name	Contains	74	-	+	Go	Clear Filter	H

Figure 24. Multiple Conditions - Step 3

Error Handling

Upon an invalid input the input widget background and border turns red and a contextual error message is provided via a tooltip that is displayed when in an erred-out field, or by hovering over the field.

For contextual error message visual specifications follow the guidelines in the [notifications spec](#) Specifications Tab

Devices

Total: 4   

Edit X Delete + Add Row Show Advanced Filtering ▾

Match All of the following rules:

Filter	IP	Contains	192.56	-	+			
Filter	Device Name	Contains	PE	Please use letters A-Z				
Filter	Status	Contains	1	-	+	Go	Clear Filter	H

	Name	IP	Status
<input type="checkbox"/>	PE-2	192.56.18.14	Up
<input type="checkbox"/>	PE-3	192.68.3.19	Up
<input type="checkbox"/>	PE-4	192.17.11.22	Down
<input type="checkbox"/>	PE-5	192.12.33.55	Up

Figure 25. Multiple Conditions - Step 3

Filtering in Tree Tables

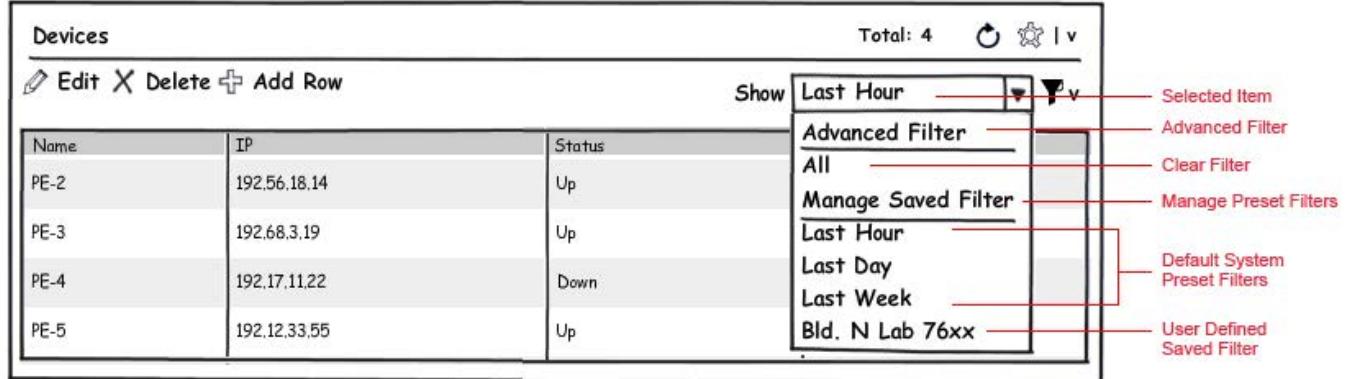
When filtering in a tree table, display the matching results as a flat list as if it was a regular table.

Show 'All'

- The default filter dropdown menu option is the Show 'All' option and the table content is unfiltered showing all table records.
- In case a filter is applied, selecting the Show 'All' option clears the filter, and retrieves the content to show all unfiltered table records.

- If the filter toggle button is clicked while the table is in a 'Show All' state, then the filter changes to 'Quick Filter', the toggle button is pressed and the filter panel is expanded.
- Clicking the filter toggle button again clears the quick filter and returns the view to 'Show All'.

Default System Preset Filters and User Defined Saved Filters (optional)



Devices			Total: 4	Filter
			Show	
Name	IP	Status		
PE-2	192.56.18.14	Up		
PE-3	192.68.3.19	Up		
PE-4	192.17.11.22	Down		
PE-5	192.12.33.55	Up		

Figure 26. Table - Preset Filters.

Default System Preset Filters are optional predefined filters out-of-the-box, packaged with the application, providing the user an easy access to commonly used filters in the context of a specific table data. 'Show Last 1 Hour', 'Show Last 1 Day', 'Show Last 1 Month' are a few examples of possible system filters.

User Defined Saved Filters are user customized filters, created and managed by the user to streamline the use of commonly used filters.

System Filters

- By clicking the Filter dropdown menu arrow a list of preset system filters is displayed from which the user can select from.
- As a result the table is filtered and displays only the table rows that matches the selected filter criteria. No filter panel is expanded though.
- The selected preset system filters is shown in the selection box and serves as a visual indication to show that the filter has been applied. The filter toggle button changes to a filtered and collapsed state.
- When a preset system filter is applied the user can see its criteria by clicking the filter toggle button to expand the advanced filter panel where the filter criteria should already be populated.
- Users cannot edit these out-of-the-box (defined at design-time) filters and they should not be shown in the 'Manage Saved Filters' dialog box.
- User can select 'Show All' from the filter drop down menu to clear the filter and retrieve the non-filtered table data.

User Defined Saved Filters (optional)

- To create a user defined Saved filter the user should create and save a filter using the advanced filter panel.
- Once created the user defined filter can be accessed from the filter dropdown menu.
- Selecting any of the user defined Saved filters will filter the table but does not expand the filter panel. The filter toggle button changes to the filtered/collapsed state.
- To see or edit the criteria of a user defined filter the user can click the filter toggle button to expand the advanced filter panel where the user defined saved filter criteria should already be populated. The user can modify the criteria and then save it.

- To manage the saved filters the user can select the 'Manage Saved Filters' menu item from the filter dropdown menu. A modal pop up dialog will be displayed allowing the user to edit or remove any user defined Saved filter from the list.
- User defined saved filters are client side specific and currently there is no scope for sharing these filters with other users. They can only be saved and edited by an individual user.

Manage Saved Filters

- Selecting the 'Manage Saved Filters' item from the dropdown menu, will launch a modal popup dialog with a dropdown menu listing all of the user defined saved filters.
- The user can select a filter and click the 'Edit' or 'Remove' buttons.
- Clicking the 'Edit' will close the dialog and expand the Advanced Filter panel with the selected filter settings pre populated in the input fields and selections. After making the changes and clicking the 'Go' button the 'Save' icon is enabled. Clicking the 'Save' icon will display the 'Save Filter' dialog with the filter name pre populated in the 'Filter Name' field. The user can confirm or rename the filter to save it by a different name.
- Clicking the 'Remove' button will remove the selected filter from the filter dropdown menu but should not close the dialog to allow the user remove additional filters if she wishes to do so.
- Upon closing of the the 'Manage Saved Filter' dialog any changes made will apply, however, if no changes have been applied, the original state of the table data should persist. If the current filter has been deleted, the table should revert back to 'Show All'.

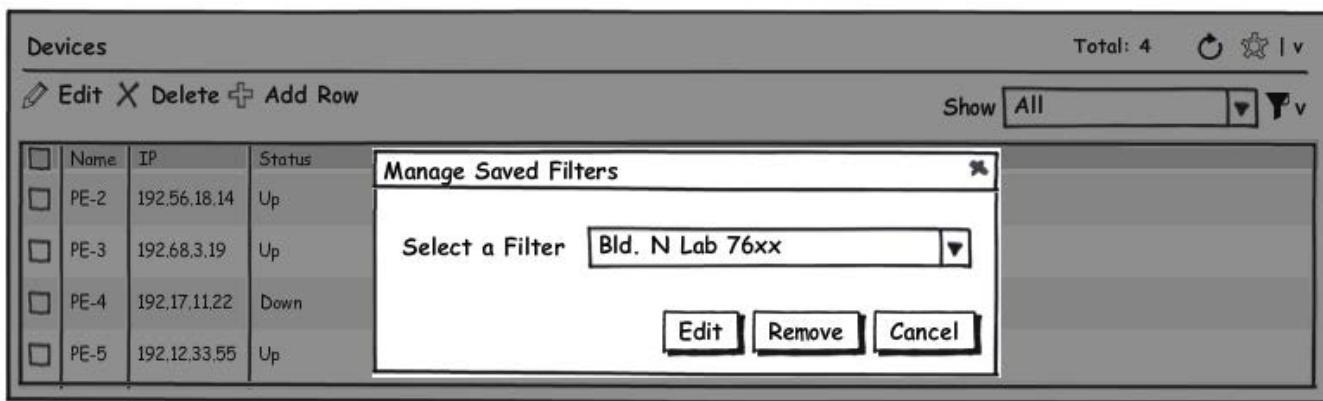


Figure 27. Table - Manage Saved FiltersDialog.

Multi Selection Table Filtering via Integration of Table Multi Picker and Token Field with Table Advanced and Quick Filters

This specification describes quick filter table options which would support selection or entering of multiple values into a single table advanced and quick filter.

- One such option is using the token field (planned for a future release)
- The other option is to use the multi-select quick picker using either a table or an object selector to make multiple selections.

Quick Picker

The multi-select quick picker integrated into the advanced and quick filter is used to allow the user to select multiple items to define filter criteria by launching an associated multi-selection component displayed in an overlay.

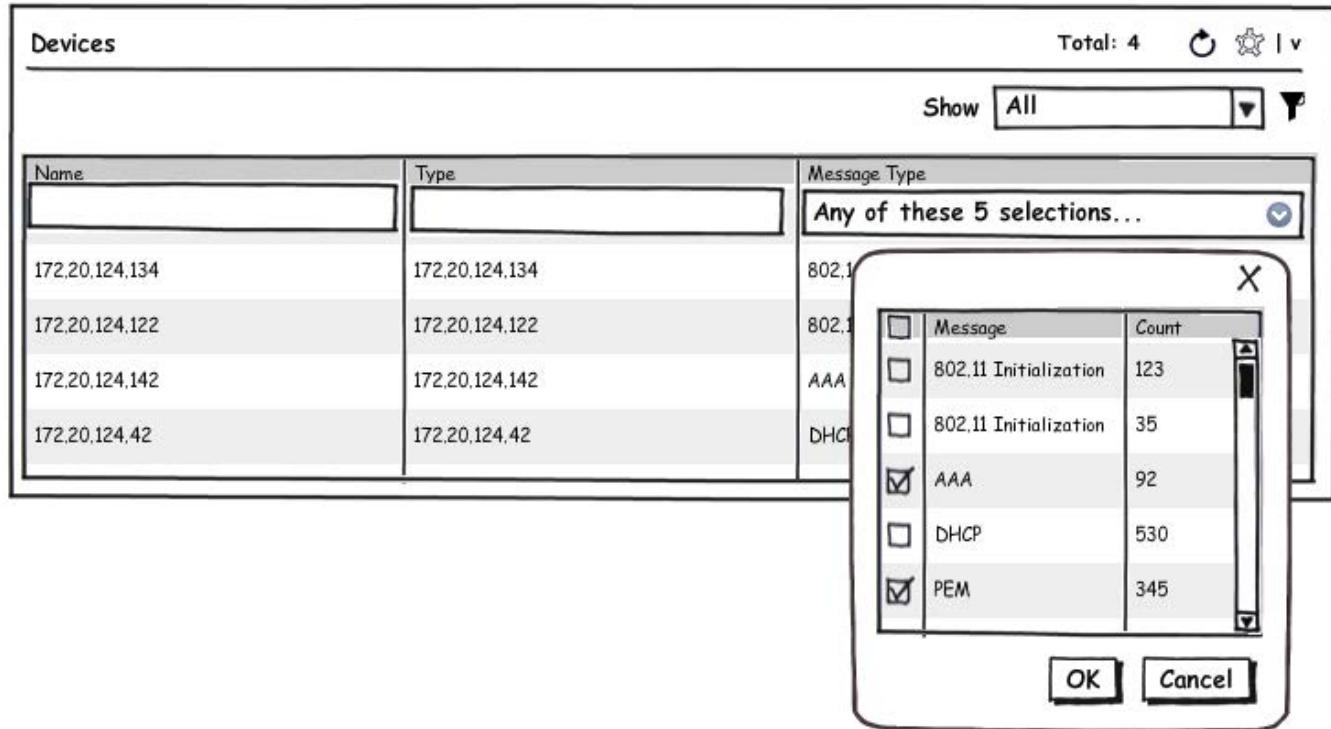


Figure 28. Quick Picker integrated in Quick Filter

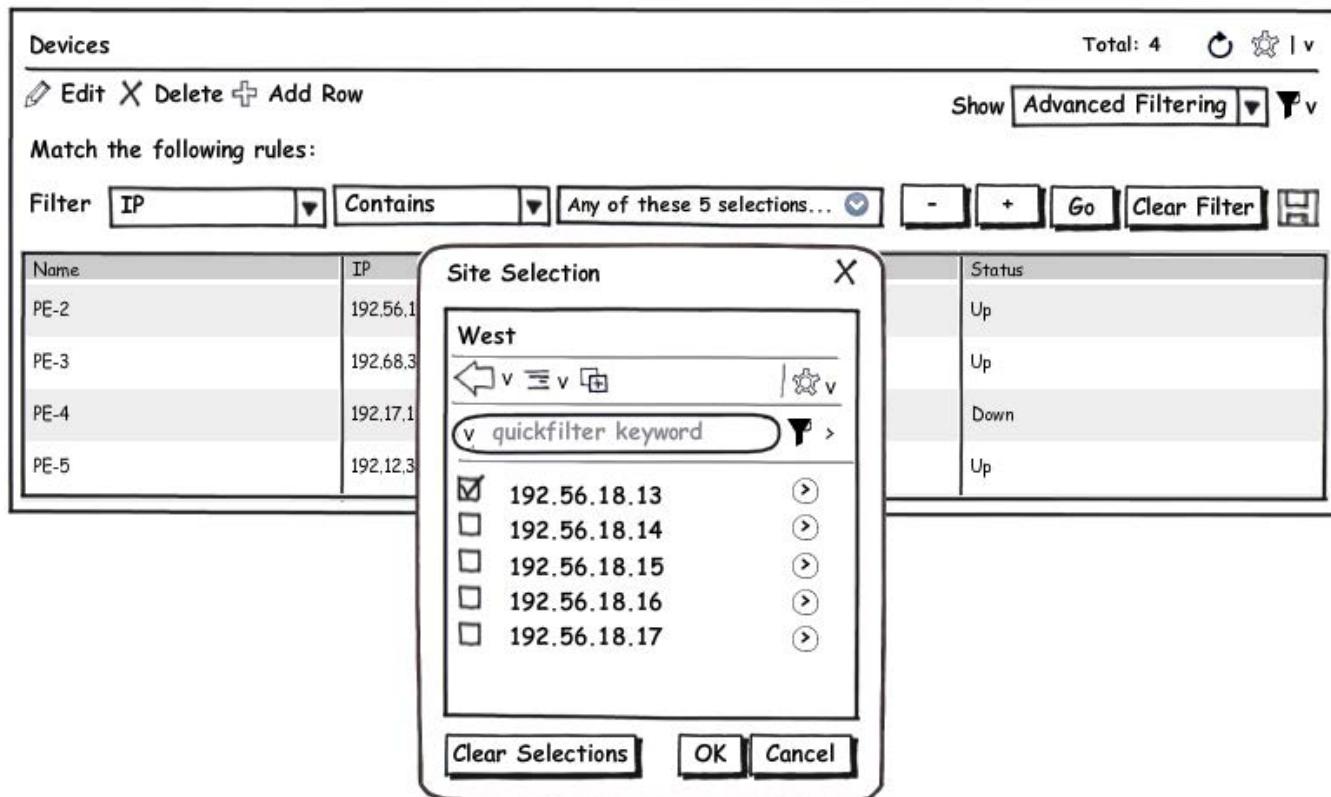


Figure 29. Quick Picker integrated in Advanced Filter

Token Field

Note! The token field integration with advanced and quick filters is to be considered for a future release and will not be implemented in the next upcoming release.

Token fields can also be used to define table advanced and quick filter criteria made up by multi selections by allowing users to type in multiple token fields' keywords. This component can appear in one of the following two flavors:

- Token Field Only: to allow a manual input of items well-known by the end user
- Token Field Combined with a Selector: when not all items are well-known by the end-user or a hierarchy is involved

Devices				Total: 4			
				Show	All		
Name	IP Address/Range	Prefix Length	Description				
	125.58.84.66 122.88.87.96						
P1	172.20.124.134	24	External IP address for personal work station				
P2	172.20.124.122	24					
P3	172.20.124.142	24					
P4	172.20.124.42	24					

Figure 30. Token Field integrated in Quick Filter

Devices				Total: 4			
				Show	Advanced Filtering		
Match the following rules:							
Filter	IP	Contains	125.58.84.66 122.88.87.96	-		Go	Clear Filter
Name	IP	Status					
PE-2	192.56.18.14	Up					
PE-3	192.68.3.19	Up					
PE-4	192.17.11.22	Down					
PE-5	192.12.33.55	Up					

Figure 31. Token Field integrated in Advanced Filter

Note! For visual specifications for quick picker and token field follow the specifications described in the Quick Picker (link) and Token Fields (link) specs.

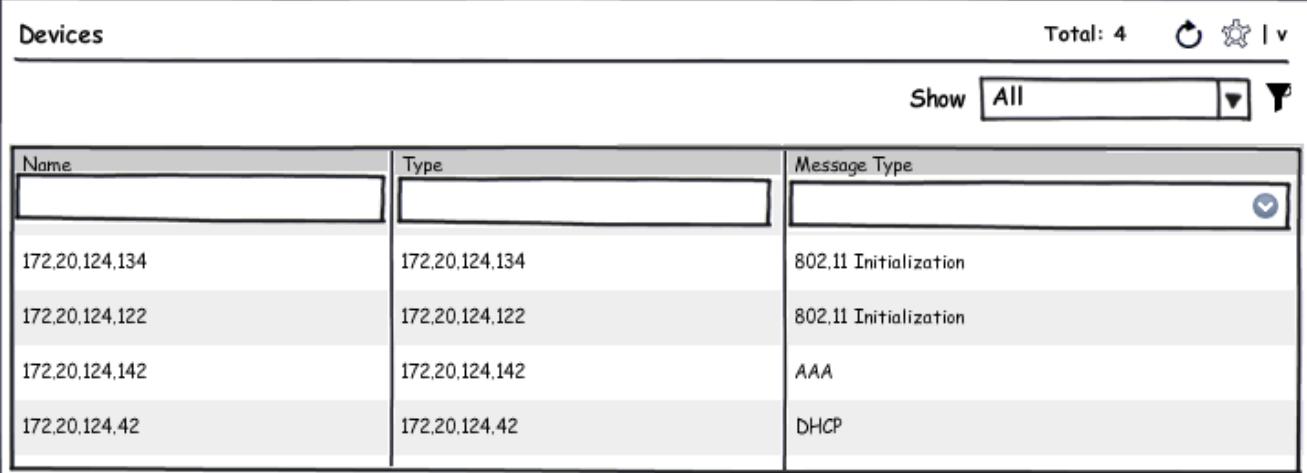
Quick Picker Interaction

Quick Filter

When in a quick filter mode a column may have a quick picker icon instead of the common quick filter input field.

Before a selection is made a non editable blank quick filter text box with only a quick picker icon in it is displayed above the column (see image below).

Clicking the quick picker icon will display a popover with a multi-selection component (e.g. selectable table, object selector, repeater or other). The user can then select multiple items, and click the 'OK' button to use these selected items to define the quick filter criteria for this column.



Name	Type	Message Type
172.20.124.134	172.20.124.134	802.11 Initialization
172.20.124.122	172.20.124.122	802.11 Initialization
172.20.124.142	172.20.124.142	AAA
172.20.124.42	172.20.124.42	DHCP

Figure 32. Before Selection is Made - a Blank Quick Filter Text Box is Displayed

Similar to the behavior described in the filtering table spec, once the criteria are set the filter is applied after a short while (250 ms).

The quick filter input field above the column would then display the number of selected items and an ellipsis (e.g. Any of these 5 selections). To view or further edit the list of selected objects the user needs to click the quick picker again and launch the multi-select component in the pop over.

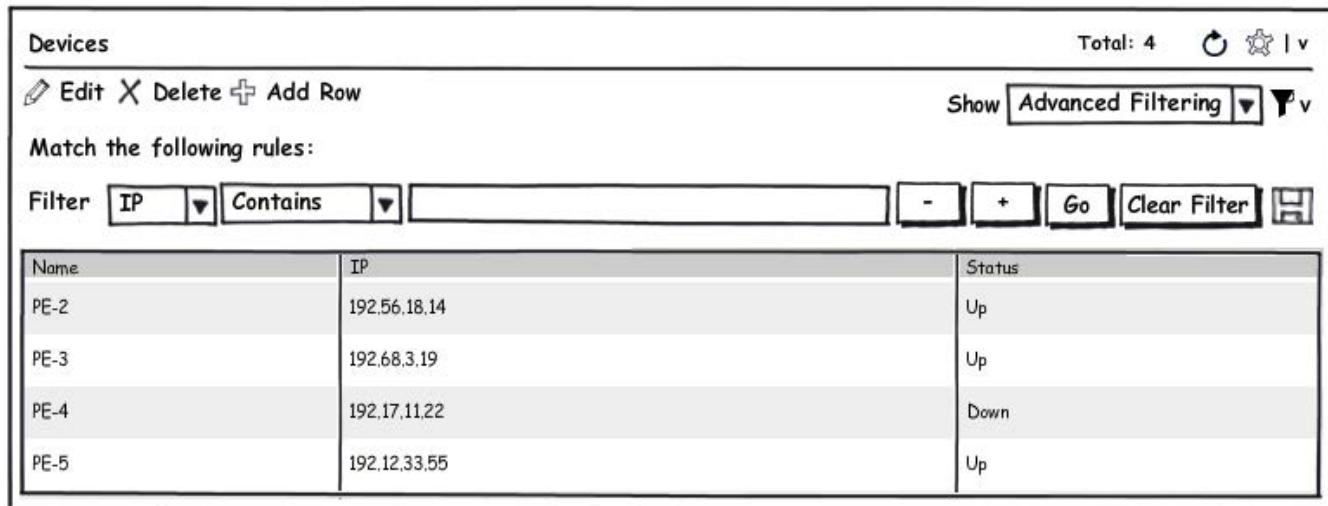
To clear the filter, the user needs to click the quick picker icon and launch the multi-select component in the popover and click the 'Clear' button. Clicking the 'OK' button clears the quick filter criteria and the table will update to reflect the change. Note! When launched the quick picker 'OK' button is disabled until a change was made, either by selecting or deselecting any item.

Unlike the common input field quick filter criteria, which is defined by a single 'contains' operator match, in the case of the multi-select multi-picker the criteria to filter by are a combination of the selected items differentiated by using an 'Or'. I.e. Filter table to show only data that contains 'selected item #1' or contains 'selected item #2' or etc.

Advanced Filter

When in an advanced filter mode a quick picker can be used instead of the common filter attribute input field (see 'Quick Picker Integrated in Advanced Filter' figure above).

Before a selection is made a non editable blank text box with only a quick picker icon in it is displayed (see image below).



The screenshot shows a 'Devices' section with a table of four entries:

Name	IP	Status
PE-2	192.56.18.14	Up
PE-3	192.68.3.19	Up
PE-4	192.17.11.22	Down
PE-5	192.12.33.55	Up

At the top, there are buttons for 'Edit', 'Delete', 'Add Row', 'Show', 'Advanced Filtering', and a refresh icon. Below the table is a 'Filter' section with dropdowns for 'IP' and 'Contains', and a text input field.

Figure 33. Before Selection is Made - a Blank Text Box is Displayed

Clicking the quick picker icon will display a popover with a multi-selection component (e.g. selectable table, object selector, repeater or other). The user can then select multiple items, and click the 'OK' button to use these selected items to define the filter attribute to set up the advanced filter criteria.

Similar to the behavior described in the advanced filter section of the filtering table spec, once the criteria are set and the 'Go' button is clicked the filter is applied.

The advanced filter attribute that is using a quick picker to multi select will display the number of selected items and an ellipsis (e.g. Any of these 5 selections...).

To view or further edit the list of selected objects the user needs to click the quick picker again and launch the multi-select component in the pop over.

To clear the filter, the user needs to click the advanced filter 'Clear Filter' button.

For additional specifications related to multi-select quick picker please see the [quick picker spec](#).

Token Field Interaction

Quick Filter

When in a quick filter mode a column may have an input field where users can manually type in multiple token field key words.

Similar to the behavior described in the filtering table spec, once the criteria are set the filter is applied after a short while (250 ms).

The token field can be combined with a quick picker multi selection component. By clicking the quick picker icon a selection component (object selector, table, etc.) embedded in a popover is displayed. The interaction behavior of the quick picker component follows the same flow as described in the quick picker section except for the display of the selected items that are displayed directly in the token field.

For a description of the token field component specification and interaction flow please see the token field page.

Advanced Filter

When in an advanced filter mode the filter attribute input field acts as a token field where users can manually type in multiple token field key words.

Same as with the integration of token field into the quick filter, the token field can be combined with a quick picker multi selection component in the advanced filter. By clicking the quick picker icon a selection component (object selector, table, etc.) embedded in a popover is displayed. The interaction behavior of the quick picker component follows the same flow as described in the quick picker section except for the display of the selected items that are displayed directly in the token field.

Similar to the behavior described in the advanced filter section of the filtering table spec, once the criteria are set and the 'Go' button is clicked the filter is applied.

To clear the filter, the user needs to click the advanced filter 'Clear Filter' button.

For a description of the token field component specification and interaction flow please see the token field page.

Quick Picker Usage Guidelines

Use quick picker when:

- The user can benefit from a visual display of available items to select from.
- The user needs a decision-support that allows him/her to make a selection. The user can see associated attributes prior to making a selection

Do not use a quick picker when:

- The items are well-known and short enough to be displayed in the existing or expanded text area. In that case use the token field.

Token Field Usage Guidelines

Use token field when:

- The items are well-known by the end user so that a direct manual input is faster and more efficient than using the quick picker multi selection approach.
- The items are short enough and real estate is sufficient to fit all of them in the existing or expanded text area.

Token fields could be used for table filtering in combination with a selector when:

- The items may not all be well-known by the end-user
- There is a hierarchy involved
- The items are short enough and real estate is sufficient to fit all of them in the existing or expanded text area. (text area should not be expanded beyond 2-3 rows in a quick filter)

Do not use a token field when:

- There is insufficient real-estate to display all the values in the existing or expanded text area.
- None of the items may be known ahead of time.
- When users need decision support information. In the quick picker pop-up selection method, the user can see associated attributes prior to making a selection.

Read - Only / RBAC

Use Cases

Preset Filters

User doesn't have permission to filter by some criteria

Filter criteria that a user does not have permission to use are hidden

Quick Filter

User doesn't have permission to view some columns in a quick filter table

Columns and filter columns that a user does not have permission to view are hidden

If a user has permission to view a table column in a quick filter table, the user has permission to filter on it.

There may be columns in the table that can't be filtered on per business logic or technical restrictions (e.g. notes fields) in these cases, no filter field should be displayed in the quick filter row.

Advanced Filter

User doesn't have permission to select some criteria in a filtered table

Criteria and operators that a user does not have permission to view are hidden

If one or more filter criteria are required for a given table, the criteria parameters should be read-only and the minus sign should be removed.

TABLE INLINE WIDGETS

Description

This document provides the visual and interaction behavior specifications as well as some usage guidelines for each editable table inline widget. Provided is a list of possible editable table inline widgets:

1. Action/Command Buttons
2. Combo Box
3. Dropdown List
4. Date Picker
5. Date Field (and other various input fields)
6. Check Box
7. Radio Button
8. Quick Picker

Usage Guidelines

In order to ensure an appealing display and usage consistency of the editable table inline widgets across various application designs and since the table row height is limited to 22 px, only the set of editable inline widget listed in this spec are to be used as inline widgets.

Do not use...

- Input widgets that are higher than 22 px (e.g. text area, list box)
- Any content that in edit mode or a read only mode may cause an inconsistent alignment of the table cells.
- In case you need to use widgets that are higher than the 22 px height table row, consider using the expandable inlay panel in editable table. In case you need to use widgets that are higher than the 22 px height table row, consider using the expandable inlay panel in [editable table](#).

Keyboard and Accessibility

Ensure that users can navigate to and modify the checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

Note! In order for us to ensure an appealing display and usage consistency of the editable table inline widgets across various application designs and since the table row height is limited to 22 px, only the set of editable inline widget listed in this spec are to be used as inline widgets.

1. Action/Command Buttons

Table Title						
	Name	IP Address	Type	Scheme	Status	
1	R7507-3	192.168.19.17	No Change	No Change	Off	
2	R10008-1	192.168.23.56	No Change	No Change	Off	
3	R10008-2	192.168.10.32	No Change	No Change	On	1px
4	R12008-1	192.168.78.14	Save Cancel	No Change	Off	1px
5	R12016-3	192.168.57.64	No Change	No Change	Off	

Figure 1. Visual Specification for Inline Action/Command Buttons

2. Combo Box

Table Title						
	Name	IP Address	Type	Scheme	Status	
1	R7507-3	192.168.19.17	No Change	No Change	Off	
2	R10008-1	192.168.23.56	No Change	No Change	Off	
3	R10008-2	192.168.10.32	No Change	N	On	
4	R12008-1	192.168.78.14	Save Cancel	No Changes	Off	
5	R12016-3	192.168.57.64	No Change	Network - CE	Off	
				Network - MPLS		

Dropdown Combo box frame aligned
Left with Table cell left border

Figure 2. Visual Specification for Inline Combo Box

3. Dropdown List

Table Title						
	Name	IP Address	Type	Scheme	Status	
1	R7507-3	192.168.19.17	No Change	No Change	Off	
2	R10008-1	192.168.23.56	No Change	No Change	Off	
3	R10008-2	192.168.10.32	No Change	No Change	On	
4	R12008-1	192.168.78.14	Save Cancel	No Changes	Off	
5	R12016-3	192.168.57.64	No Change	Network - CE	Off	
				Network - MPLS		

Dropdown List frame aligned
Left with Table cell left border

Figure 3. Visual Specification for Inline Dropdown List

4. Date Picker

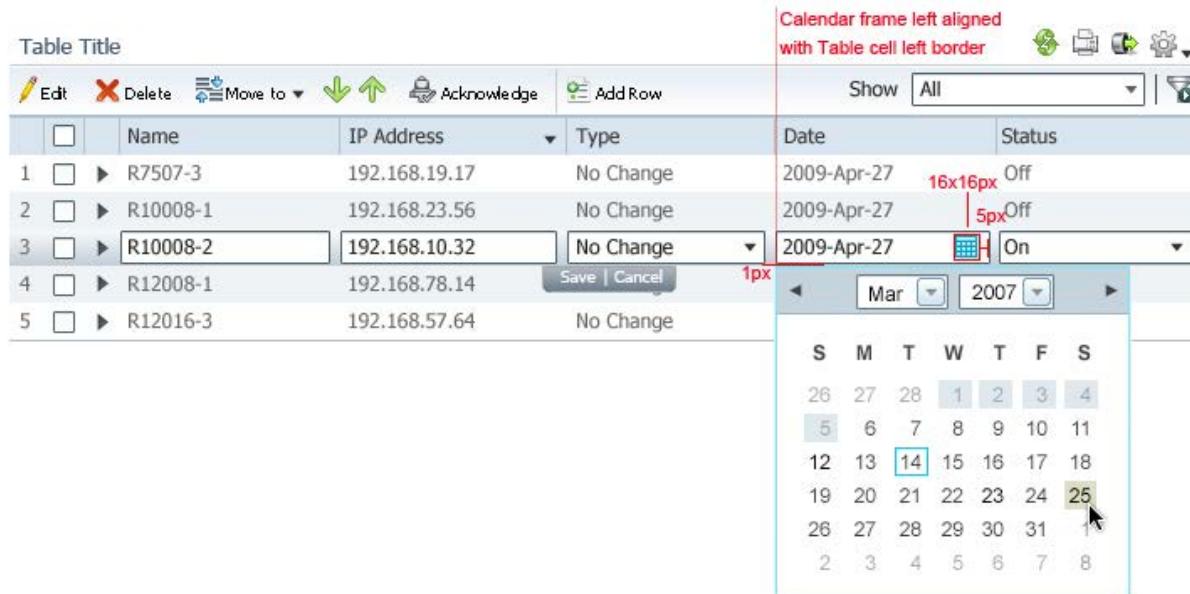


Figure 4. Visual Specification for Inline Date Picker

5. Date Field (and other Variations Input Fields)

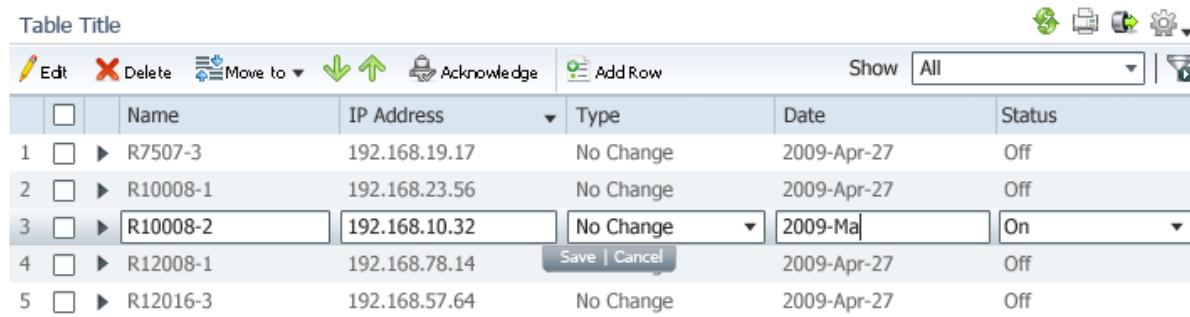


Figure 5. Visual Specification for Inline Date Fields

6. Check Box

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On 4px
4	<input type="checkbox"/>	R12008-1	192.168.78.14	Save Cancel	No Change	Off 5px
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off

Figure 6. Visual Specification for Inline Check Box

7. Radio Button

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On 4px
4	<input type="checkbox"/>	R12008-1	192.168.78.14	Save Cancel	No Change	Off 5px
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off 8px

Figure 7. Visual Specification for Object Selector Launched from a Quick Picker

8. Quick Picker

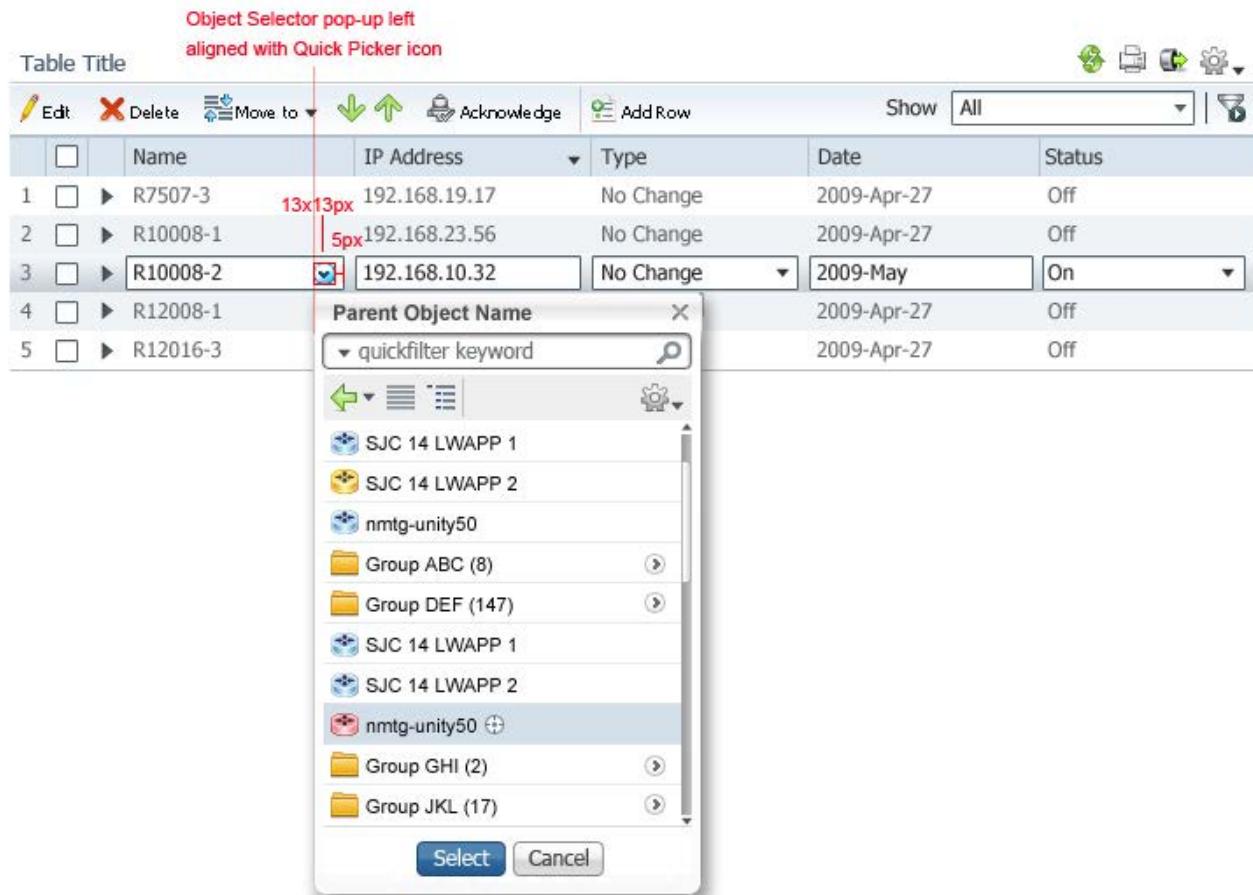


Figure 8. Visual Specification for Object Selector Launched from a Quick Picker

Interaction Behavior

While most of the interaction behavior of the editable table inline widgets is quite the same as the one described in the base widgets they are derived from, there could be some slight changes, a result of the inline nature of these widgets. This section will provide a link to the interaction behavior of the base component while highlighting a specific difference if it exists for each of the widgets.

Note! In case of input widgets within table cell no format hint will be provided. Format hints will only be displayed for the core non-editable table components as described in the Data Format spec.

Action/Command Button

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On
4	<input type="checkbox"/>	R12008-1	192.168.78.14	<input type="button" value="Save Cancel"/>	No Change	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off

Figure 9. Inline Action/Command Buttons

Interaction behavior for this widget is the same as described in the [Command/Action Buttons specifications](#).

Combo Box

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	N	On
4	<input type="checkbox"/>	R12008-1	192.168.78.14	<input type="button" value="Save Cancel"/>	No Changes	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	Network - CE	Off
					Network - MPLS	

Figure 10. Inline Combo Box

Interaction behavior for this widget is the same as described in the [Combobox specification](#).

Dropdown List

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On
4	<input type="checkbox"/>	R12008-1	192.168.78.14	<input type="button" value="Save Cancel"/>	No Changes	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	Network - CE	Off
					Network - MPLS	

Figure 11. Inline Dropdown List

Interaction behavior for this widget is the same as described in the [Dropdown List specifications](#).

Date Picker

Table Title

	Name	IP Address	Type	Date	Status
1	R7507-3	192.168.19.17	No Change	2009-Apr-27	Off
2	R10008-1	192.168.23.56	No Change	2009-Apr-27	Off
3	R10008-2	192.168.10.32	No Change	2009-Apr-27	On
4	R12008-1	192.168.78.14	Save Cancel		
5	R12016-3	192.168.57.64	No Change		

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S	M	T	W	T	F	S
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	
2	3	4	5	6	7	8

Figure 12. Inline Date Picker

Interaction behavior for this widget is the same as described in the [Data Format specifications](#).

Date Field (and Other Various Input Fields)

Table Title

	Name	IP Address	Type	Date	Status
1	R7507-3	192.168.19.17	No Change	2009-Apr-27	Off
2	R10008-1	192.168.23.56	No Change	2009-Apr-27	Off
3	R10008-2	192.168.10.32	No Change	2009-Ma	On
4	R12008-1	192.168.78.14	No Change	2009-Apr-27	Off
5	R12016-3	192.168.57.64	No Change	2009-Apr-27	Off

Figure 13. Inline Date Field

Interaction behavior for this widget is the same as described in the [Data Format specifications](#).

Checkbox

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	<input checked="" type="checkbox"/>
4	<input type="checkbox"/>	R12008-1	192.168.78.14	Save Cancel	No Change	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off

Figure 14. Inline Checkbox

Interaction behavior for this widget is the same as described in the [Checkbox Specifications](#)

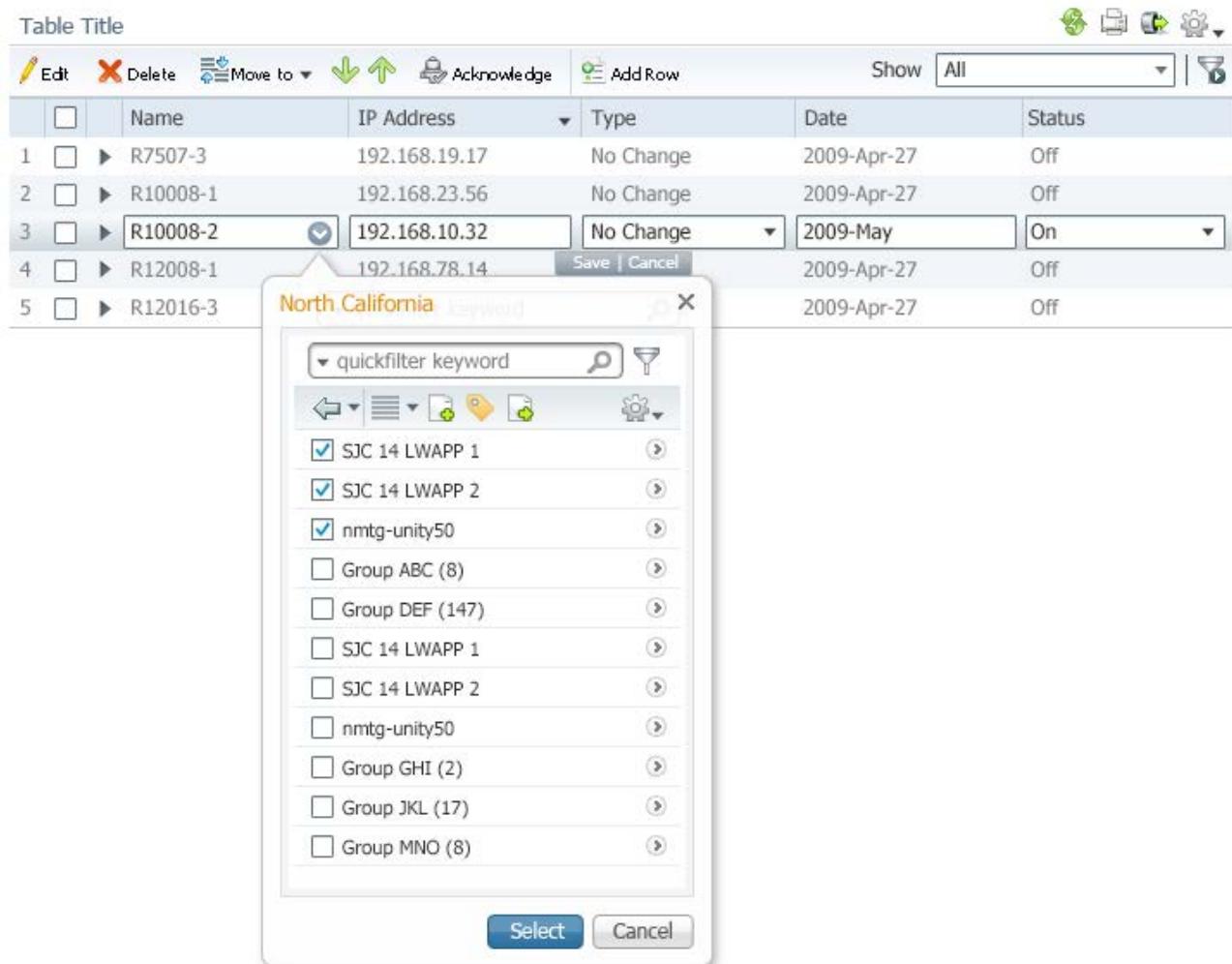
Radio Button

Table Title						
	<input type="checkbox"/>	Name	IP Address	Type	Scheme	Status
1	<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
2	<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
3	<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	<input checked="" type="radio"/> On <input type="radio"/> Off
4	<input type="checkbox"/>	R12008-1	192.168.78.14	Save Cancel	No Change	Off
5	<input type="checkbox"/>	R12016-3	192.168.57.64	No Change	No Change	Off

Figure 15. Inline Radio Button

Interaction behavior for this widget is the same as described in the [Radio Button Specifications](#).

Quick Picker



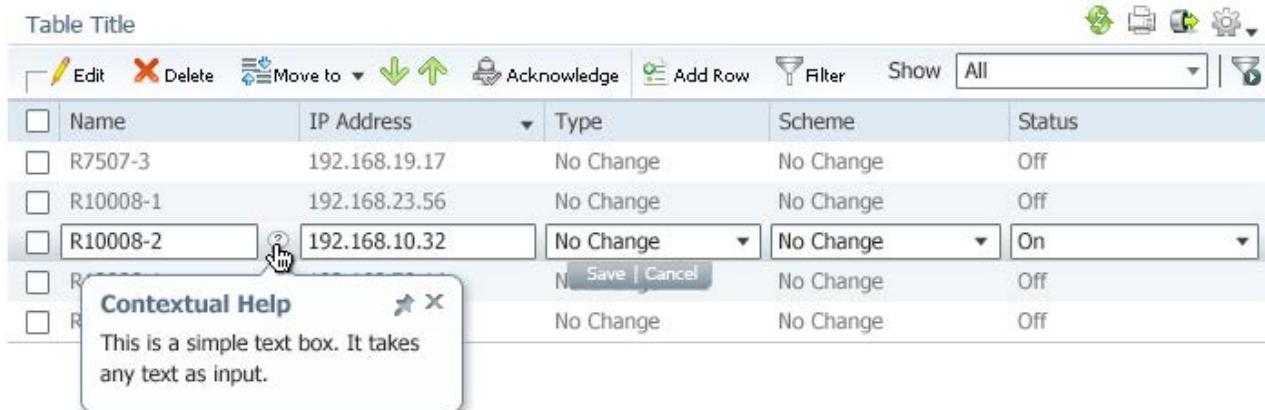
The screenshot shows a user interface for managing network objects. At the top, there is a toolbar with icons for Edit, Delete, Move to, Acknowledge, Add Row, Show (set to All), and other system controls. Below the toolbar is a table with columns: Name, IP Address, Type, Date, and Status. The table contains five rows of data. Row 3 is currently selected, showing its details in a modal dialog. The dialog has a title 'North California' and a search bar labeled 'quickfilter keyword'. It lists several items with checkboxes, some of which are checked (e.g., SJC 14 LWAPP 1, SJC 14 LWAPP 2, nmtg-unity50). At the bottom of the dialog are 'Select' and 'Cancel' buttons.

	Name	IP Address	Type	Date	Status
1	R7507-3	192.168.19.17	No Change	2009-Apr-27	Off
2	R10008-1	192.168.23.56	No Change	2009-Apr-27	Off
3	R10008-2	192.168.10.32	No Change	2009-May	On
4	R12008-1	192.168.78.14		2009-Apr-27	Off
5	R12016-3			2009-Apr-27	Off

Figure 16. Object Selector Launched from Quick Picker

Interaction behavior for this widget is the same as described in the [Object Selector](#) Quick Picker section.

Popover Hover Hints



The screenshot shows a table titled "Table Title" with various columns and rows. A specific cell in the second column is selected and highlighted with a red border. A small blue circular icon with a question mark is positioned next to this cell. A tooltip-like box appears over the icon, containing the text "Contextual Help" and "This is a simple text box. It takes any text as input." Below the table, there is a "Save" and "Cancel" button.

Table Title					
	Name	IP Address	Type	Scheme	Status
<input type="checkbox"/>	R7507-3	192.168.19.17	No Change	No Change	Off
<input type="checkbox"/>	R10008-1	192.168.23.56	No Change	No Change	Off
<input type="checkbox"/>	R10008-2	192.168.10.32	No Change	No Change	On
<input type="checkbox"/>	R	This is a simple text box. It takes any text as input.	No Change	No Change	Off
<input type="checkbox"/>	R		No Change	No Change	Off

Figure 17. When the table is in edit mode, a help appears besides table cells. Hover/ Click on the help icon launches popover hint

Interaction behavior for this widget is the same as described in the Popover usage guideline under [Popover hover hint](#) section.

Resizing Columns with Inline Editing Widgets

Application developers should consider providing a sufficient default column widths to ensure that inline editing widgets are properly displayed.

Inline editing widgets minimum width requirements and resizing behavior varies based on their type and native dimensions. While some inline editing widgets are defined with a fixed width size that will not dynamically resize to accommodate to a given column width, others are flexible enough to stretch or shrink their size to fit in.

However, there is no minimum width defined for resizing a table columns. If users choose to resize a column below the minimum width required for a specific inline editing widget, undesired visual effects may occur. The only workaround for this behavior is for users to resize these columns back to a normal width that will allow a proper display of that inline editing widget. Under these circumstances there could be cases where the visual guideline of 6 px table cell padding on both left and right sides of an inline widget will not be kept for inline editing widgets with fixed size.

TABLE VIEWING/SCROLLING

Description

Scrolling allows users to navigate through table data when the table content is larger than the table default size. Other elements, such as cell clipping, are used to make the table data more readable.

Usage Guidelines

Use these components when...

Table data is complex and/or cannot be reasonably presented in a single, static view.

Do not use these components when...

Table data is simple, and can be presented in a single, static view.

Visual Specifications

For the latest Visual specifications please check the [table basic specifications page](#).

Interaction Behavior

The following elements aid in viewing a table:

- Scrolling
- Fixed rows / columns
- Cell clipping
- Cell wrapping

Scrolling

All table information, including titles, column headers and buttons, should fit in one screen of the expected default size. If the table data does not fit within the available space, the table should scroll. Scroll bars should only be displayed when needed. For example, a scroll bar may come and go dynamically as the user resizes the window.

Vertical Scrolling

When present, the vertical scroll bars should span the table rows only and should not include column headers and the contextual toolbar, as shown in Figure 1.

Table Title

Column 1	Column 2	Column 3	Column headers don't scroll
Content Row 1	Content Row 1	Content Row 1	
Content Row 2	Content Row 2	Content Row 2	
Content Row 3	Content Row 3	Content Row 3	
Content Row 4	Content Row 4	Content Row 4	
Content Row 5	Content Row 5	Content Row 5	
Content Row 6	Content Row 6	Content Row 6	
Content Row 7	Content Row 7	Content Row 7	

Figure 1. Table with Vertical Scroll Bar

Horizontal Scrolling

Avoid horizontal scrolling in any way you can. Users find it hard to use horizontal scrolling, especially when using it along with vertical scrolling in trying to control two dimensions simultaneously. However, when present, the horizontal scroll bars should span the table columns only, and not include the row headers, if present.

When a table scrolls horizontally, the column headers move with the column data, but the row header, if present, does not scroll.

Table Title

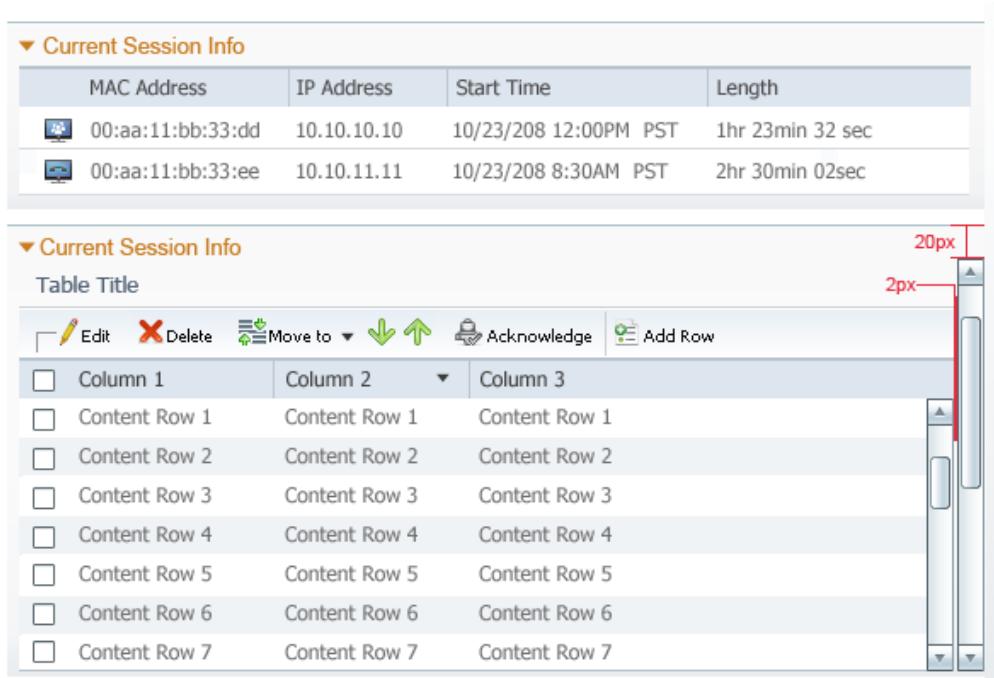
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Content Row 1					
Content Row 2					
Content Row 3					
Content Row 4					
Content Row 5					
Content Row 6					
Content Row 7					

Figure 2. Table with Horizontal Scroll bar

Double Scroll Bars

Double scroll bars should be avoided.

A table may have both vertical and horizontal scroll bars. However, "double scroll bars" -- scroll bars in the same orientation on both table and page -- should always be avoided. An example of double vertical scroll bars is shown in Figure 3.



The figure consists of two side-by-side screenshots of a table component. Both screenshots show a header row with three columns labeled 'Column 1', 'Column 2', and 'Column 3'. Below the header are several data rows, each containing three cells corresponding to the header columns. In the bottom screenshot, the third column is significantly wider than the others, causing the content to overflow. Red arrows point from the text labels '20px' and '2px' to the vertical scroll bars on the right side of both tables, highlighting the visual cue for horizontal scrolling.

Figure 3. Avoid Double Scroll Bars.

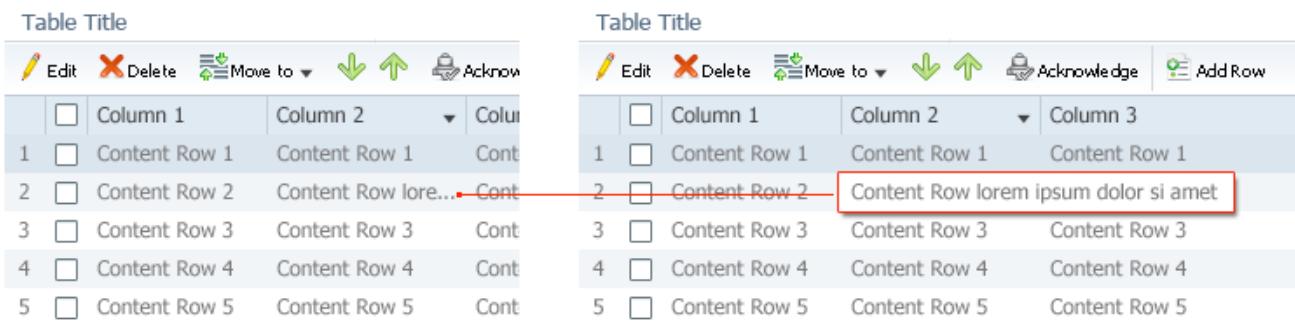
When Content Does Not Fit

Ideally the widths of each column in a table should be pre-defined to accommodate the estimated width of the content. If the cell contents do not match the cell width, clipping or wrapping can be used. Within an application, or at least within a single table, overflow treatment should be consistent. In other words, if you use clipping for one cell, don't use wrapping for another cell.

Clipping

With clipping, cell contents are truncated and ellipses are added to indicate that clipping has occurred. When the user hovers over the ellipsis, the full text should be displayed as a tooltip.

Clipping should occur at the last letter in the cell that is entirely visible. Keep in mind that the letter needs to be visible with ellipses after it. Additionally, if a column is resizable, the clipping needs to be recalculated on column resize. As such, calculating the point of clipping will usually occur on the client.



The figure shows two screenshots of a table component. The left screenshot displays a table with five rows. The right screenshot shows the same table with the second row expanded, revealing more content. A red box highlights the content of the third cell in the second row, which contains the truncated text 'Content Row 2 Content Row lorem...'. A red arrow points to the ellipsis '...', indicating where the content has been clipped. This visual cue informs the user that they can hover over the ellipsis to see the full text as a tooltip.

Figure 4. Clipped Cell Contents.

Cell Wrapping

With cell wrapping, cell contents wrap to multiple lines. Cell wrapping is suitable if the cell data will not take more than two or three lines. The row's height will grow as the number of lines increases.

Table Title			
	<input type="checkbox"/>	Column 1	Column 2
1	<input type="checkbox"/>	Content Row 1	Content Row lorem ipsum dolor si amit
2	<input type="checkbox"/>	Content Row 2	Content Row 2
3	<input type="checkbox"/>	Content Row 3	Content Row 3
4	<input type="checkbox"/>	Content Row 4	Content Row 4

Figure 5. Wrapped Cell Contents.

Resizing Column Width

Regardless of the method used for handling cell overflow, using resizable columns can help users customize their view of table data.

TREE TABLE

Description

Tree table support the display of hierarchical information with corresponding columns.

Table Title					  	 
Name	Destination	Service	Action	Time		
	ftp-server					
▼ inside (outgoing)						
boston.net	ftp-server	ftp	permit	any		
new-york.net	ftp-server	http	permit	any		
▼ silicon-valley.net	web-server	http	permit	any		
cupertino.net	ftp-server	ftp	permit	any		
san-jose.net	ftp-server	http	permit	any		
▼ outside (incoming)						
san-jose.net	ftp-server	http	permit	any		
seattle.net	ftp-server	http	permit	any		

Figure A. Tree Table.

Usage Guidelines

Tree table is used to present hierarchical information with additional columns.

Visual Specifications

6 px

Table Title					
Name	Destination	Service	Action	Time	
▶ inside (outgoing)					
boston.net	ftp-server	ftp	permit	any	
new-york.net	ftp-server	http	permit	any	
▼ silicon-valley.net	web-server	http	permit	any	
cupertino.net	ftp-server	ftp	permit	any	
san-jose.net	ftp-server	http	permit	any	
▼ outside (incoming)					
san-jose.net	ftp-server	http	permit	any	
seattle.net	ftp-server	http	permit	any	

Table Bottom Line Height: 1px, #B2C1CD

Figure 1. Tree Table Visual Specification

Table alternating colors for even/odd rows are independent of the hierarchical relationships.

Table Title

Name	Destination	Service	Action	Time
▶ inside (outgoing)				
▶ outside (incoming)				
▶ Lorem Ipsum				
▶ Lorem Ipsum				
▶ Lorem Ipsum				
▶ Lorem Ipsum				

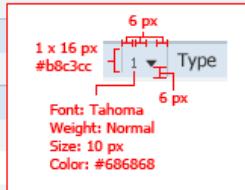
Figure 2. Tree Table Alternate Colors

Table Title								
	Name	Type	IP Address	Group Members	Latest Archive	Startup Running Mismatch	Show	All
▼	12345.cisco.com	Cisco Catalyst 3	10.75.94.15	Switches and Routers	2011-06-10 17:33	Yes		
	Date (UTC)	Change By	Label	Description				
▼	2011-06-10 17:33	Root						
	File Type	Date (UTC)						
	Running Config	2011-06-10-17:33						
	Vendor							
	Cisco							
▶	Startup Config	2011-06-10-17:33						
▶	2011-06-10 17:03	Root						

The expand/collapse icon is aligned with the parent selection control horizontal center

Figure 3. Selection Controls Placement in Heterogeneous Tree Table

Table Title								
	Name	Type	IP Address	Group Members	Latest Archive	Startup Running Mismatch	Show	All
▼	12345.cisco.com	Cisco Catalyst 3	10.75.94.15	Switches and Routers	2011-06-10 17:33	Yes		
	Date (UTC)	Change By	Label	Description				
▼	2011-06-10 17:33	Root						
	File Type	Date (UTC)						
	Running Config	2011-06-10-17:33						
	Vendor							
	Cisco							
▶	Startup Config	2011-06-10-17:33						
▶	2011-06-10 17:03	Root						



1 x 16 px
#b8c3cc
16 px
16 px
Font: Tahoma
Weight: Normal
Size: 10 px
Color: #686868

Figure 4. Multi-Column Sorting: Column Sort Button Visual Specifications

Color Specification

Element	Style	Color
Bottom Line on Tree Tables	1px solid #B2C1CD	
Odd Rows		#FFFFFF
Even Rows		#EFF3F6
Hover Rows		#DFE5EB
Table 1. Specifications for Tree Table		

Interaction Behavior

Tree tables are a combination of the tree component which supports the display of hierarchical information and the basic table component use of columns and various table features as described in the table specs.

Note! For the first release (1.7 release) of the tree table, not all of the features supported in basic table, editable table, filtering table and any other table specs may be supported.

Interaction Flow

1. Upon a display of tree table the table is loaded with a default column sorted in an ascending/descending order. The sort is completed within each hierarchical level, not mixing parents and children.
2. The first hierarchy level is initially displayed expanded unless there is a backend performance constraint to display the first level data. In this case it is preferable to display the initial records set in a collapsed mode.
3. The user can expand/collapse any level by clicking the expand/collapse arrow (twistee) icon to the left of each table row.
4. Upon expanding of a tree level, a progress indicator should be displayed if the delay time before the table rows is populated is greater than 3 seconds as described in the [basic table](#) progress indicator specifications.
5. Application developers should provide scrolling, sorting, selection, editing, and filtering as appropriate for their application.

Sorting in Tree Tables

1. When initially displayed, it usually makes most sense for a tree table to be sorted on the primary column in an ascending direction. However, this is an application design decision to choose the most appropriate default sorting for the application use case. Sorting is applied within each hierarchical level, not mixing parents and children.
2. When one or more of the parent nodes have many children, it is often useful to enable the user to sort on non-primary columns. This allows the user to quickly find a section of nodes within that parent. When the user sorts on a non-primary column, the hierarchy in the primary column is not affected. For example, sorting on the Service column in our example, would order the table.

Multi - Column Sorting in Tree Tables

Multi - Column Sort Dialog

1. Tree table supports multi-column sorting across different hierarchy levels so that users can sort the table by multiple specified columns and order. I.e. First sort by level #1 column #3, then sort by level #2 column #2,... etc.
2. To launch multi-column sorting the user clicks the multi-sort icon in the table contextual toolbar.
3. A dialog is displayed to allow him to specify the column to sort by and the sorting order (see illustration #5).
4. The dialog provides a cascading dropdown list for each column selection to represent the tree table hierarchy (see illustration #6).
5. Once a column is selected the following two single select radio buttons are enabled where the user can specify the sorting orientation. Ascending or descending. By default the first option, ascending, is selected.
6. Clicking the 'Apply' button closes the dialog and re-order the table records according to the multi-column sort order specified.
7. The order count, place in the stack, for each sorted column, is indicated by a number displayed on the right hand side of the column header.
8. The order count number is referencing the column sort order count in the hierarchy level it belongs to and not across multiple levels. I.e. When specifying multi-column sorting across different hierarchies the order count starts from 1 for each hierarchy level regardless of how many columns were already specified in parent or sibling levels.
As an example: Level 1 Column 2 count is 1, then Level 1 Column 5 count is 2, and Level 2 Column 3 count is 1.

9. Clicking the 'Clear All' button will rest previous input by clearing all column selection fields and disable the sort orientation single select buttons.
10. Clicking the 'Cancel' button cancels the specified input and closes the dialog leaving the table sort unchanged.

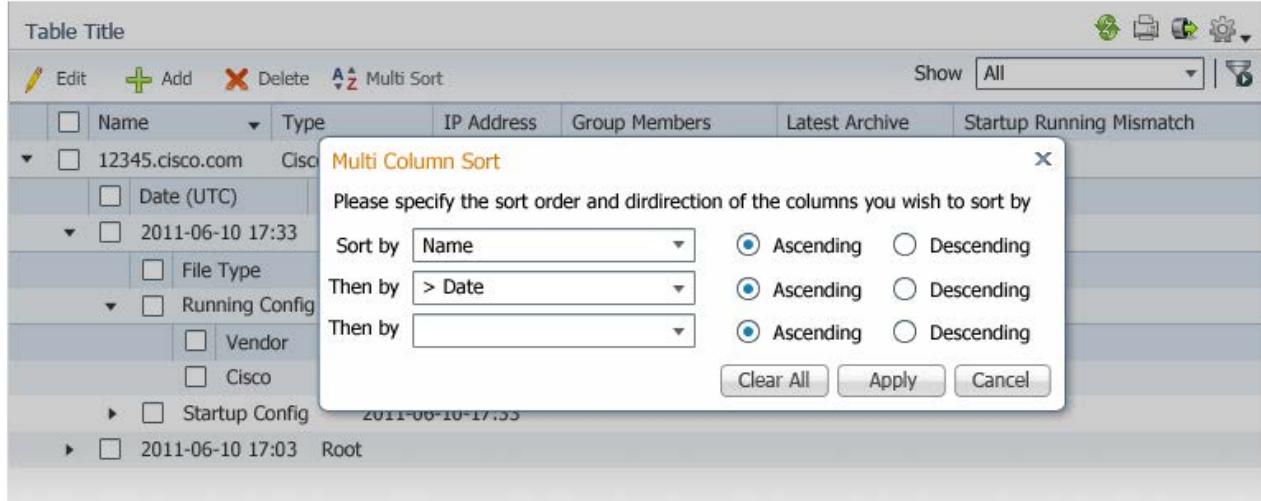


Figure 5. Tree Table Multi-Column Sort Dialog

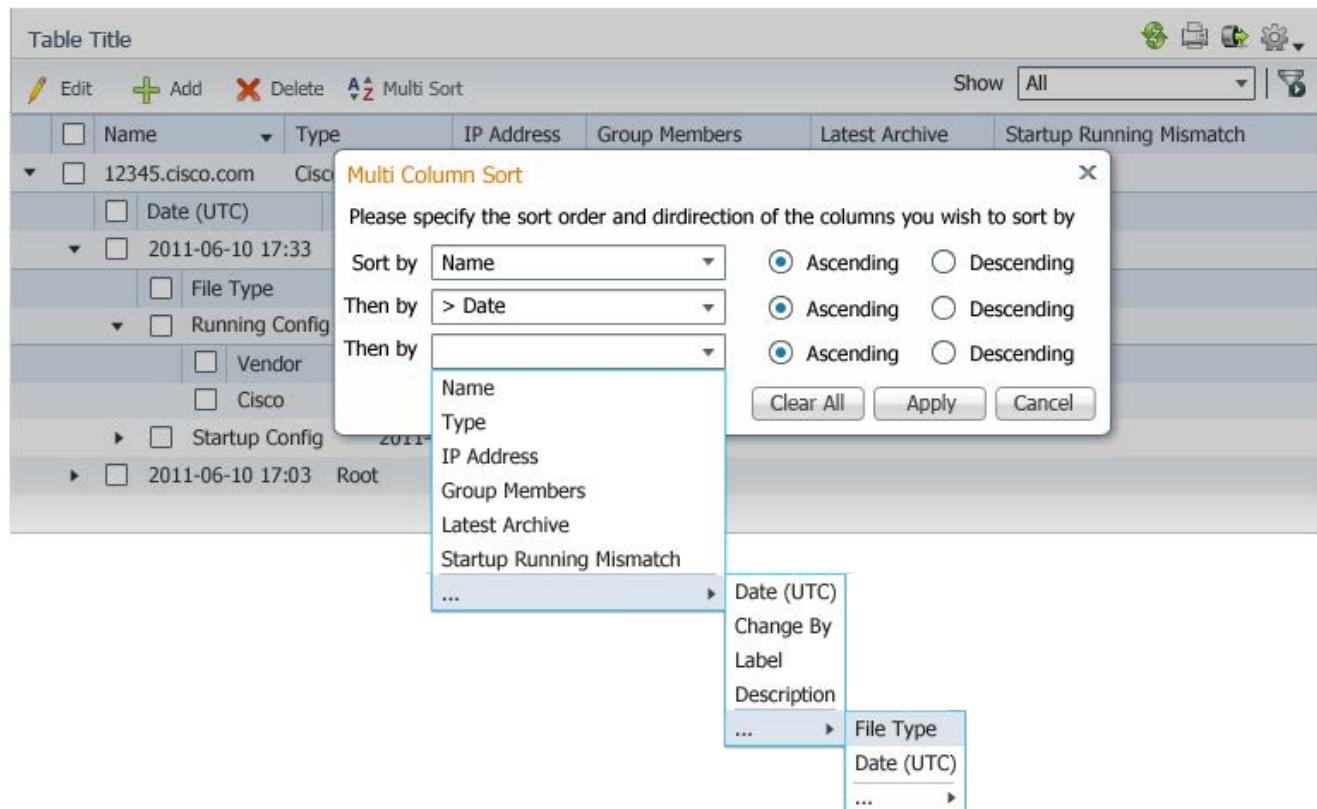


Figure 6. Tree Table Multi-Column Sorting Dialog Cascading Dropdown List

Multi - Column Sort Direct Interaction

1. Tree table also provides an alternative way to specify the multi-column sort by allowing direct interaction with the column sort button.
2. A small divider splits the column header into two:
 - Column Header Label – the left hand side of the column header
 - Column Sort Button - the right hand side of the column header

See Figure #7

3. The column sort button is comprised of a number displaying the column sort order count, and a sort arrow icon to change the sort orientation of the column (ascending or descending).
4. Same as a regular single column sort action would work, clicking the column header label sorts the table by this one column and the sort order count number is changed to 1.
5. Clicking the column sort button allows the user to sort the table by this column first or add an additional column to a multi-column sort stack in case the table was already sorted by another column. In this case the sort order count will change to 2. And again, clicking another column sort button will add another column to the sort stack and change the sort order count of this newly added column to 3 and so on.
6. In order to reset the multi-column sort and its order count the user needs to click any column header label. All columns sort indications and their order counts will be cleared and the column which label was clicked becomes sorted and its order is set back to 1.



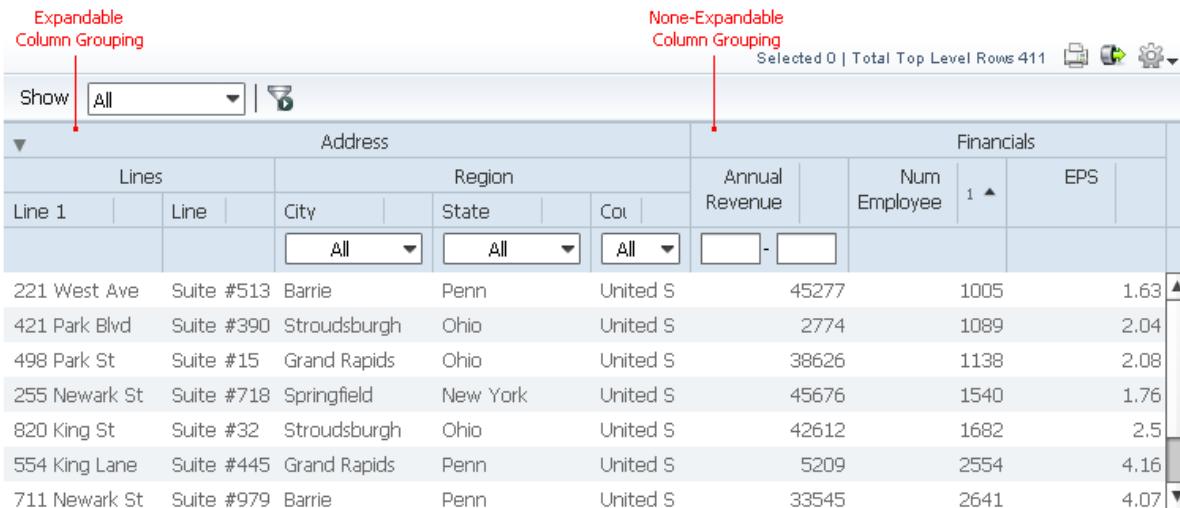
The diagram shows a screenshot of a tree table interface. At the top, there's a toolbar with 'Edit', 'Add', and 'Delete' buttons, followed by a 'Show' dropdown set to 'All' and a search icon. Below the toolbar is a header row with columns for Name, Type, IP Address, Group Members, Latest Archive, Startup, Running, and Mismatch. The 'Name' column is highlighted with a red background. The 'Type' column contains 'Cisco Catalyst 3'. The 'IP Address' column contains '10.75.94.15'. The 'Group Members' column contains 'Switches and Routers'. The 'Latest Archive' column contains '2011-06-10 17:33'. The 'Startup' column contains 'Yes'. The 'Running' column contains '2011-06-10 17:33'. The 'Mismatch' column contains 'Root'. Below the header is a detailed view of the 'Running' configuration, showing 'File Type' (Cisco Catalyst 3), 'Change By' (Root), 'Label' (1), and 'Description'. This view is expandable, showing '2011-06-10 17:33 Root' and further details like 'File Type' (Cisco Catalyst 3) and 'Change By' (Root). The bottom of the table shows a summary row with 'Startup Config' (2011-06-10 17:33) and 'Root'.

Figure 7. Tree Table Multi-Column Sorting: Column Sort Button

Column Grouping

Tree table supports column grouping. There are two flavors of column grouping. Column grouping with and without an expand/collapse twistee. Clicking the expand/collapse twistee remove/display additional columns under the parent expanded column.

Note! Sorting and multi-column sorting is only enabled for the child columns.

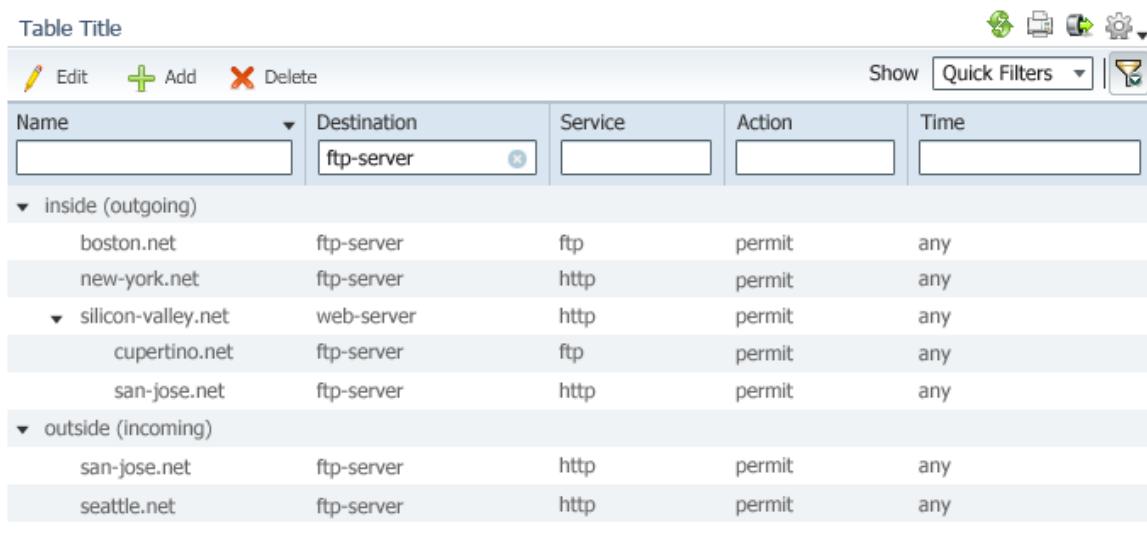


The screenshot shows a tree table with two main sections: 'Expandable Column Grouping' and 'None-Expandable Column Grouping'. The 'Address' section is expandable, indicated by a downward arrow icon. The 'Financials' section is not expandable. Both sections have their own filter dropdowns. The table has columns for Lines, Address, Region, Annual Revenue, Num Employee, and EPS. Data rows include various addresses and their corresponding financial metrics.

Figure 8. Tree Table Column Grouping

Filtering in Tree Tables

1. The tree table filtering should support quick filter and pre-defined filters as described in the [table filtering spec](#).
 2. When the user types into the column filter input field the table is filtered down to show only records that are relevant to the applied filter, yet the hierarchical layout of the tree table persist. I.e. if a primary column (parent) filter was used only relevant table rows should be displayed along with their child nodes. If a secondary column (child node) is filtered only the table rows relevant for this filter should display along with their parents. Put simply, the filter excludes the table data that is not relevant but persist the hierarchical data structure for the data that is displayed.
- Note!** For this release the Advanced Filtering is not supported and should be omitted from the filter dropdown list on the table toolbar



The screenshot shows a tree table with a header row containing columns: Name, Destination, Service, Action, and Time. Below the header, there are sections for 'inside (outgoing)' and 'outside (incoming)'. Under 'inside (outgoing)', entries include 'boston.net' (ftp-server, ftp, permit, any), 'new-york.net' (ftp-server, http, permit, any), and 'silicon-valley.net' (web-server, http, permit, any). Under 'outside (incoming)', entries include 'san-jose.net' (ftp-server, http, permit, any) and 'seattle.net' (ftp-server, http, permit, any).

Figure 9. Tree Table Filtering

Editing in Tree Tables

1. The tree table editing should support inline editing as described in the [editable table spec](#). However, in order to align with the vendor widget implementation only table cell editing is supported and not the inline row editing as in the dojo based editable table.

Note! For this release the table editable and read only expandable details inlay panel is not supported.

2. For editable tree table error handling and validation notifications please follow guidelines in the [Notifications spec](#).
3. For the first release of the tree table only the implicit save, upon a change of focus, should be supported. The explicit save/save as/cancel bar as described in the editable table spec should not be supported.
4. The ability to edit table data via pop-up dialogs or separate 'Edit' pages and then refresh the table content should be supported

Note! for bulk editing use cases when the user selects a multiple number of table records and clicks an edit button, a pop up dialog should be displayed. When designing the interaction flow and behavior for bulk editing the application designer should take into consideration all the common denominators shared by the selected records to enable specific editing options and block others. This is a design time decision for either an heterogeneous or an homogeneous tree tables design.

5. Tree table inline cell edit supports the use of text field, dropdown list and custom text field widgets that can be integrated with any contnet of a dojo pop over widget. In the example described in figure #9 a quick picker is used to display a pop over containing an object selector.
6. To satisfy different application use cases users should be able to add/delete row. The various interaction flows to add/ delete a row should be made by an application design decision. E.g., when deleting a parent row will the child nodes get deleted or extracted to the parent level? The behavior should be based on a design pattern.

Note! Add/Delete row will not be supported in the first release and will be deferred to a future release.

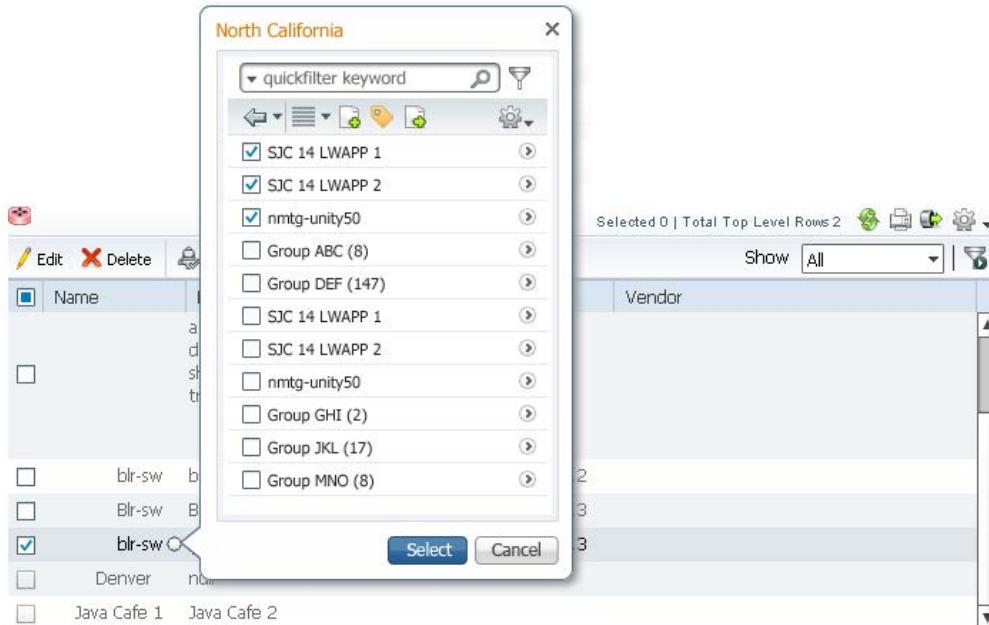


Figure 10. Tree Table Inline Cell Edit with a Quick Picker Popover

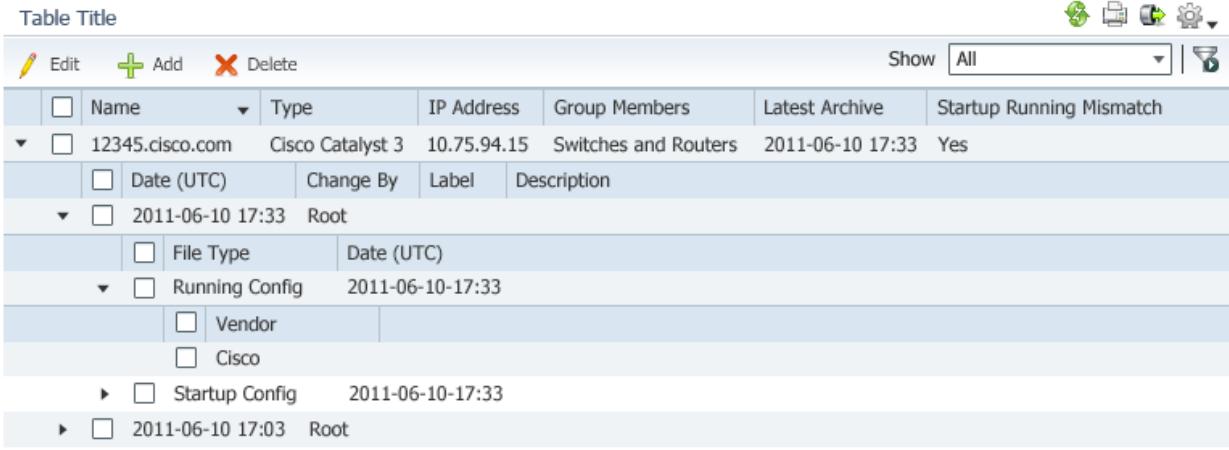
Selection in Tree Tables

1. The selection model for tree table should follow the one described in the [table basic spec](#).
2. By default the tree table supports 3 selection states:
 - Selecting all the child nodes under a parent node automatically selects the parent node and vice versa; selecting the parent node automatically selects all of its child nodes
 - When only a part of a parent node child nodes are selected the parent node is displayed as partially selected
 - Deselecting all of the child nodes under a parent node automatically deselects the parent node and vice versa; deselecting a parent node, automatically deselects all of its child nodes.
3. There could be use cases when the parent is a valid entity by itself and can be selected independent of its children, and hence should not be unselected if its child nodes are deselected. Application developers should be able to customize this behavior according to their application design requirements.
4. Application designers should be able to customize certain rows in the filtered data as un-selectable. E.g., if the user selects all rows by clicking the select all button the application developer should be able to exclude from this selection the parent nodes and select only its child nodes.
5. The selection control placement (i.e. check box, radio button) in heterogeneous table is slightly different from the one implemented in the homogeneous table.
 - In the homogeneous table the selection control and the tree expand/collapse node icon are contained in the first column table cell, preceding the cell content (see figure #10).
 - In the case of the heterogeneous table the selection control and expand/collapse icon has their own column each (see figure #11). The expand/collapse icon is indented relative to the level it is associated with.
6. Tree table supports a mixture of multi-select parent nodes with single-select child nodes via the use of check boxes for parents and radio buttons for children. However, the mixture of single select parent with multi-select children is not supported.
7. Tree table also support single selection and multi - selection of table cells. Clicking the cell highlights the table cell background color.

Table Title																																		
 Edit  Add  Delete		Show  All 																																
<input type="checkbox"/> Name	▼	Description	Type	IP Address	Vendor																													
▶ <input type="checkbox"/> All	All Members																																	
▼ <input type="checkbox"/> Device Type	Device Type																																	
▼ <input type="checkbox"/> Routers	<table border="1"> <tr><td><input type="checkbox"/> IFM-1812-1.1.1.19</td><td>IFM-1812-1.1.1.19</td><td>Routers(268437899)</td><td>1.1.1.19</td><td>Cisco</td></tr> <tr><td><input type="checkbox"/> IFM-1812-1.1.1.16</td><td>IFM-1812-1.1.1.16</td><td>Routers(268437899)</td><td>1.1.1.16</td><td>Cisco</td></tr> <tr><td><input type="checkbox"/> IFM-1812-1.1.1.4</td><td>IFM-1812-1.1.1.4</td><td>Routers(268437899)</td><td>1.1.1.4</td><td>Cisco</td></tr> <tr><td><input type="checkbox"/> IFM-1812-1.1.1.13</td><td>IFM-1812-1.1.1.13</td><td>Routers(268437899)</td><td>1.1.1.13</td><td>Cisco</td></tr> <tr><td><input type="checkbox"/> IFM-1812-1.1.1.23</td><td>IFM-1812-1.1.1.23</td><td>Routers(268437899)</td><td>1.1.1.23</td><td>Cisco</td></tr> <tr><td><input type="checkbox"/> IFM-1812-1.1.1.27</td><td>IFM-1812-1.1.1.27</td><td>Routers(268437899)</td><td>1.1.1.27</td><td>Cisco</td></tr> </table>				<input type="checkbox"/> IFM-1812-1.1.1.19	IFM-1812-1.1.1.19	Routers(268437899)	1.1.1.19	Cisco	<input type="checkbox"/> IFM-1812-1.1.1.16	IFM-1812-1.1.1.16	Routers(268437899)	1.1.1.16	Cisco	<input type="checkbox"/> IFM-1812-1.1.1.4	IFM-1812-1.1.1.4	Routers(268437899)	1.1.1.4	Cisco	<input type="checkbox"/> IFM-1812-1.1.1.13	IFM-1812-1.1.1.13	Routers(268437899)	1.1.1.13	Cisco	<input type="checkbox"/> IFM-1812-1.1.1.23	IFM-1812-1.1.1.23	Routers(268437899)	1.1.1.23	Cisco	<input type="checkbox"/> IFM-1812-1.1.1.27	IFM-1812-1.1.1.27	Routers(268437899)	1.1.1.27	Cisco
<input type="checkbox"/> IFM-1812-1.1.1.19	IFM-1812-1.1.1.19	Routers(268437899)	1.1.1.19	Cisco																														
<input type="checkbox"/> IFM-1812-1.1.1.16	IFM-1812-1.1.1.16	Routers(268437899)	1.1.1.16	Cisco																														
<input type="checkbox"/> IFM-1812-1.1.1.4	IFM-1812-1.1.1.4	Routers(268437899)	1.1.1.4	Cisco																														
<input type="checkbox"/> IFM-1812-1.1.1.13	IFM-1812-1.1.1.13	Routers(268437899)	1.1.1.13	Cisco																														
<input type="checkbox"/> IFM-1812-1.1.1.23	IFM-1812-1.1.1.23	Routers(268437899)	1.1.1.23	Cisco																														
<input type="checkbox"/> IFM-1812-1.1.1.27	IFM-1812-1.1.1.27	Routers(268437899)	1.1.1.27	Cisco																														

Figure 11. Selection in Homogeneous Tree Table

Table Title



The screenshot shows a table interface with the following columns and data:

	Name	Type	IP Address	Group Members	Latest Archive	Startup Running Mismatch
▼	12345.cisco.com	Cisco Catalyst 3	10.75.94.15	Switches and Routers	2011-06-10 17:33	Yes
	Date (UTC)	Change By	Label	Description		
▼	2011-06-10 17:33	Root				
	File Type	Date (UTC)				
▼	Running Config	2011-06-10-17:33				
	Vendor					
	Cisco					
▶	Startup Config	2011-06-10-17:33				
▶	2011-06-10 17:03	Root				

Figure 12. Selection in Heterogeneous Tree Table

Scrolling and Virtual Scrolling in Tree Tables

1. The tree table should follow the same interaction behavior described in the table [scrolling spec](#). Tables should not utilize pagination.
2. Tree table supports virtual scrolling:
 - While scrolling the table, table records are being fetched from the server.
 - The table is displayed empty and a progress bar with a loading message is displayed.
 - The message, e.g. “Loading record 10954”, provides a row number to tell the user what row number the scroll bar is at while scrolling.
 - Pausing for 250 msec. fetches a range of table records where this row number is part of and display it in the viewable port of the table.
 - Virtual scrolling also allocates the necessary space required to expand parent nodes so that when expanded its children are shown immediately.
 - Virtual scrolling only affect the visible table records. I.e. it will fetch only the child nodes of the parent nodes the user sees at a given time in the table viewable port.

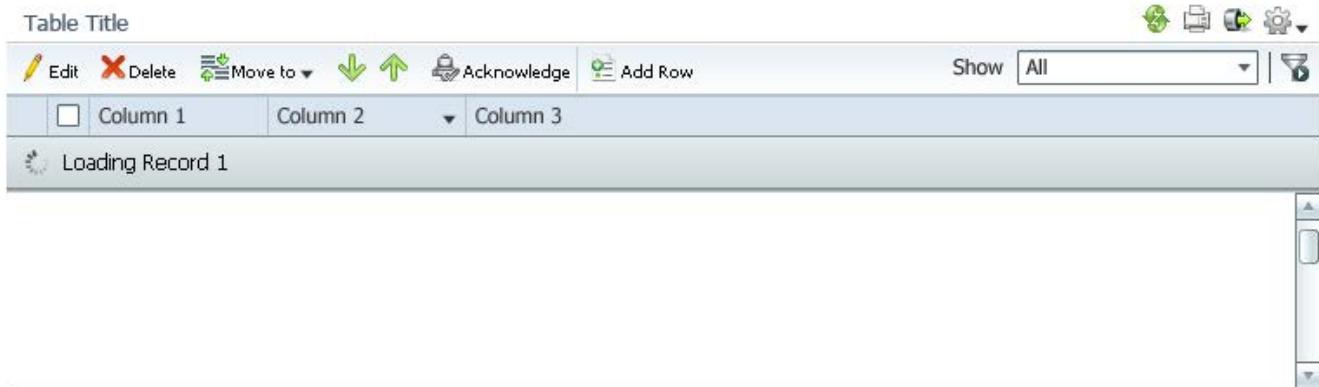


Figure 13. Tree Table Virtual Scrolling

Misc. Notes

- Quick view in tree table should follow the same guidelines described in the [table-basic spec](#) and the [quick view spec](#) (figure #3)
- User table customization (Show/hiding columns) is described in the [table-basic spec](#). The same interaction flow should be used in the tree table. However, primary columns should be excluded and the user should not be able to hide them.
- Fixed table rows as described in the [table-basic spec](#) should not be supported in as it makes no sense in a tree table.
- Row numbering is not supported in tree table and table toolbar items referring to row numbers ('Move to Row #') should be omitted.
- There are no specific requirements for the fixed/detach table column feature in the Flex tree table component. The current implementation as provided out-of-the-box by the vendor is satisfying current UX expectations.
- Tree table supports dynamic columns, a feature that allows the user to display or hide a specific column by a click of a button. While there are no specific requirements for this feature application developers and designers can use this as an out of the box feature, if needed.
- Tree table supports lazy loading on row expansion.
- The tree table Drag and Drop Column feature is slightly different in its look and feel from the one used in the XWT table component.

Read - Only / RBAC

Use Cases

User has permission to view some parent rows and some child rows, but not all

Interaction Sequence

Initial State

- Upon navigation to the view/page containing the table:
- Parent and Child rows that the user does not have permission to view are **hidden**
- All visible rows are read-only in appearance because this is a read-only table
- Disclosure icons are **visible** for parent rows that contain child
- Disclosure icons are **not visible** for rows that do not contain child rows

User does not have permission to view any child rows

See [Basic Table](#)

User does not have permission to view some columns in a tree table

Columns that a user does not have permission to view are hidden .

NOTE: this may not be handled by the RBAC framework, but may be handled by individual application teams—we are including this use case here because if it is required, we want to have the interaction behave uniformly across applications

DATAGRID

Description

The DataGrid widget is the typical DojoX DataGrid with the reboot theme applied. It mirrors a very limited subset of the functionality and capabilities provided by the standard XMP table widget, but does support inline table row widgets such as sparklines or dropdown lists.

Usage Guidelines

The Dojo DataGrid is much simpler in functionality and purpose when compared to the standard XMP table widget. It can be used in cases where there is a need to provide widgets (such as sparklines) inline for a limited number of table rows. However, it should only be used for this specific use case. The DataGrid has many limitations which make it unsuitable for general usage, and is not an official XMP widget. The list of supported/unsupported functionality can be found in the Specification.

Use this component:

- To display widgets, such as sparklines, within cells for a limited number of table rows

Do not use this component:

- In any other instance where the XMP table widget would be used instead
- Even in instances where just a simple table with limited number of rows is needed – instead, use the XMP table widget

Row Selection Usage Guidelines

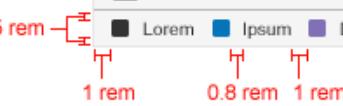
Because the datagrid does not support a toolbar from which to perform actions on objects in the datagrid, row selection is turned off by default. Row-based selection capability should only be enabled in the datagrid when there is a clear, justifiable reason to do so.

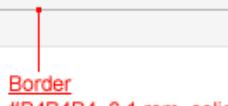
Visual Specifications

	ID ▲	Table Header 1	Table Header 2	Chart
<input type="checkbox"/>	1	Table Data 1	Table Data 1	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	2	Table Data 2	Table Data 2	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	3	Table Data 3	Table Data 3	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	4	Table Data 4	Table Data 4	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	5	Table Data 5	Table Data 5	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input checked="" type="checkbox"/>	6	Table Data 6	Table Data 6	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	7	Table Data 7	Table Data 7	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	8	Table Data 8	Table Data 8	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4

Figure 1. Overview Illustration

	ID ▲	Table Header 1	Table Header 2	Chart
<input type="checkbox"/>	1	Table Data 1	Table Data 1	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	2	Table Data 2	Table Data 2	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	3	Table Data 3	Table Data 3	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	4	Table Data 4	Table Data 4	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	5	Table Data 5	Table Data 5	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input checked="" type="checkbox"/>	6	Table Data 6	Table Data 6	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	7	Table Data 7	Table Data 7	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4
<input type="checkbox"/>	8	Table Data 8	Table Data 8	6.4 ● ↗ ↘ ↗ ↘ ● 7.2 8.6 3.4

0.5 rem 

Border 

#B4B4B4, 0.1 rem, solid

Figure 2. Datagrid visual specification.

Font and Color Specification

Font Name	Font Family	Size	Style	Color
Legend	Arial	1 rem	Normal	#323232

Table 1. Specifications for Fonts and Colors

For all other visual specification please follow the [table basic](#) visual spec.

Interaction Specification

Supported Functionality

- Column header with column names
- Set of rows and columns
- Column grouping
- Sorting of columns
 - Overarching column group headers should not be sortable; within a column group, only sub-headers corresponding to columns of data are logically sortable
 - For columns with sparklines, only columns with sparklines which include a single value that can be clearly identified as the sortable value should have sorting enabled
- Integrated quickview or popover widgets within rows
- Ability to have sparklines in cells
- Ability to have widgets in cells, with the table in read mode
- Rows with variable height
- Configurable row-click based selection capability (off by default)
 - When enabled, single select should use radio buttons and multi-select should use checkboxes (same behavior as XMP table)

Unsupported Functionality (anything not explicitly mentioned is assumed to be unsupported)

- Virtual scrolling
- Ability to hook toolbars and title
- Filtering
- Editing
- Detailed rows (panels)
- Drag-and-drop of rows and columns
- Fixed rows and columns
- Progress indicator (must be provided by application team)

REPEATER

Description

The Repeater is a container that holds a list of repeating items in a single vertical column. The Repeater control is independent from the actual items which are contained within. The application developer defines/controls the behavior of these items (e.g., resetting or clearing the values).

- Items/Rows can be either fixed in number or added dynamically at run time.
- The number of rows has no limit -- entirely dependent on the application developer.
- Items/Rows can (depending on the application developer) be dynamically deleted at run time as well as added. The Repeater must be able to adjust in size to accommodate this -- either resize or adding scrollbars.
- The contents of the items/rows can contain tokens which open other nested objects -- Anchored Overlays,more Repeaters, etc.

Usage Guidelines

Use this component when...

- It is necessary to allow the user interact with repeating user interface components arranged in a vertical order.
- Screen space is available.

Do not use this component when...

- Screen space is limited.

Usage Guidelines

Follow Cisco's Accessibility Design Requirements to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

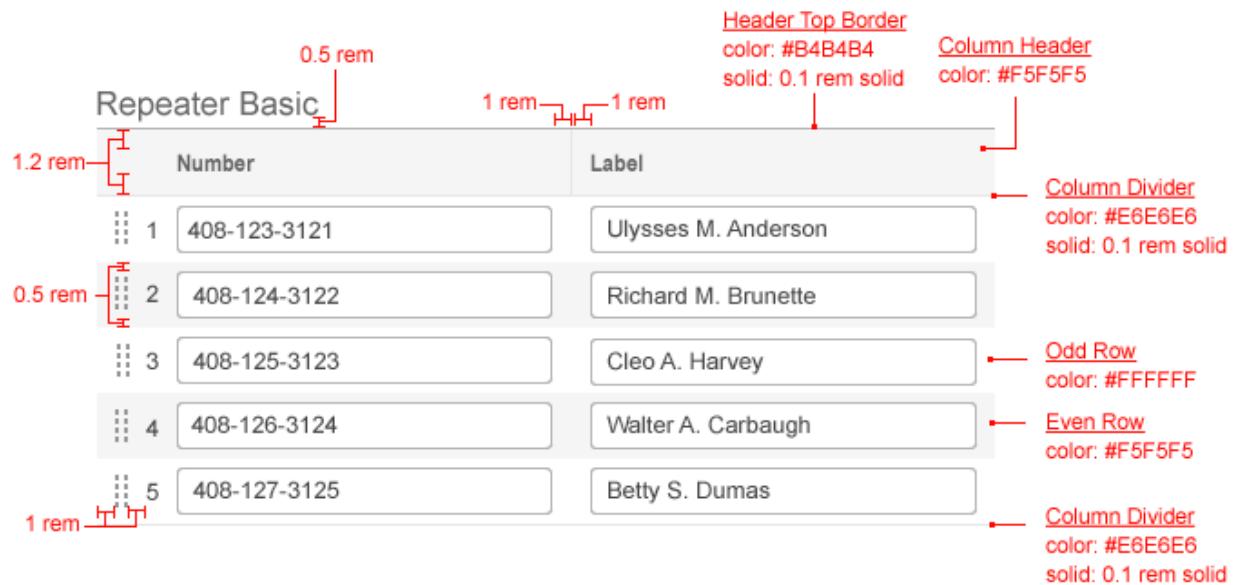


Figure 1. Repeater - Basic / Column Header.

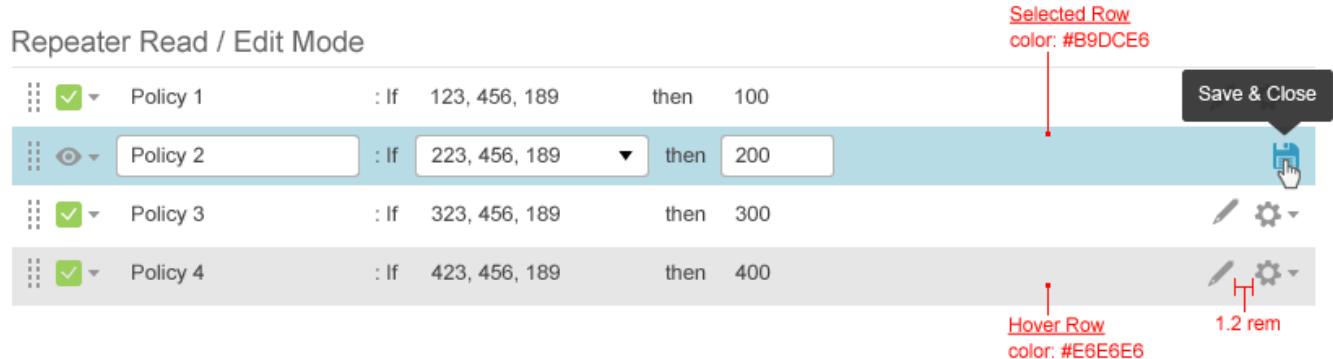


Figure 2. Example Repeater Specification for ISE.

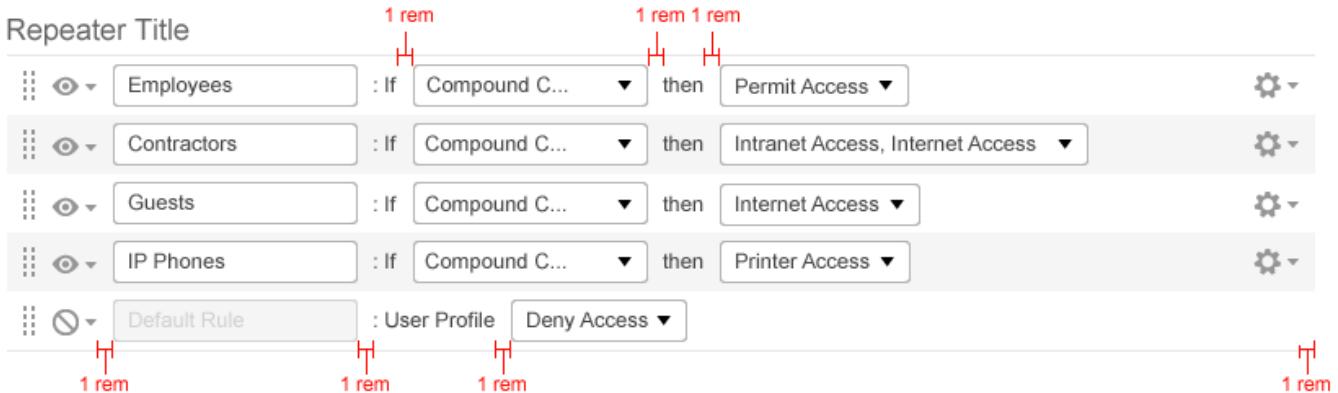


Figure 3. Example Repeater.

Repeater Title

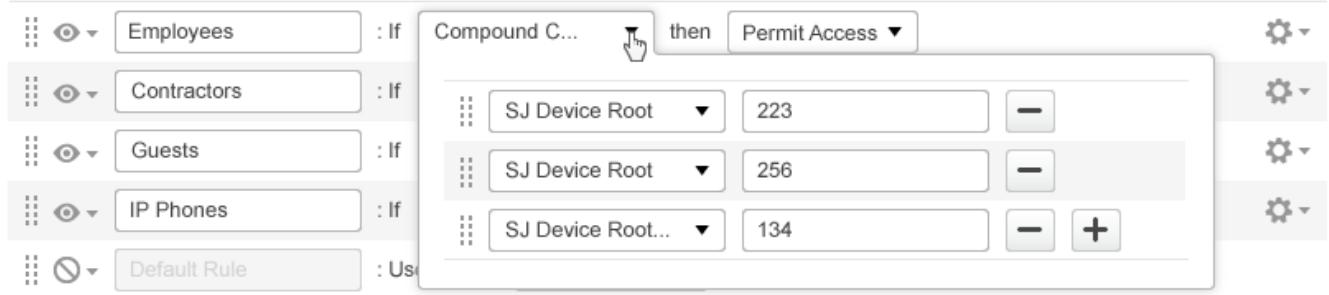


Figure 4. Repeater with only Add and Remove options.

Data Repeater with QuickView

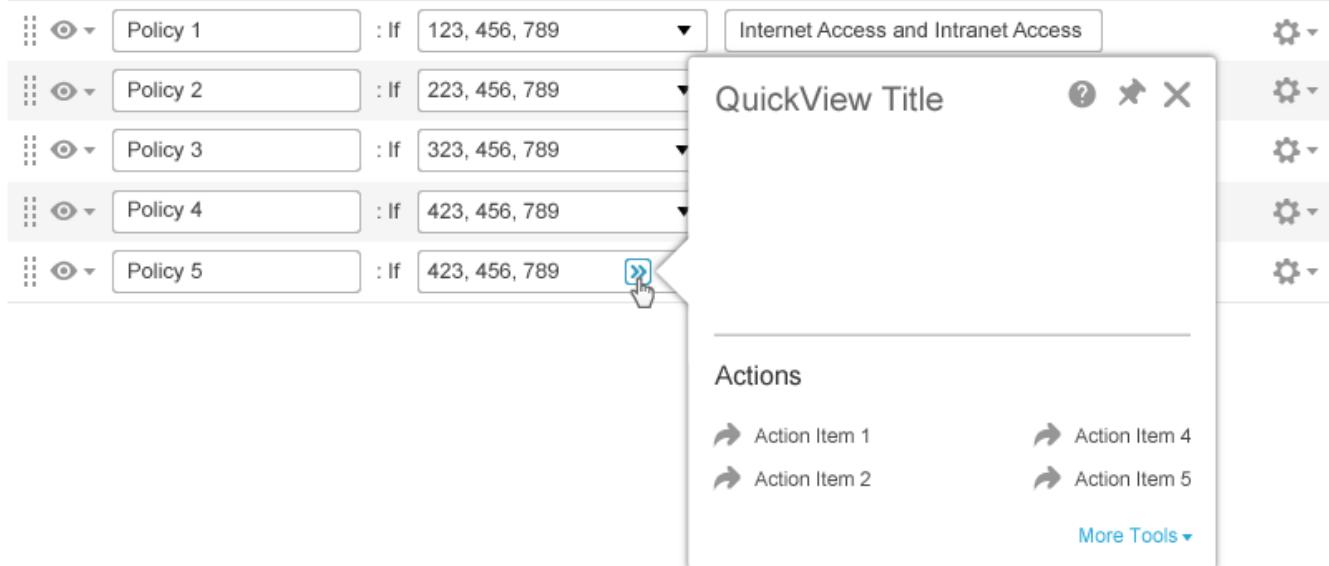


Figure 5. Data Repeater with QuickView.

Repeater Data Validation Error

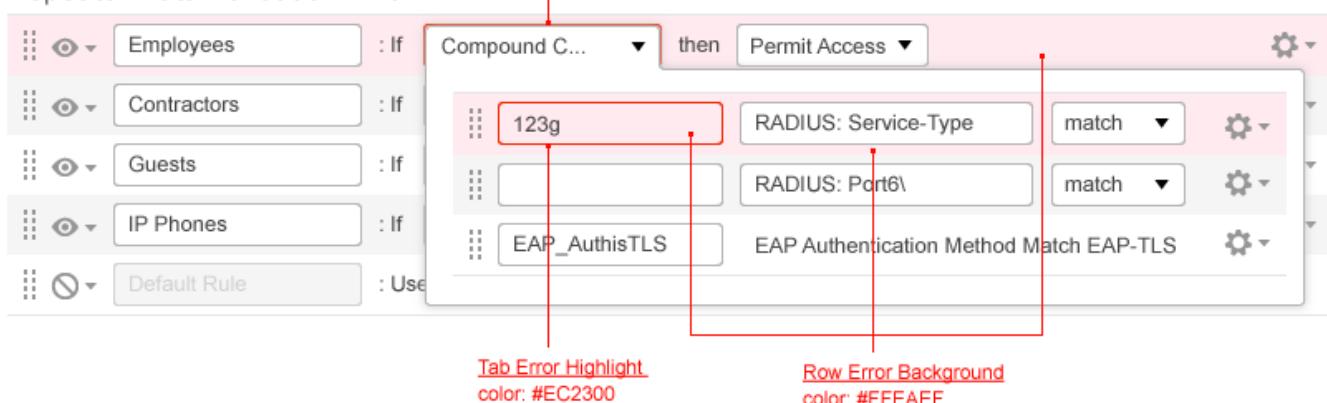


Figure 6. Repeater Data Validation Error.

Repeater Disabled

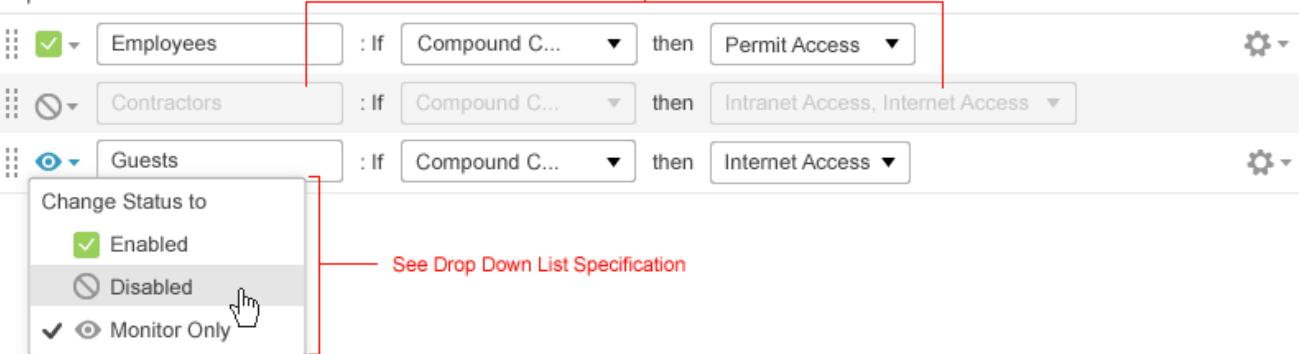


Figure 7. Repeater Disabled.

Repeater with drag-and-drop enabled

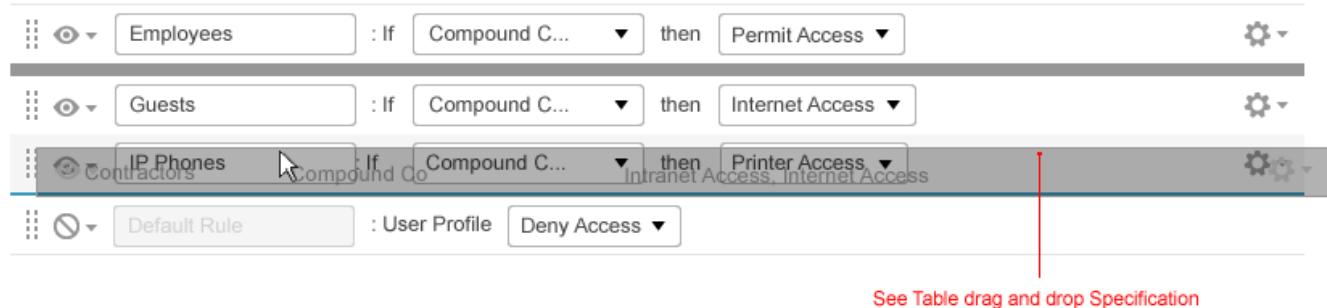


Figure 8. Repeater with drag-and-drop enabled. Also see Table Basic Figure 9 Drag and Drop Specification.

Font and Color Specification

Element	Font	Size	Style	Color	Behavior
Repeater Title	Arial	1.8 rem	Normal	#646464	
Column Header	Arial	1.3 rem	Bold	#646464	

Table 1. Specifications for Fonts

Element	Background Color	Note
Selected Row	#B9DCE6	Optional Behavior
Hovered Row	#E6E6E6	Optional Behavior
Drop and Drop	see Table Basic Drag and Drop Specification	Optional Behavior
Disabled Field	Follow the Text Box specification.	Optional Behavior

Table 2. Specifications for Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Enabled				1.6 rem	#7cbb59	#74bad1	
Disabled				1.6 rem	#969696	#74bad1	
Monitor Only				1.6 rem	#969696	#74bad1	
Save				1.6 rem	#969696	#74bad1	#379bbe
Check Icon (Dropdown List)				1.2 rem	#969696		
Edit				1.2 rem	#969696	#74bad1	
Gripper Icon				1.6 rem	#969696		
Options Icon				1.6 rem	#969696	#74bad1	

Table 3. Icons Specifications

Interaction Behavior

Types

There are three types of repeaters currently in use today.

A **Basic Repeater** consists of several rows that can always be edited.

Use this repeater type when there will be 25 rows or less in the repeater and the primary task of the user is to edit many rows together.

Number	Label
1	408-123-3121
	Ulysses M. Anderson
2	408-124-3122
	Richard M. Brunette
3	408-125-3123
	Cleo A. Harvey
4	408-126-3124
	Walter A. Carbaugh
5	408-127-3125
	Betty S. Dumas

Figure 9. Repeater - Basic

A **Read Mode Repeater** consists of several rows that do not have the edit functionality always active. Each row has a user defined state, which are:

- **Enabled**: in this state, the row will be active in the application. A user can edit and perform other actions, such as duplicating, adding or deleting rows while the row is in this state. Drag and drop functionality is also enabled.
- **Disabled**: in this state, the row will not be active in the application. A user cannot edit or perform other actions, such as duplicating, adding or deleting rows while the row is in this state. The edit icon and the actions dropdown icon should not be shown. Drag and drop functionality is also disabled and the handle is hidden.
- **Monitor Only**: this state allows the user to test a row without actually activating that row in the application. For example, if a repeater contained security policies, a user could create a policy, put it into monitor only mode and then see what kind of information would be returned if that policy were to be active. Think of this mode as a test mode for the user. In this state a user can edit, perform actions on the row (such as duplicating, adding or removing rows) as well as dragging and dropping the row.

Use this repeater type when there will be more than 25 rows and the primary task is viewing and rearranging data, not editing.

A **Filter Repeater** has the same functionality as a Read Mode Repeater and adds a filtering mechanism which allows users to filter the data set shown in the Repeater.

User this repeater type when it is necessary for the user to filter data in the repeater.

Rules

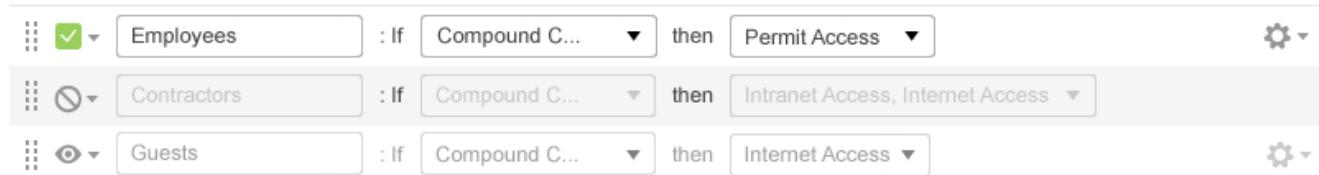
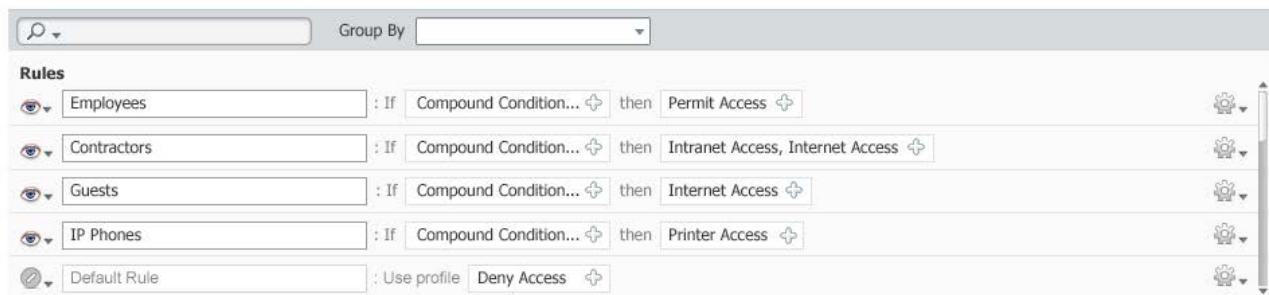


Figure 10. Read Mode Repeater with each state shown.

A **Filter Repeater** has the same functionality as a Read Mode Repeater and adds a filtering mechanism which allows users to filter the data set shown in the Repeater.

User this repeater type when it is necessary for the user to filter data in the repeater.



The screenshot shows a configuration interface for a Filter Repeater. At the top is a search bar and a 'Group By' dropdown. Below is a 'Rules' section containing five entries, each with a status indicator (blue eye), a name field, an 'If' condition (Compound Condition...), and a 'then' action. Each entry has a gear icon for settings.

Status	Name	If Condition	Then Action	Settings
Enabled (Blue Eye)	Employees	Compound Condition...	Permit Access	Gear icon
Enabled (Blue Eye)	Contractors	Compound Condition...	Intranet Access, Internet Access	Gear icon
Enabled (Blue Eye)	Guests	Compound Condition...	Internet Access	Gear icon
Enabled (Blue Eye)	IP Phones	Compound Condition...	Printer Access	Gear icon
Enabled (Blue Eye)	Default Rule	Use profile	Deny Access	Gear icon

Figure 11. Filter Repeater.

None of these repeaters currently support multiple selections of list items.

If there is only one row within the repeater, the delete functionality in the actions dropdown menu should not be available. When more rows are added, the delete functionality should be re-enabled.

Sizing the Repeater

The user cannot directly manipulate the size of the repeater. The size is determined by design-time settings and run-time properties of the parent container (e.g. current size of the parent panel). If the two are different, the design-time settings of the Repeater take the precedence.

Reordering List Items (Drag-and-Drop)

When reordering is enabled, a row may be reordered by dragging and dropping it. Dragged rows may be dropped between two other rows, or, at the top or bottom of the Repeater widget. The dropped row will push down the rows below it by one row. While dragging, the row transition state is visually indicated by a semi-transparent row background color. The target location is highlighted to indicate that a row drop is possible.

The last repeater row can optionally be fixed in position (and also be made undeletable) at design time meaning that no rows can be created or moved below that row. In this case, the drag-and-drop handle should be hidden for the last row.

Drag-and-drop can be disabled at design time. If disabled, the drag-and-drop handle will be hidden.

Currently, there is not alternative method to reorder repeater rows.

Repeater with drag-and-drop enabled



Figure 12. Repeater with drag-and-drop enabled.

Editing a Repeater Row

Basic Repeater

A basic repeater is always in an editable state. The user just needs to select the appropriate input box to make changes.

Read Mode & Filter Repeater

A repeater row is only editable when it is in an Enabled or Monitor Only state. After a user clicks the edit icon, each component of the repeater will become editable (as applicable). Additional information about an input box can be displayed in a QuickView / Popover / 360 view if required.

Actions

Secondary actions that apply to data in any Repeater are displayed as menu items accessible by clicking on an actions dropdown. See the dropdown specifications for more details. The only actions that do not go in the menu are edit and save.

Repeater within another widget

A basic repeater can be housed inside another widget (for example, an anchored overlay). In this state, the repeater consists of a few always editable fields, which can be other widgets such as a dropdown, and an add and delete button. The repeater rows can be dragged and dropped in order to rearrange them. The repeater does not have the actions dropdown.

Repeater Title



Figure 13. Repeater inside another widget (anchored overlay).

Each row in the repeater has an add and delete button. Application teams can decide to remove the add or delete functionality for a row if they wish. If there is only one row in the repeater, there should be no delete button, because if the user deletes that row, there would be no way for the user to add a new row.

Scrolling

If the data does not fit within the available space, the repeater should scroll vertically and/or horizontally. Unless absolutely necessary, avoid using horizontal scroll bars.

Framework UI Development

This next section is only applicable to the UI widget development team. This does not apply to application teams or designers.

Selecting List Items

- The list items (rows) are implicitly selected when a child control gets focus
- The user clicks individual list items (rows) to explicitly select them
- Explicit selection of list items can be disabled at design time

TABS

Description

Content tabs provide the ability to display different categories of information in a multi-pane format. Content tabs function as content segmentation components and provide a highly scalable display mechanism.

Usage Guidelines

Tabs can be good way to present a lot of information to a user because they require the focus of a view to be constrained. However, along the same lines, only data from one tab can be visible at any one time.

Tab Bar Orientations

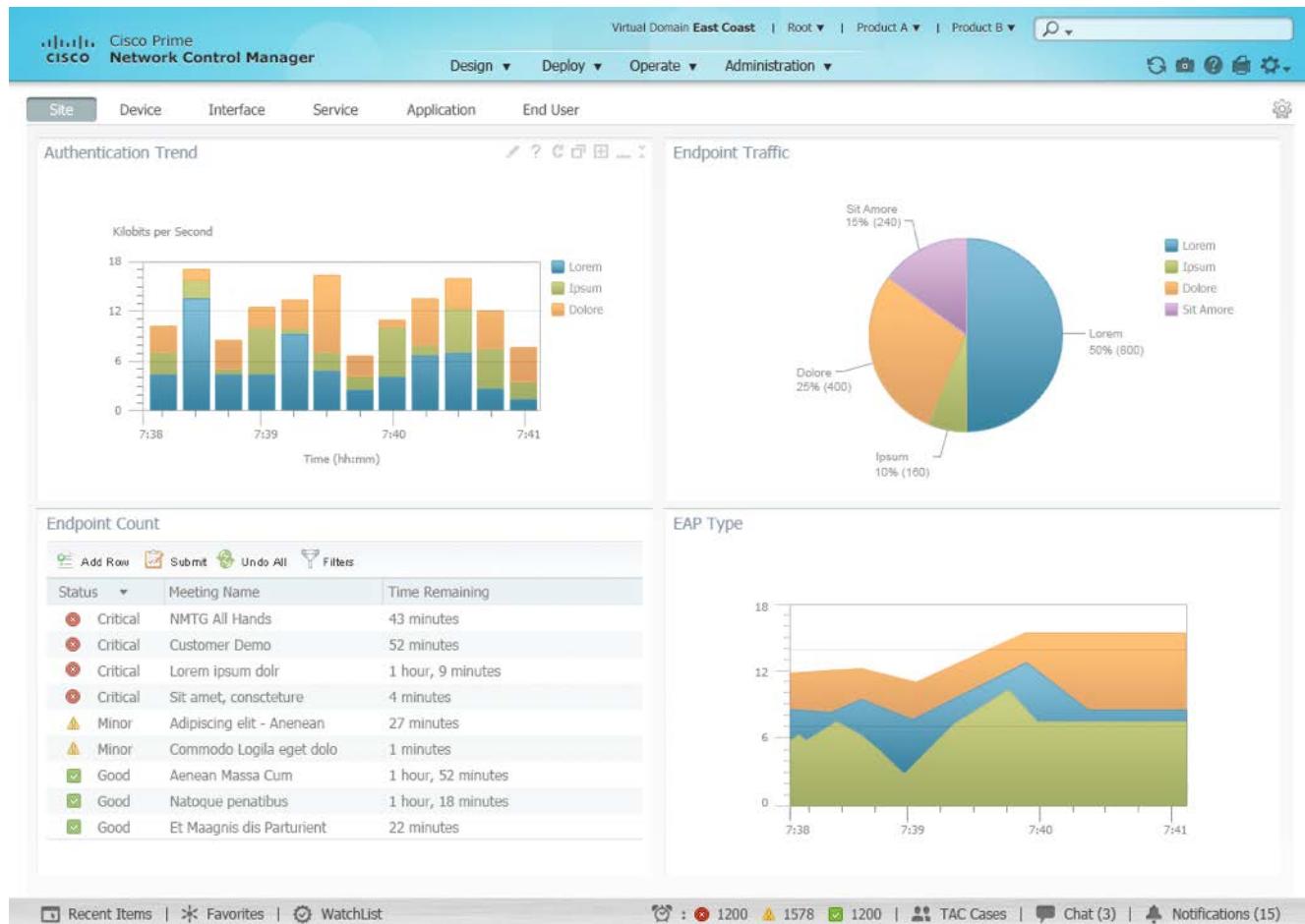
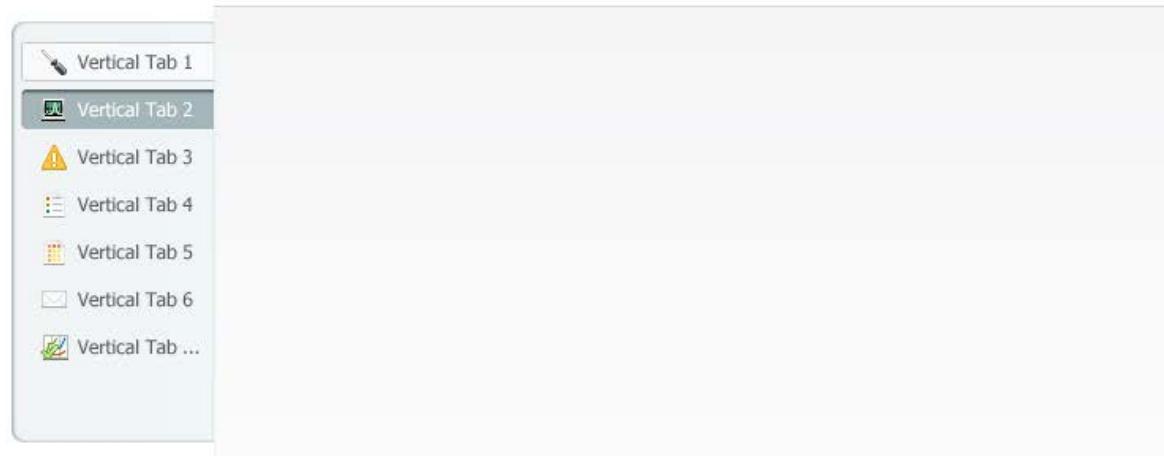


Figure A. Content Tabs Within Application

Top Tab Bar Orientation



Left Tab Bar Orientation



Right Tab Bar Orientation

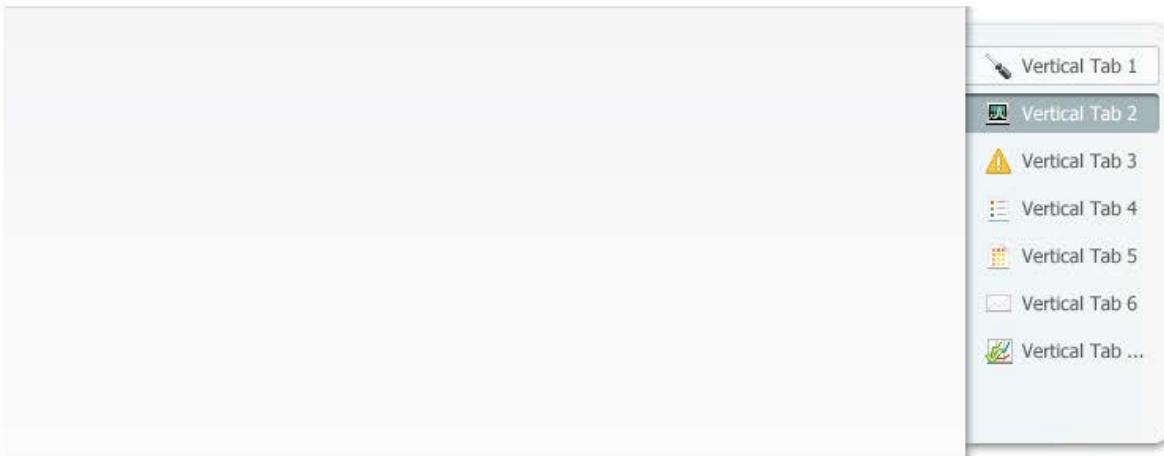


Figure B. The tabs can have the above orientations. Note: only the orientation can have a tab toolbar. Typically the left and right tab bars are icon only. We do not support bottom tabs at this time.

Typically, the left and right orientations only have icons and cannot go into overflow.

Use this component when...

- Use this component when there is a clear separation of data, tasks, or user focus for a similar object or task. E.g. A dashboard page with tabs with various focuses: incidents, connectivity, etc.
- Tabs + toolbar can be used for the top, horizontal tab bar orientation.
- Tabs only can be used for all orientations (top, right, left).

Do not use

- To paginate data. Similar data should appear on the same view, or use another mechanism to paginate or progressively disclose (preferred method) the data into view.
- Do not use this when information needs to be seen in the same view.
- Do not use the tab toolbar in vertical orientations (left, right).

Where to place toolbar actions

- Command buttons governing the content within a tab should be placed inside the content tab toolbar.
- Command buttons governing all of the content tabs should be placed above the content tabs.

Keyboard and Accessibility

Ensure that users can navigate through the tabs when the tabs are in focus by using the left and right arrow keys.

Follow [Cisco's Accessibility Design Requirements](#) to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

Visual Specifications

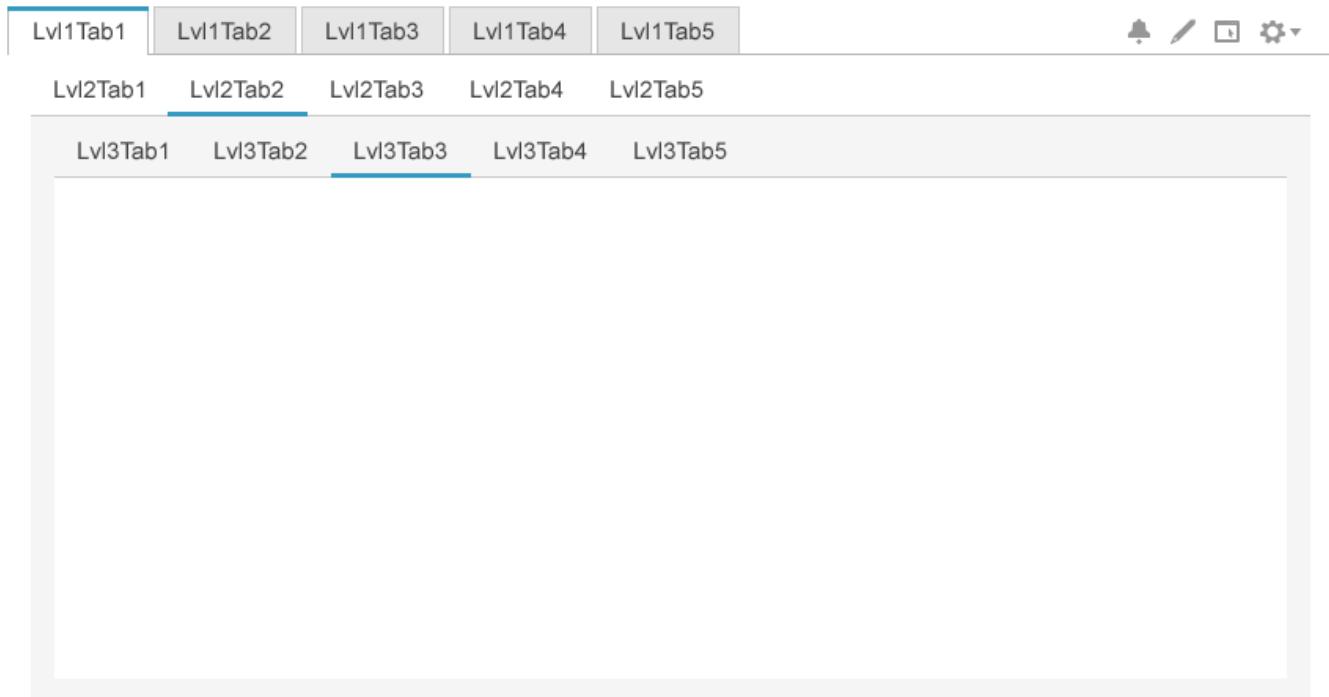


Figure 1. Content Tabs Overview.

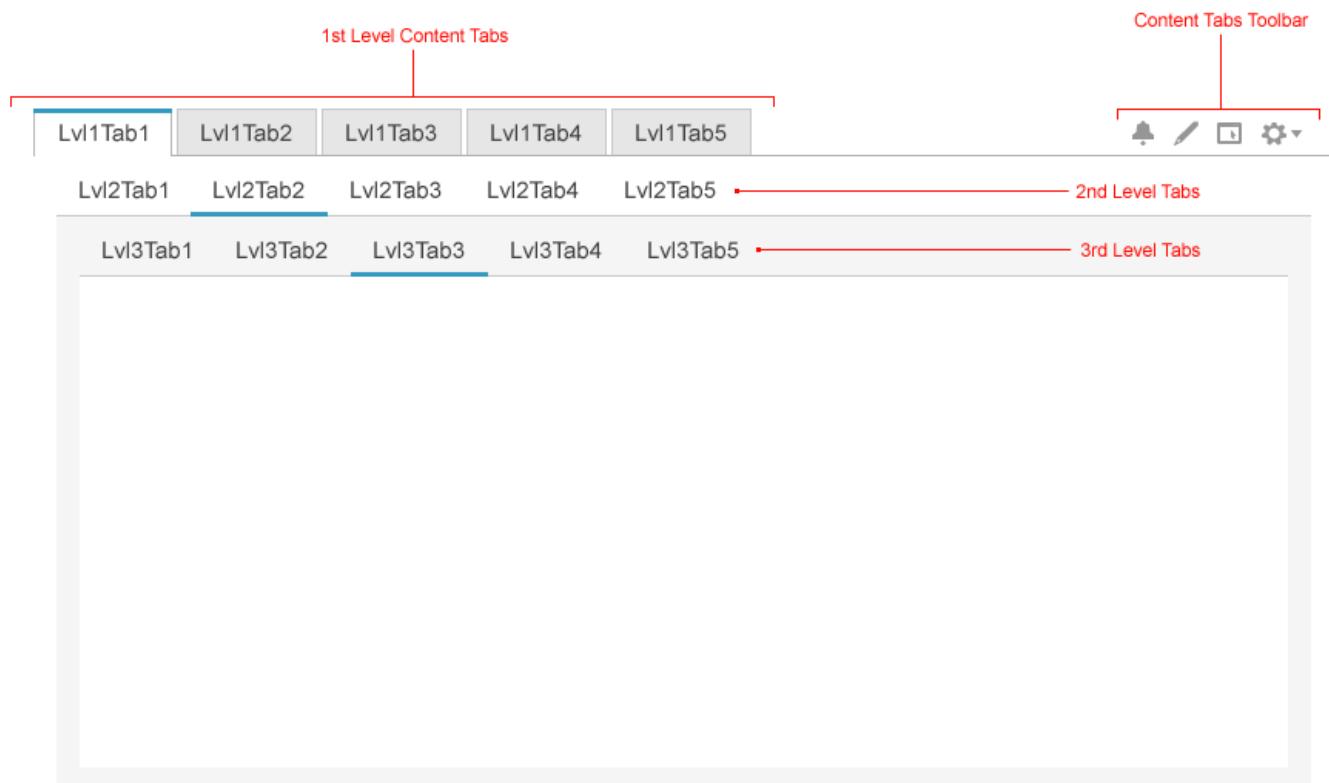


Figure 2. Content Tabs Elements.

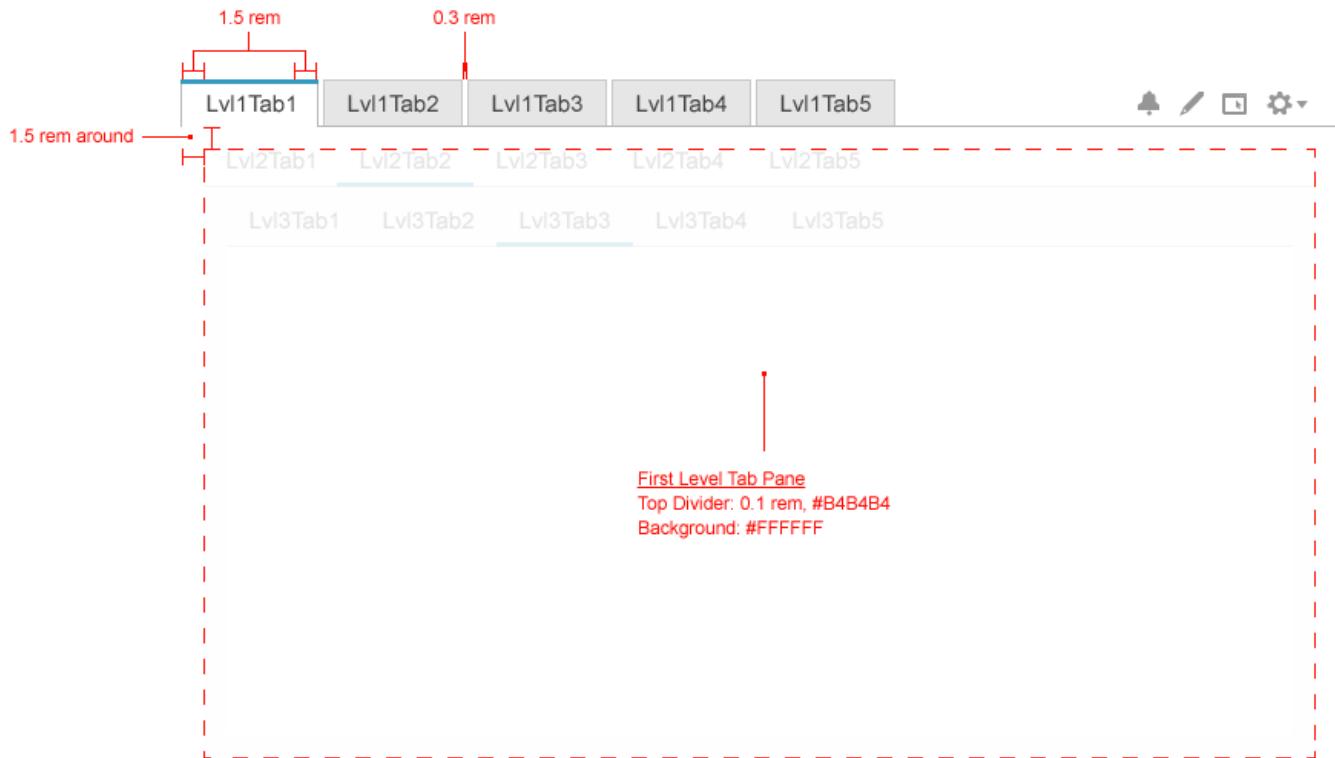


Figure 3. First Level Content Tabs Padding Specification.

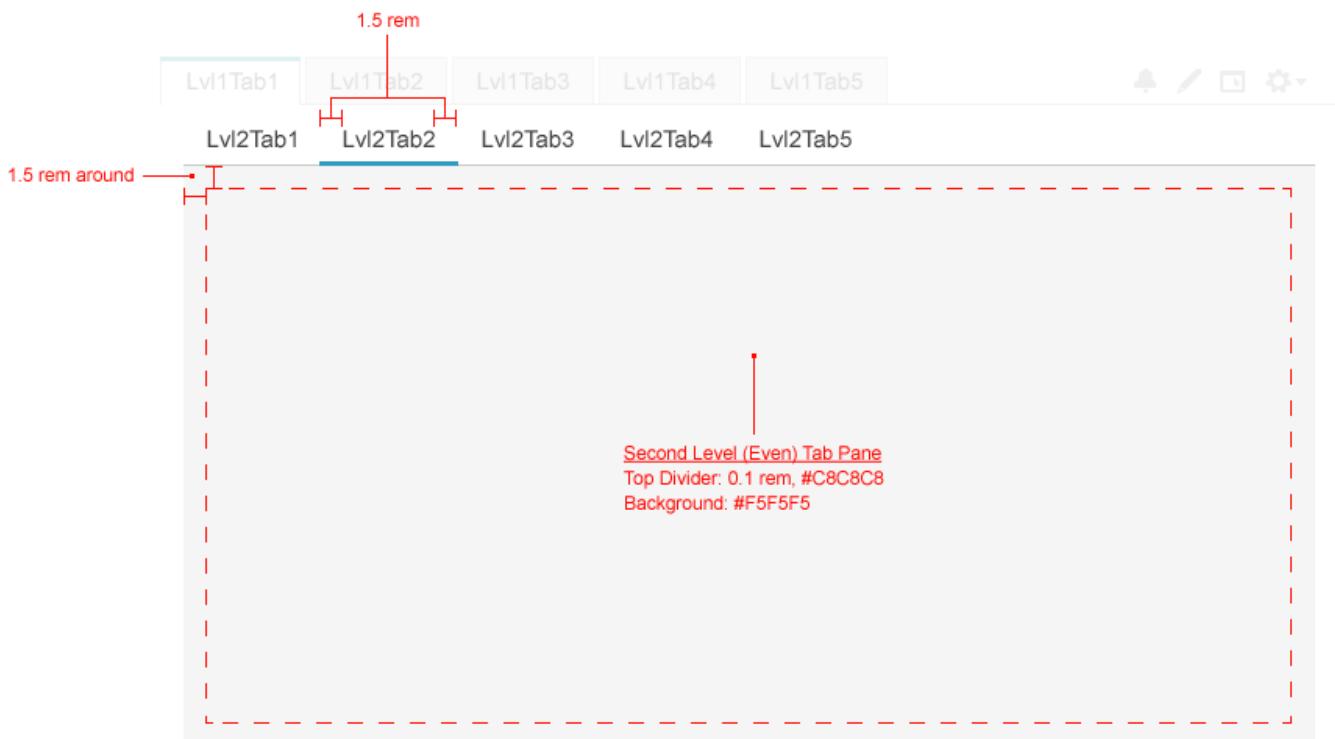


Figure 4. Second Level (Even) Content Tabs Padding Specification.

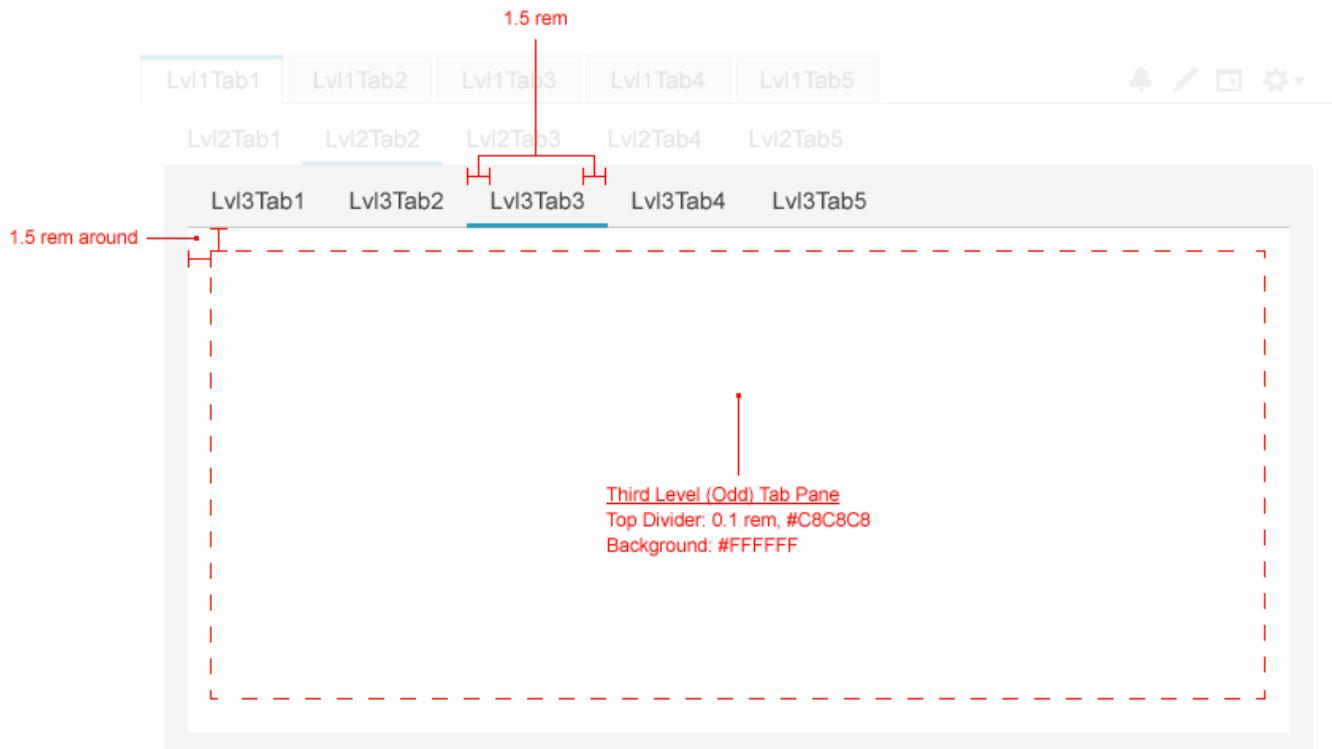


Figure 5. Third Level (Odd) Content Tabs Padding Specification.



Selected Tab
Tab Height: 3 rem
Background Color: #FFFFFF
Top Border: 0.3 rem, #379BBE
Left Border: 0.1 rem, #B4B4B4
Right Border: 0.1 rem, #B4B4B4

Normal Tab
Tab Height: 3 rem
Background Color: #E6E6E6
Top Border: 0.1 rem, #C8C8C8
Left Border: 0.1 rem, #C8C8C8
Right Border: 0.1 rem, #C8C8C8

Hover Tab
Tab Height: 3 rem
Background Color: #B9DCE6
Top Border: 0.1 rem, #379BBE
Left Border: 0.1 rem, #379BBE
Right Border: 0.1 rem, #379BBE

Figure 6. First Level Content Tabs Specification.



Selected Tab
Background Color: None
Bottom Border: 0.3 rem, #379BBE
Padding Bottom: 0.5 rem

Normal Tab
Background Color: None
Bottom Border: None
Padding Bottom: 0.5 rem

Hover Tab
Background Color: None
Bottom Border: 0.3 rem, #B9DCE6
Padding Bottom: 0.5 rem

Figure 7. Nested Content Tabs Specification.

Font and Color Specification

Element	Example	Font Family	Size	Style	Color
Tab Label	Normal Tab	Arial	1.5 rem	Normal	#464646

Table 1. Specifications for Fonts and Colors

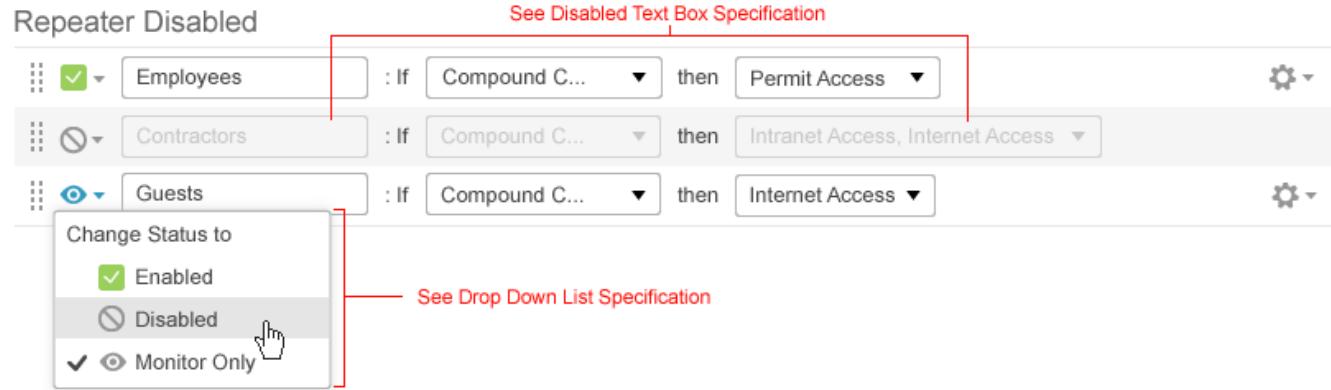


Figure 8. Content Tabs with Close Options.

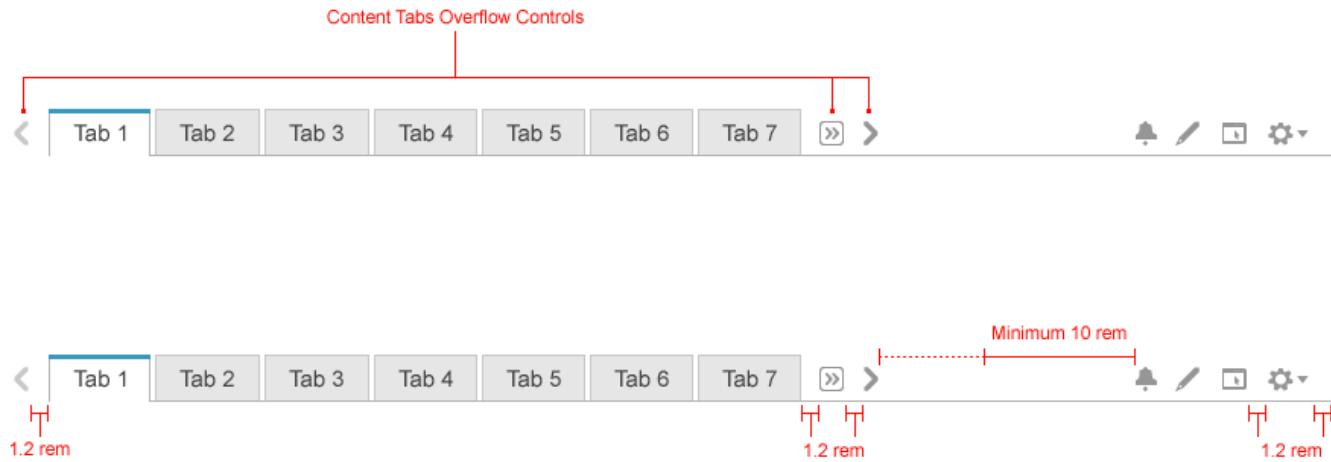


Figure 9. Content Tabs with Overflow.

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Close	×			0.8 rem	#969696	#74bad1	#379bbe
Left Scroll	›			1.6 rem	#969696	#74bad1	#379bbe
Left Scroll (Disabled)	›			1.6 rem	#c8c8c8		
Right Scroll	‹		icon_rotate180 (for rotation)	1.6 rem	#969696	#74bad1	#379bbe
Right Scroll (Disabled)	‹		icon_rotate180 (for rotation)	1.6 rem	#c8c8c8		
Overflow	»			1.6 rem	#969696	#74bad1	#379bbe
Toolbar Icons	?			1.6 rem	#969696	#74bad1	#379bbe
Check Icon (Dropdown List)	✓			1.2 rem	#464646		
Icon Used as Tab Label	⌂			1.6 rem	#464646		

Table 2. Icons Specifications

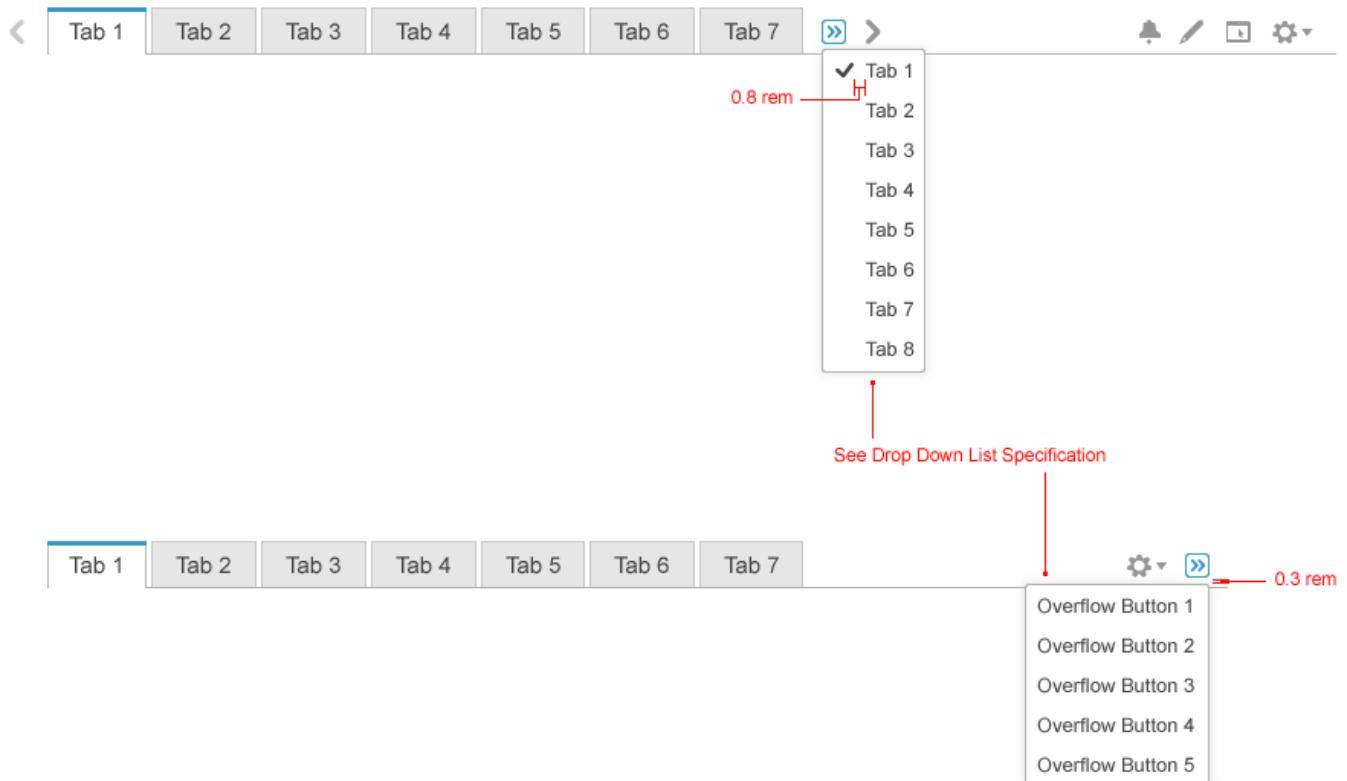


Figure 10. Content Tabs with Dropdown List.

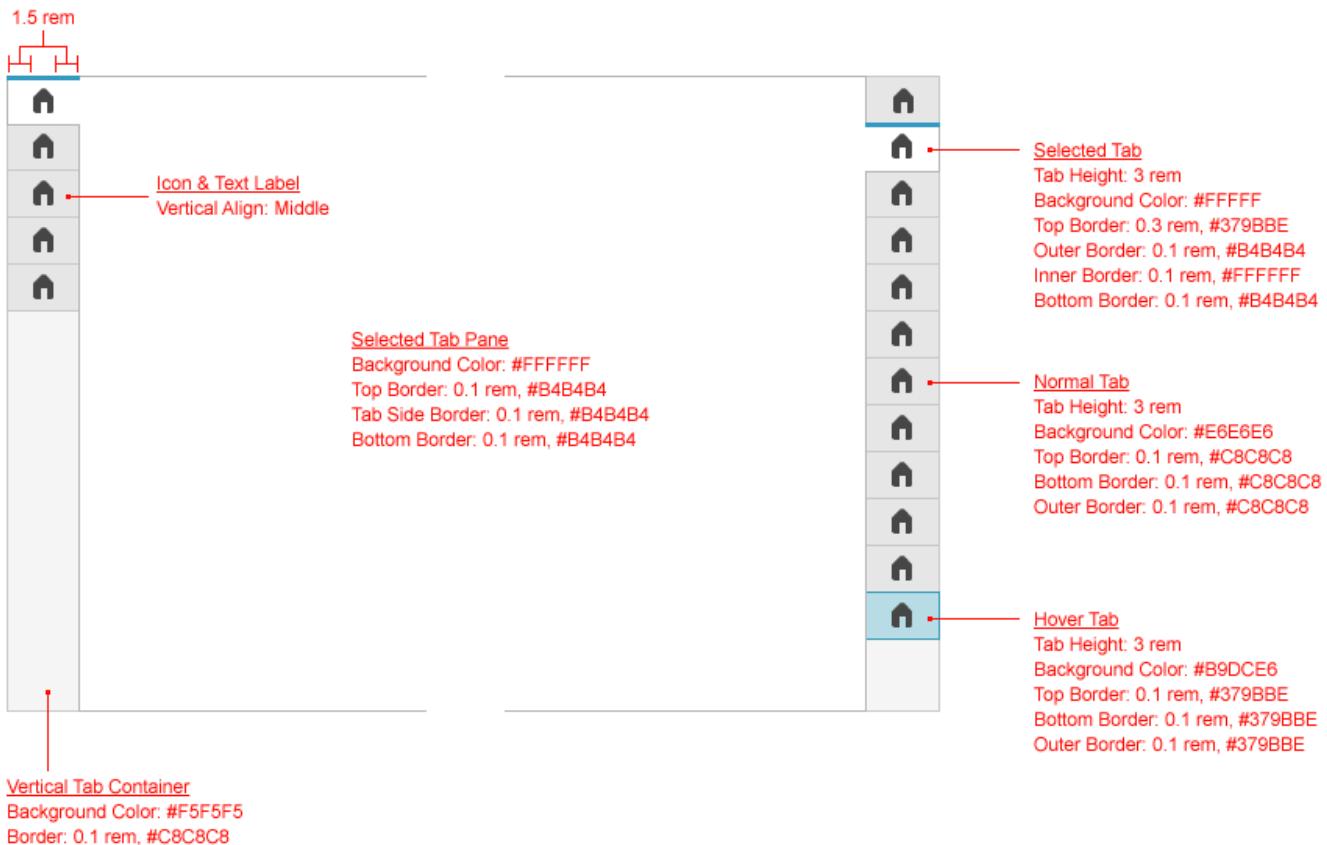


Figure 11. Vertical Content Tabs Visual Specification.

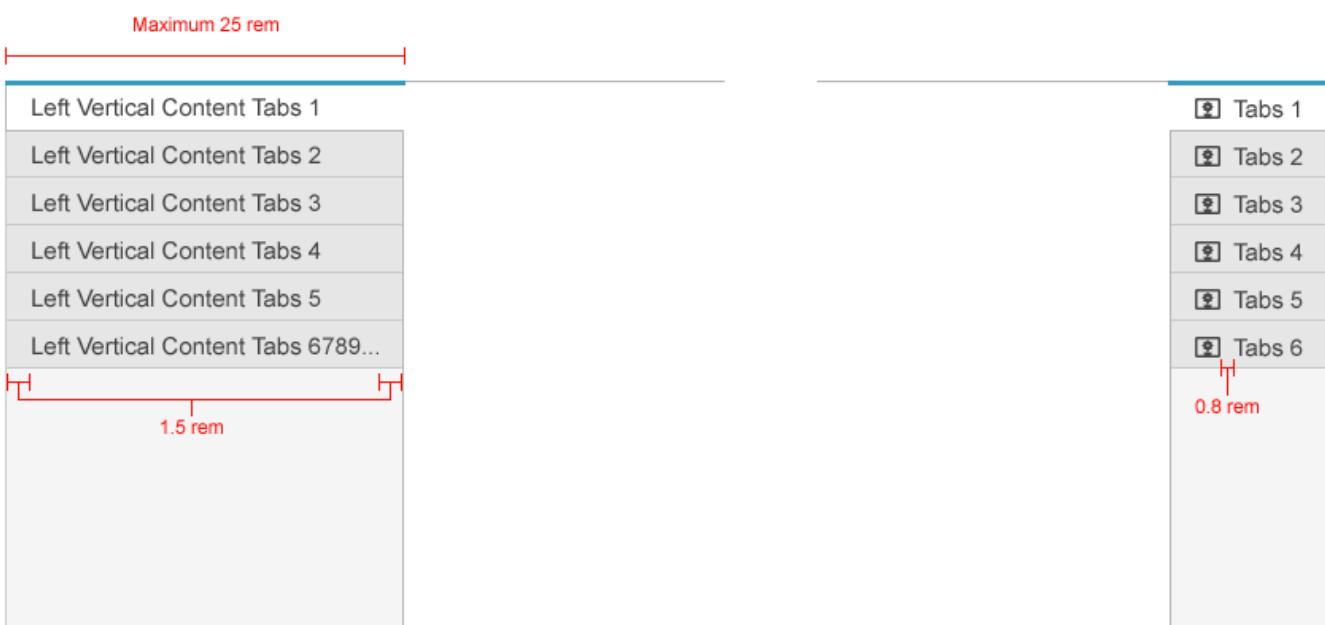


Figure 12. Vertical Content Tabs Width Specification.

Interaction Behavior

The content tabs consist of three major regions; the tab bar, tab toolbar, and the tab content areas. Tabs are contained in the tab bar, and each tab has a unique toolbar and tab content area associated with it.

Tab Bar



Figure 9. This view shows off all of the functionality of the content tabs. The tab bar contains the tabs (with overflow), the tab toolbar to the right of the tab bar, and the tab content area beneath each tab.

- Clicking on a tab will load its tab toolbar and its associated tab content area.
- There is always a selected tab. By default, the first tab is selected. However, there should be a way to automatically select any tab.
- Hovering over the tab will display an optional close icon. To include the close icon is decided at design time, and only for horizontal orientations.
 - For a given tab bar, either all of the tabs have the close icon, or none of them have it.
 - Clicking on the close icon will close the tab and remove it from the tab bar. Note: clicking on the close icon should not deselect the currently selected tab.
 - If the currently selected tab is closed...
 - The tab to the right is selected.
 - If the last tab is closed, the tab to the left is selected.
 - If there is only one tab, the close icon will not appear on the remaining tab.
- Vertical orientations cannot go into overflow. Instead resize the container to accommodate the larger tab bar or reduce the number of tabs.
- Tabs vary in size according to the length of the tab label. Tabs should not show truncated text.
- If the tab bar is resized larger, the tab container will grow in size leaving more real estate to show tabs.
- Alternatively, if the tab bar is resized smaller, the tab container will shrink in size until the minimum tab container sized is reached.
- Selecting a fully visible tab will select the tab with no additional animation.
- Selecting a partially selected tab will select the tab and slide the tab into view.
- Clicking on the overflow icon will present the entire list of tabs, in the order they appear on the tab bar.
- Selecting a tab that is fully visible in the drop-down menu will select the tab with no additional animation.

- Selecting a tab that is either partially or fully visible from the drop-down menu will select the tab and slide the tab into view.
- Whenever there is tab overflow, both the drop down menu and left and right tab container arrows are present.
- Using the left or right tab container arrows will move the tabs over by 70% of the visible tab container width, with the exceptions of sliding the first and last tab into view. The tab container cannot slide beyond the first or last tab.
- When the first tab is fully visible, the left tab container arrow is disabled. Similarly, when the last tab is fully visible, the right tab container arrow is disabled.

Tab Toolbar

- Beside the tab bar is the tab toolbar. The tab toolbar is placed inside of a generic overflow container.
- The tab toolbar size is fixed in size. I.e. upon a browser resize, the tab toolbar would remain the same size, and only the tab bar would change in size.
- The default size of the tab toolbar should be specified at design time.
- If there are more items in the toolbar than there is room, the additional items will go into overflow.
- The overflow icon should only be used when there is not enough room for the toolbar items to appear. I.e. the overflow icon should not be visible if the last item could appear in the space that the overflow icon is occupying.
- The tab toolbar cannot have the first item go into overflow.

TASK NAVIGATOR

Description

Overview

Task navigators help users to navigate through a multi-screen process and know where they are, what tasks they have completed and what needs to be done to complete a workflow.

Usage Guidelines

Usage

This component is an integral building block of wizards and guided workflows. It is normally embedded in a page or in an overlay such as a pop-up dialog or popover.

The following concept mockups illustrate a few use cases.

Visual Specifications

Overview

Task navigators help users to navigate through a multi-screen process and know where they are, what tasks they have completed and what needs to be done to complete a workflow.

Usage

This component is an integral building block of wizards and guided workflows. It is normally embedded in a page or in an overlay such as a pop-up dialog or popover.

The following concept mockups illustrate a few use cases

Elements of Task Navigator

At the top level, the Task Navigator component includes a main container, an optional title, and a content area.

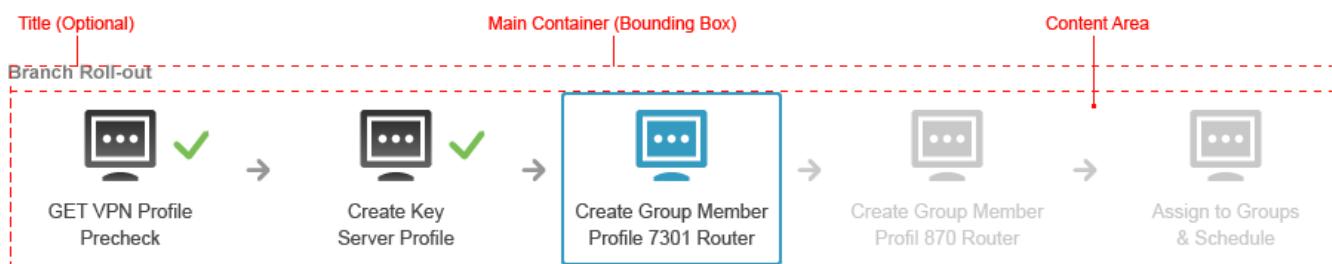


Figure 1. Task Navigator Component.

Main Container

The main container is basically an invisible bounding box that holds the content and the optional title.

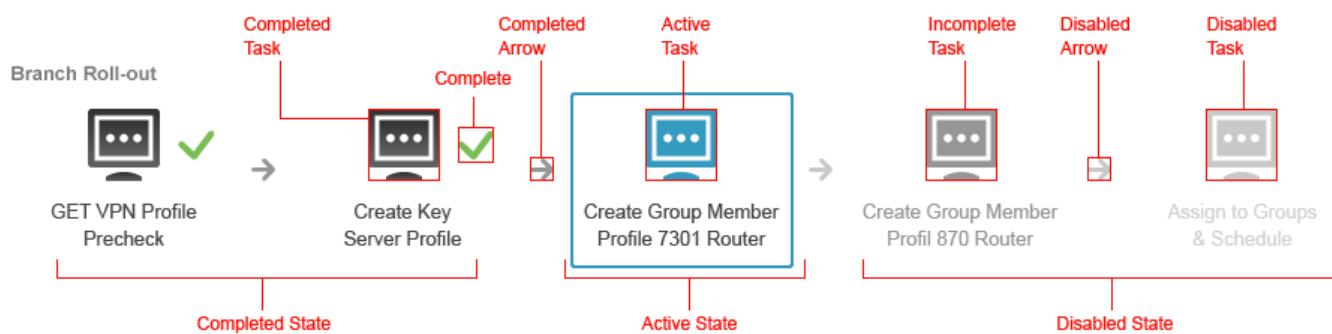


Figure 2. Task Navigator Main Container Visual Specification

Content Area

The content area includes:

- A horizontally stacked set of task widgets (one or more items) in a 'carousel' component.
- An optional set of arrow icons positioned in between task items.
- The 'carousel' Next and Previous buttons, shown only when needed.
- An optional 'mini nav' (placeholder name!) widget, shown only when the option is turned on (at design time) and the total number of tasks exceeds the available space in the clipping viewport.

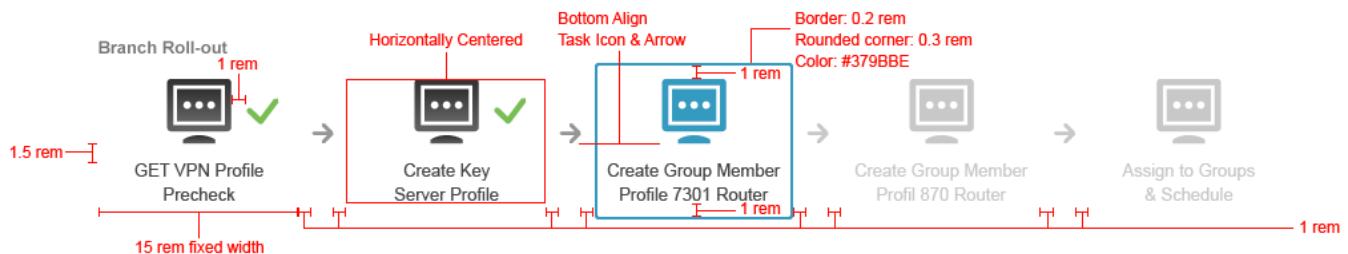


Figure 3. Task Navigator Main Content Area Visual Specification

Font and Color Specification

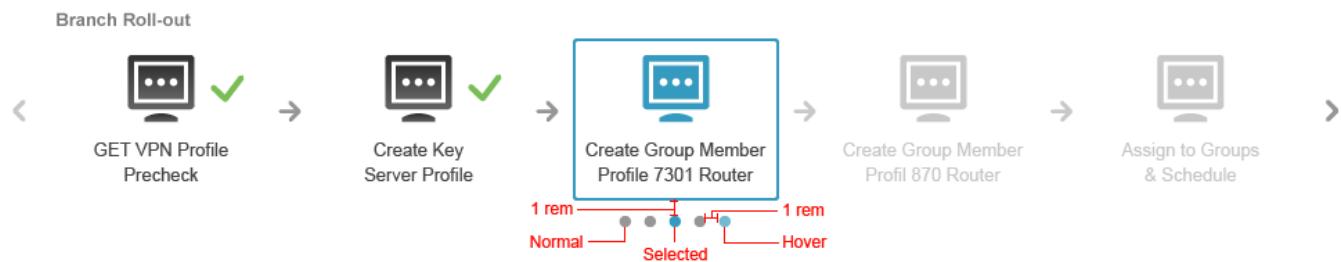
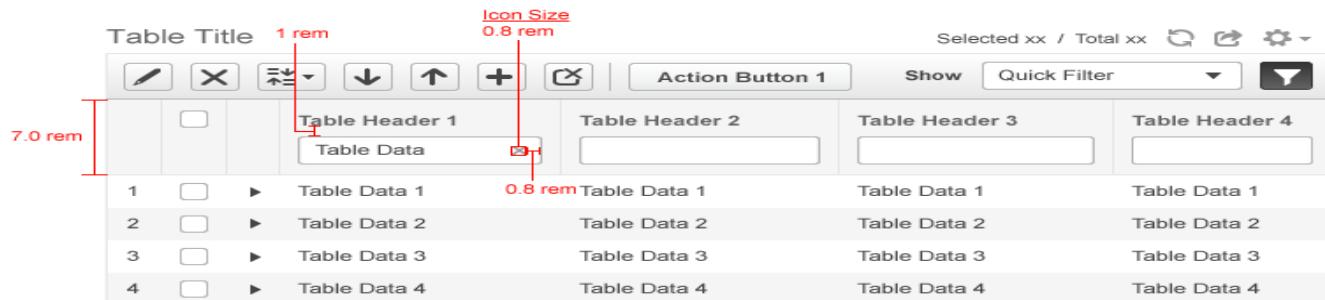


Figure 4. Task Navigator (All required and optional elements are shown).

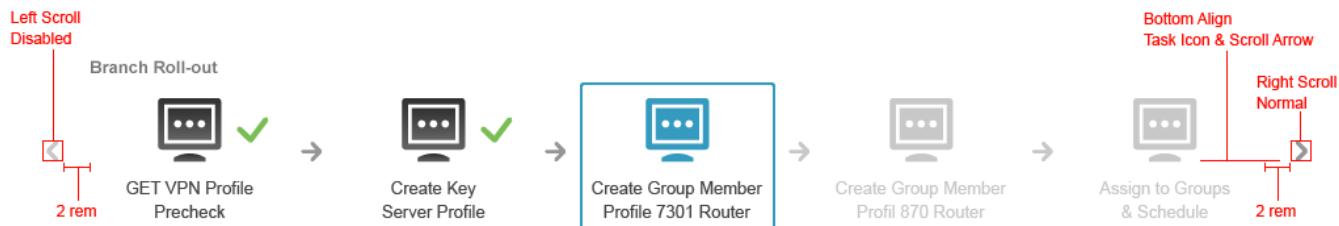


Figure 5. Task Navigator (All required and optional eleemnts are shown except 'mini nav').

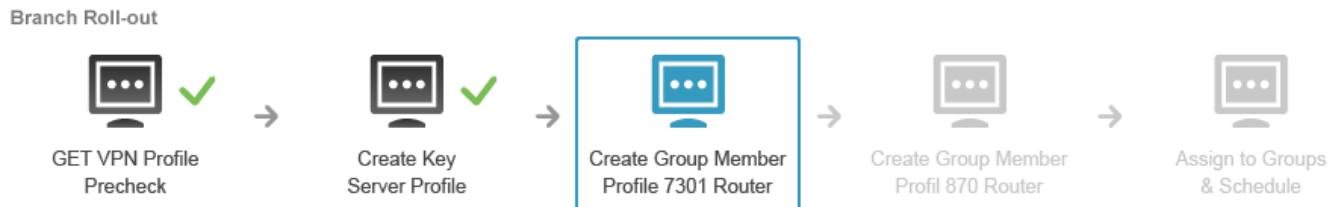


Figure 6. Task Navigator(All tasks (list items) fit in the viewport and 'carousel' controls are hidden).

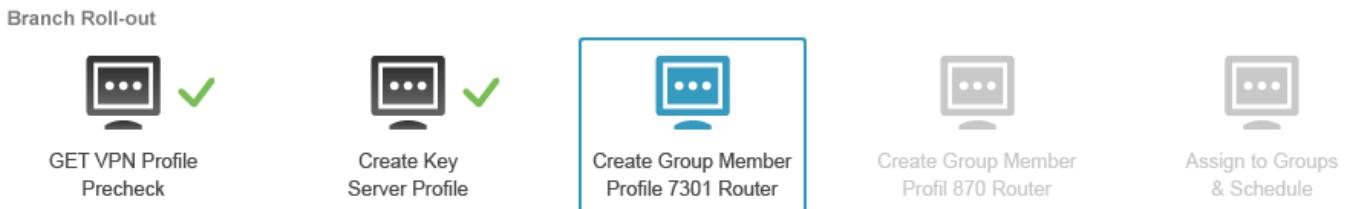


Figure 7. Task Navigator(Arrows are hidden. And tasks (list items) fit in the view port, so the 'carouse' controls are hidden).

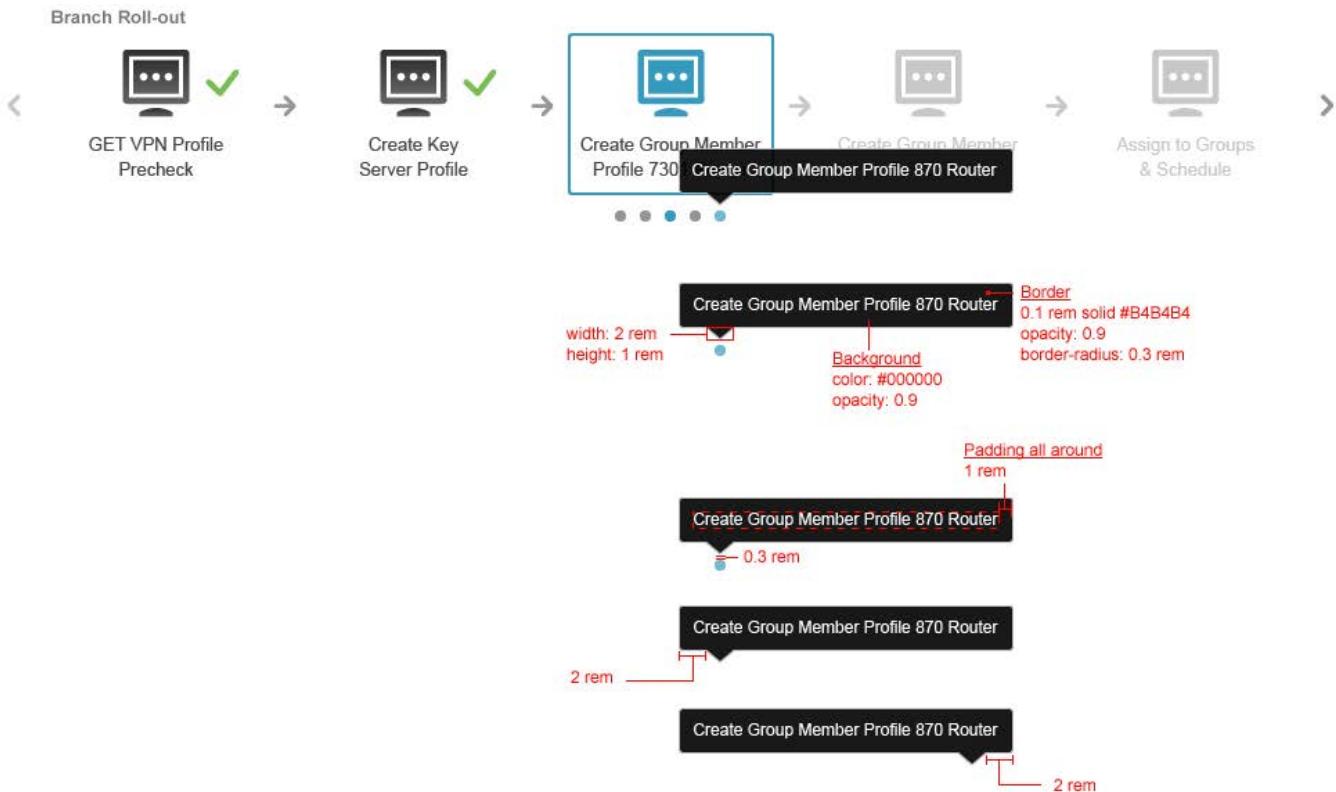


Figure 8. Task Navigator with dijit Tooltip.

Font and Color Specification

Icon Name	Icon Example	Unicode	Class Name	Size	Active Color	Hover Color	Selected Color	Disabled Color	Active State	Completed State
Left Scroll	>		icon_rotate180(for rotation)	1.6 rem	#969696	#74BAD1	#379BBE			
Right Scroll	>			1.6 rem	#969696	#74BAD1	#B79BBE			
Complete	✓			2.4 rem	7CBC59					
'Mini Nav'	●			0.8 rem	#969696	#74BAD1	#37BBE			
Arrow	→			1.6 rem	#969696				#C8C8C8	
Info	?			1.6 rem	#969696					
Task				4.8 rem	#969696				#C8C8C8	#379BBE #646464

Table 1. Task Navigator Specifications for Fonts and Colors

Fixed Characteristics

Parameter	Value	Note
Orientation	Horizontal	Future: support vertical orientation
Direction	Left to Right	Future: support Right to Left direction
Number of rows	1	Future: support 1-column arrangement
Cycle through tasks	Disabled	Carousel navigation stops at the beginning and end
Table 5. Task Navigator Specifications		

Configurable Parameters

Parameter	Value	Default
Width	By % (Pixel Size)	By %
Alignment	Left Right Center	Left
Number of visible items	Auto Number	Auto based on available real estate
Show Arrows	True False	True
Show 'Mini Nav'	True False Auto	Auto (default, if there are more items than visible ones)
'Mini Nav' Position	Left Center Right	Center
Table 6. Task Navigator Specifications		

Carousel

- Interactions & Behavior
 - Next/Previous buttons are hidden when the last/first items are shown in the viewport.
 - The optional 'mini nav' visualizes the total number of tasks as well as the visible items plus their states - all in visually distinct styles.
 - All 'mini nav' items (even if disabled) include a tooltip showing the task label.
 - The user can click the enabled 'mini nav' items to navigate to the linked screen/view.
- Transitions & Animation
 - Right/left slide (similar to the object selector)

Elements of Task Item

Each task item component includes:

- Image/icon (**visual TBD**: multiple standard sizes?)
- Label - hyperlinked (one or two lines) -- (optional)
- Progress indicator badge (none/empty (default) | in progress | completed)
- Alert badge (none/empty (default) | others configurable by app team)

- Quickview (optional)
 - Quickview is on an info icon that is display when hovering over the task image or label.
 - The quickview should have awareness of task item state to display the current: task item description, exceptions, progress, state.

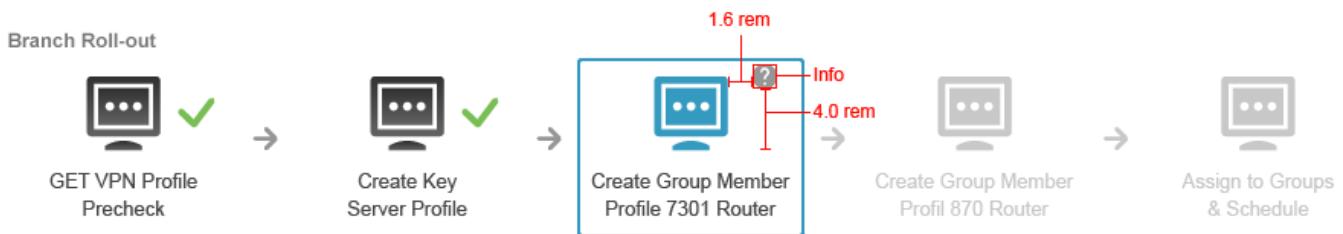


Figure 9. Task Navigator Elements



Figure 10. Quick View display by hovering over the info icon.

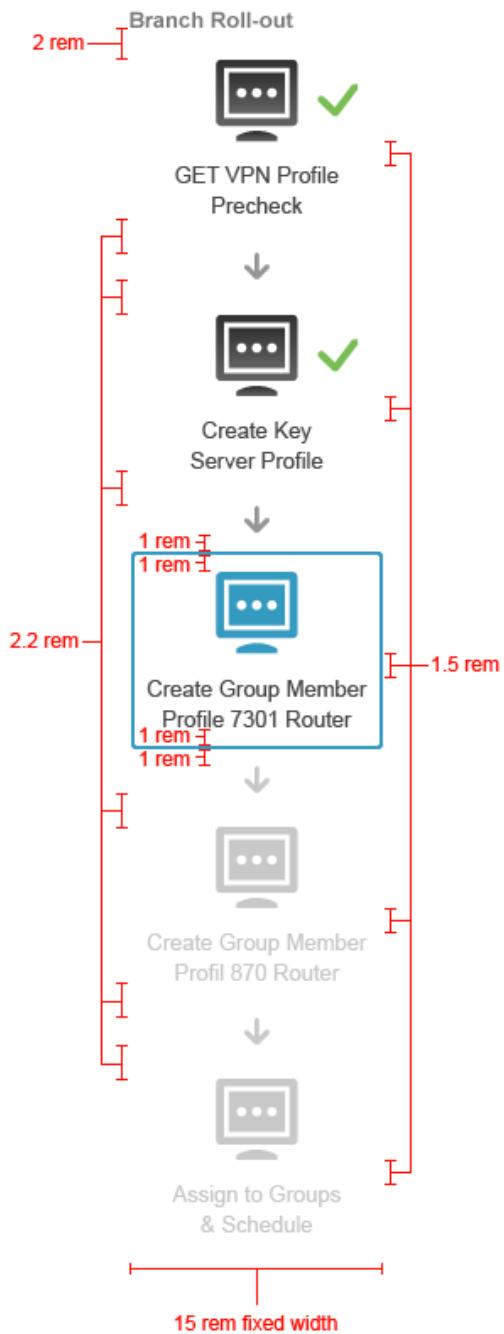


Figure 11. Vertical task navigator with carousel control hidden

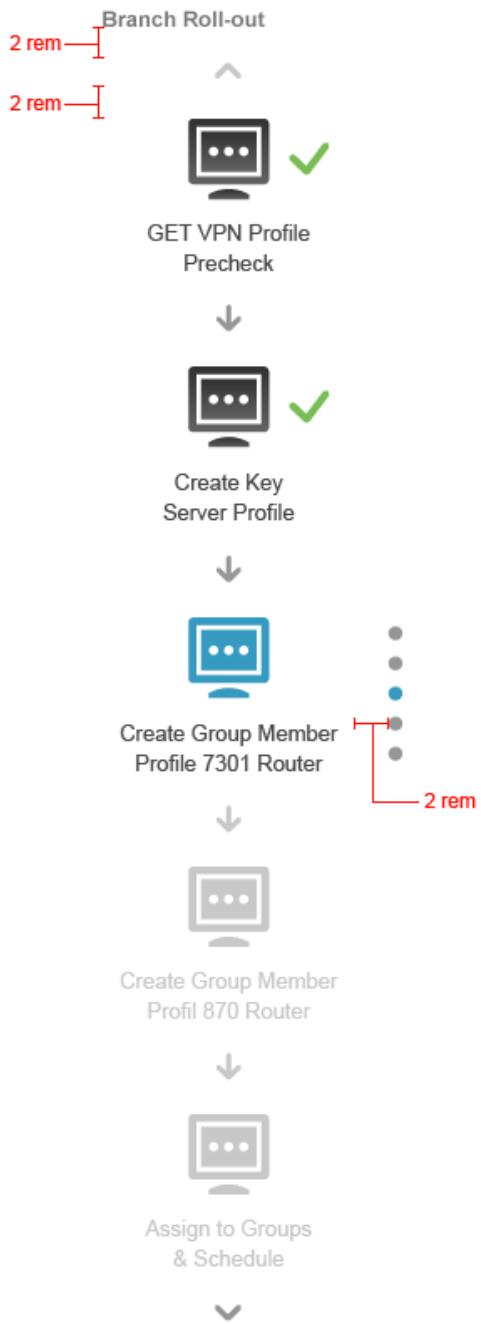


Figure 12. Vertical task navigator with carousel control

The component can have the following states:

- Active/Selected
- Enabled>Selectable
- Disabled
- Hover

- With label for step, the hover will be the standard link hover effect.
- Without label for step, a hover effect is needed on the icon itself.
- When hove on the step image or label, display an info icon if it is needed as an option for the application. Hovering over the info icon to display a quickview for introduction and/or instruction of the focused step. Hover off the quickview, dismiss the display.

Setting a certain task item to be active/selected by default should be a configurable parameter. That is to say, when the user comes to the view containing the task navigator, a certain task item could be selected by default, and the app team can configure this selection based on context. The app team should also be able to configure such that there is no task item selected by default when the view is launched (the user must explicitly choose a task item).

Optional status badges include 'Completed' and 'In Progress' icons (Future: more granular/dynamic indicators?)

Optional alert badges include the standard set of severity icons.

In general, the task navigator should have state management awareness. There should be hooks available to set various states of the task items based on completion of previous items or from a context established elsewhere (e.g. selections made outside the task navigator widget).

Interactions & Behavior

- Task labels are hyperlinked. The user can click on a link (if enabled) to jump to related view/screen.
- An optional quickview is available on an info icon when the user hovers over the task image or label. (see above)

Behavior on Browser Resize

When the user resizes his browser, the size of the task navigator and its elements remains the same. The positioning of the task navigator (left/right/center) should be dynamically adjusted to the new width of the parent container. In this way, the relative positioning of the task navigator remains the same.

TITLE PANE

Description

Title Panes group information and/or other widgets in nestable, collapsible content modules. This allows large amounts of data to be shown or hidden quickly and easily while retaining context.

▼ Title Pane 1st Level Expanded

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Usage Guidelines

Why use this pattern?

- Users should be able to have more than one pane open at once
- Users need to understand and work efficiently with a large amount of information in a single view
- This information in the view naturally fits into several logical groups

When not to use it

- When navigation is the primary reason to chunk the data (use an accordion instead)
- When more than one pane should not be open at a time (use an accordion instead)
- When steps need to be completed in a specific order (use a wizard instead)
- When information in a view should not be hidden

Options

- Title panes can be nested within each other.
- A title Pane can be expanded or collapsed by default upon entering the page.

Recommendations

- Generally, information placed in a title pane should not be critical so that if it is collapsed, the overall context/purpose of the page is not obscured.
- Ensure that critical information title panes are expanded by default and placed towards the top of the page.
- Collapse information that is not necessary to avoid overwhelming the user and let them expand to get to it (progressive disclosure).
- Limit nesting to 2 panes at most whenever possible
- It is strongly recommended to never exceed 3 levels of nesting
- Consider using Group Box if the intention is to simply organize data

Exceptions

None

See Also

Accordion, Group Box

Visual Specifications

▼ Title Pane 1st Level Expanded

Lore ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim.

Figure 1. Title Pane Expanded.

► Title Pane 1st Level Minimized

Figure 2. Title Pane collapsed.

▼ Title Pane 1st Level Expanded

▼ Title Pane 2nd Level Expanded

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▼ Title Pane 3rd Level Expanded

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▼ Title Pane 1st Level Expanded

► Title Pane 2nd Level Minimized

Figure 3. Nested title panes.

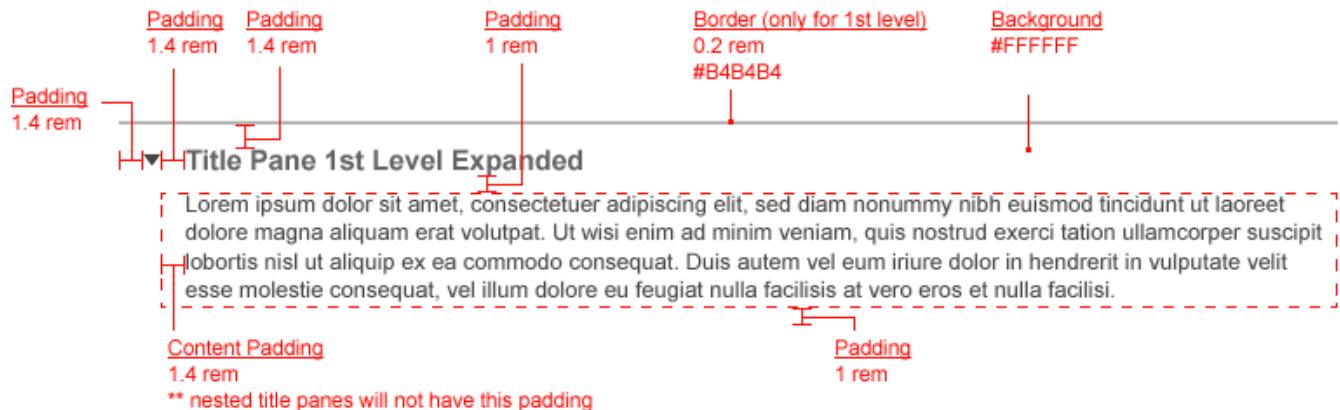


Figure 4. Title Pane expanded visual specifications.



Figure 5. Title Pane minimized specifications.

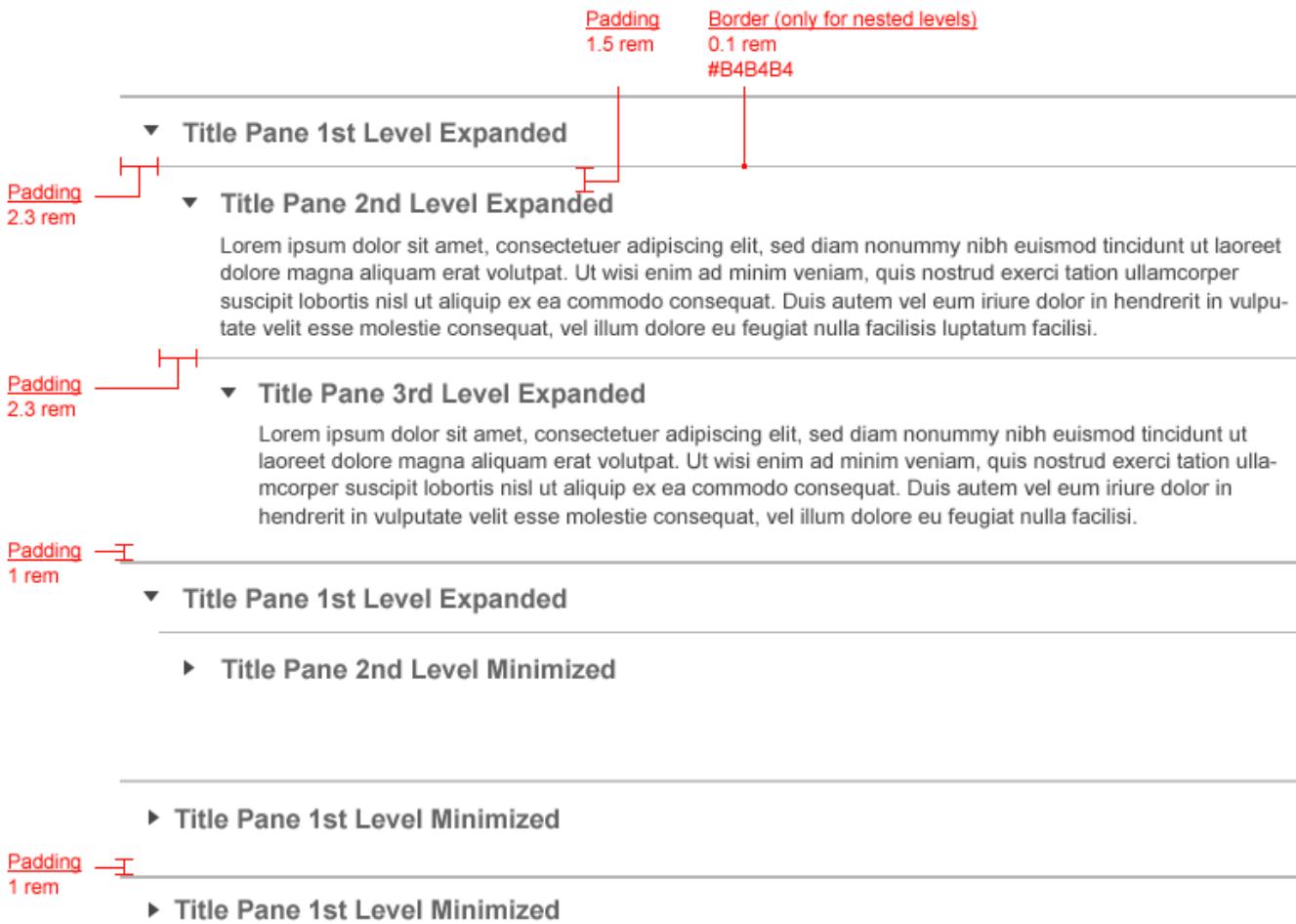
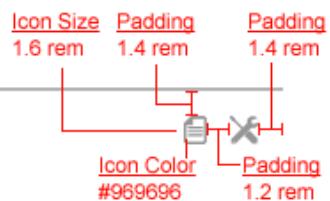


Figure 6. Title Pane padding specifications.

Title Pane 1st Level Expanded Without Collapsible Feature

- Title Pane 1st Level Expanded with Icons** (indicated by a downward arrow)



Icon Info

These are generic example icons. Icons and associated actions are defined at design time by product teams.



Icon Hover
#74BAD1



Icon Pressed
#379BBE

Figure 7. Title Pane without collapsible feature with tools.

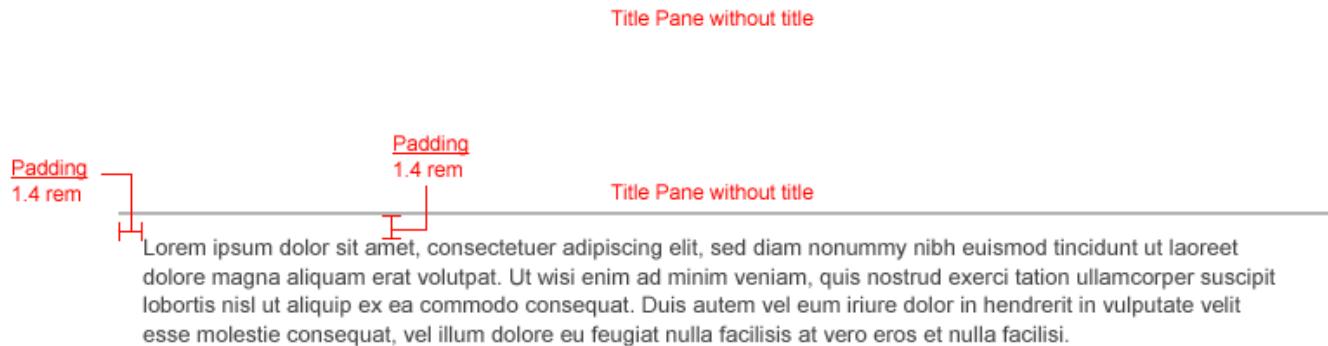


Figure 8. Without title pane title.

Font and Color Specification

Element	Font Family	Size	Style	Color
Title	Arial	1.6 rem	Bold	#646464

Table 1. Specifications for Fonts and Colors

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Dropdown Arrow	▶		icon_rotate90 (for rotation)	0.9 rem	#464646		
List Arrow	▶			0.9 rem	#464646		

Table 2. Icons Specifications

Interaction Behavior

Feature List

As noted above, this is not a comprehensive spec, but is instead a guide for developers on the features that should be supported by each component.

The title pane behaves very similarly to the Dojo widget of the same name.

Title Bar

Bar that contains a left-aligned module title and a right-aligned set of icons. Unlike dashboard modules, title panes cannot be dragged/dropped, maximized, detached, resized, or closed. The title bar is optional; it should appear by default, but app developers can choose to hide the title bar at design time in order to create a box/container with no titlebar.

Title Pane Actions

Actions that pertain to all the content contained within a title pane are represented as a set of right-aligned icons within the title bar of the title pane. The only default icon for title panes is the minimize/restore icon (pictured in Figure 2 above). This icon is optional, but if present, should always be the last icon in the set. Any other icons and associated actions are defined at design time by product teams.

Minimize & Restore

- Clicking the minimize (aka "collapse") icon reduces the module (via animation) to only a title bar and status bar (if applicable). Clicking restore returns the module back to its original size (via animation).
- If a module is minimized, clicking the restore icon returns the module to its original state.

Body Area

This is where the content of the content pane is displayed, and can include such things as text, form elements, tables, charts, tabs, and nested content modules.

Nesting

Title panes may be nested inside each other, in the body area, up to three levels deep. The visual treatment for nested title panes has yet to be defined, and may be different for each nested level.

Interaction for Title Bar Icons

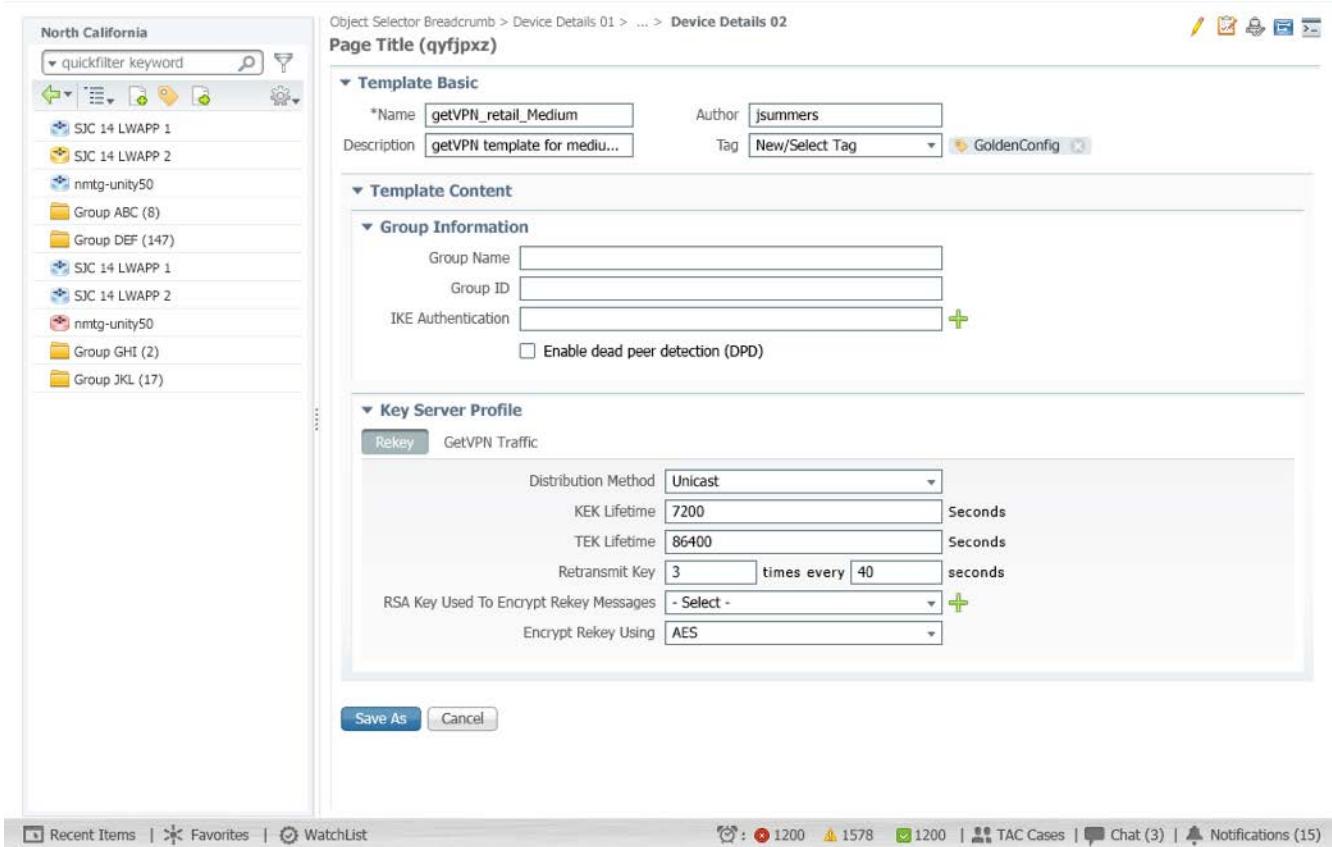
Since few title panes will have any actions other than the minimize icon, the control icons are not dimmed in their default state. They do also have hover, pressed, and disabled states.

Dimensional Constraints

Title panes generally expand to 100% of the enclosing container, allowing for a few pixels of space between the border of the title pane and the surrounding container. Title panes do not have horizontal scrollbars; however, tables embedded within title panes may have horizontal scrollbars (though the use of horizontal scrollbars is strongly discouraged).



Figure 9. Title Pane Nested.



Object Selector Breadcrumb > Device Details 01 > ... > Device Details 02

Page Title (qyfjpxz)

Template Basic

- *Name: getVPN_retail_Medium
- Author: jsummers
- Description: getVPN template for medi...
- Tag: New>Select Tag
- GoldenConfig

Template Content

Group Information

- Group Name:
- Group ID:
- IKE Authentication:
- Enable dead peer detection (DPD)

Key Server Profile

Rekey GetVPN Traffic

- Distribution Method: Unicast
- KEK Lifetime: 7200 Seconds
- TEK Lifetime: 86400 Seconds
- Retransmit Key: 3 times every 40 seconds
- RSA Key Used To Encrypt Rekey Messages: - Select -
- Encrypt Rekey Using: AES

Save As Cancel

Recent Items | Favorites | WatchList

1200 1578 1200 TAC Cases Chat (3) Notifications (15)

Figure 10. Title Pane Example

TOOLBAR - PAGE LEVEL

Usage Guideline

Description

The Page Toolbar consists of a list of action items performable at the page level.

Section 1 - Main Components

Page Content/Local Navigation Elements



Figure 1. Page Content and Local Navigation Items in context of the page

Page Toolbar

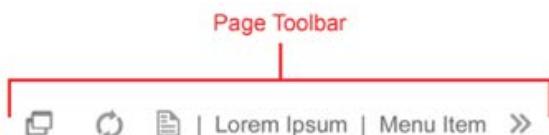


Figure 2. Page Toolbar with Overflow

Section 2 - Required/Recommended/Optional/Not Permitted

Component	Description	Status
Page Toolbar Items	Icons for action items at the page level	Optional

Section 3 - Other Widgets Incorporated/Referenced

- Global Navigation
- Global Breadcrumb
- Abridged Shell

Section 4 - Usage & Flows

Page Toolbar

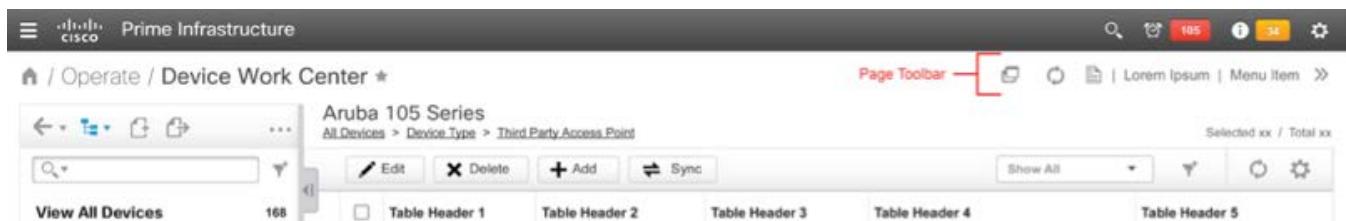


Figure 3. Page Toolbar shown with Global Breadcrumb and Local Title



Figure 4. Page Toolbar with Overflow

- The page toolbar is only needed if there are page level actions that need to be performed.
- Ideally all page-level actions should appear in this page-level toolbar; however, due to legacy code, we will use the following logic to place the actions.

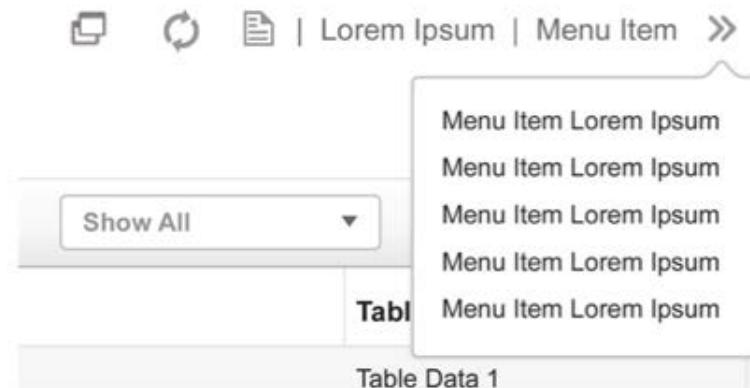
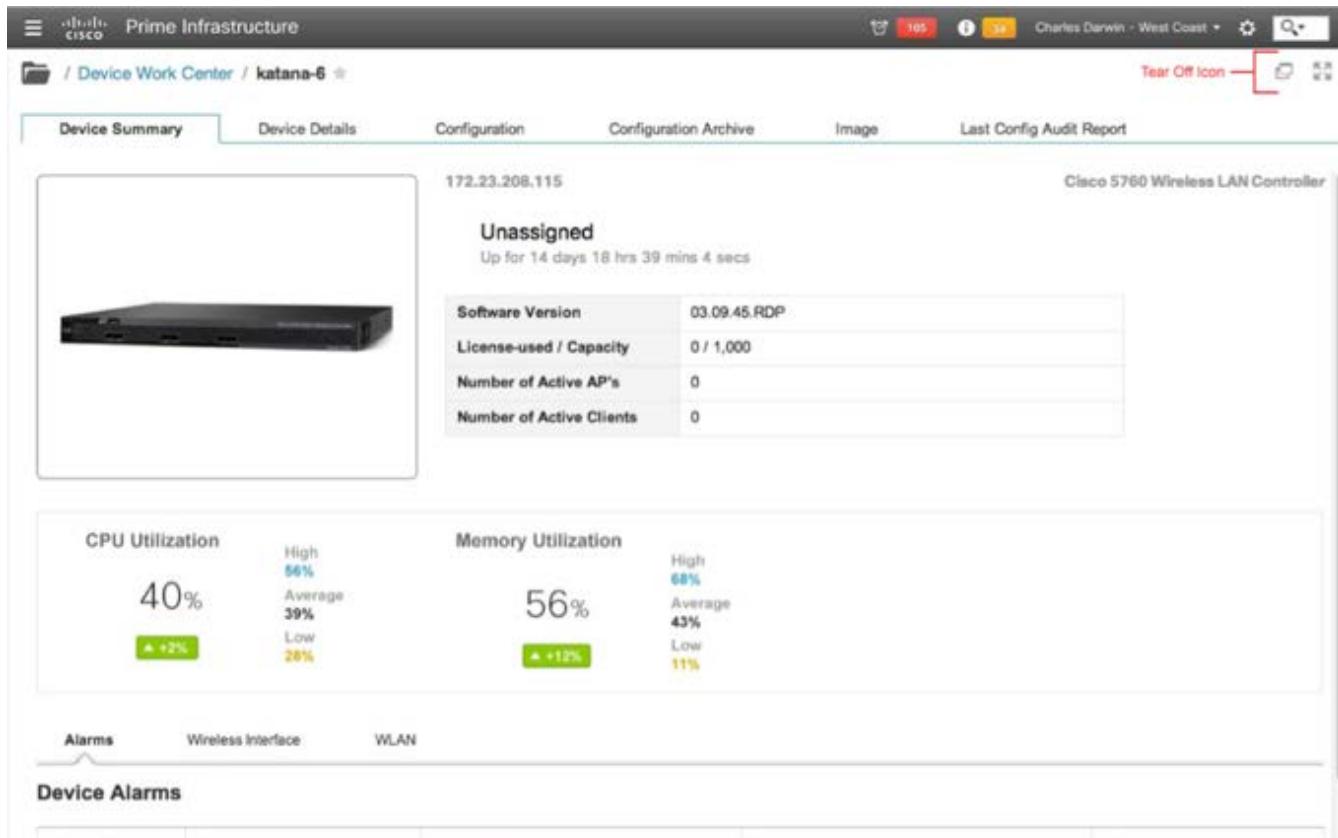


Figure 5. Page Toolbar with Overflow dropdown

- If the action has a page-context (not a page action) it can appear in the global header toolbar.
- A maximum container width of 500px is permissible. If the Page Toolbar has extended the container over 500px wide, the remaining items will enter overflow.
 - Only the following 4 icons, open in a new tab, refresh, print, and help will appear as icons within the global toolbar. Open in a new tab, refresh, and print are standard within the toolbar, but are optional actions.
 - Other page-context actions will appear as text links.
 - Page-content text links can only appear after the icons.

- Actions should be consistently located in the same place throughout the system. If an action appears in the header toolbar, it should not appear in the page toolbar, and vice-versa. i.e. if refresh appears in the header toolbar, then it should not appear in the page toolbar on a different page.
- Clicking outside of the Overflow menu will close the menu.
- Overflow is provided for the toolbar, but generally it is best to display all of the tools without going into overflow if there is room. However, if there are page settings, it is appropriate to place these actions inside a gear icon with its own drop down.

Tear Off



The screenshot shows a detailed view of a Cisco device named 'katana-6'. The top navigation bar includes 'Prime Infrastructure' and 'Charles Darwin - West Coast'. The page title is '/ Device Work Center / katana-6'. A red box highlights the 'Tear Off Icon' in the top right corner of the toolbar. Below the toolbar, tabs include 'Device Summary' (selected), 'Device Details', 'Configuration', 'Configuration Archive', 'Image', and 'Last Config Audit Report'. The main content area displays the device's IP address (172.23.208.115), name ('Cisco 5760 Wireless LAN Controller'), and status ('Unassigned'). It also shows software version (03.09.45.RDP), license usage (0 / 1,000), and statistics for active APs and clients. Below this, CPU and Memory utilization charts are shown with current values (40% CPU, 56% Memory) and historical trends. At the bottom, tabs for 'Alarms', 'Wireless Interface', and 'WLAN' are visible, along with a section titled 'Device Alarms' listing two critical alarms.

Severity	Status	Timestamp	Message	Category
Critical	Not Acknowledged	April 18, 2013 1:14:57 PM PDT	Port '7' is down on device '172.23.208.115'	Controller
Critical	Not Acknowledged	April 18, 2013 1:14:57 PM PDT	Port '8' is down on device '172.23.208.115'	Controller

Figure 6. Detail page with Tear Off Icon

- The Tear Off functionality exists in the Page Toolbar only when the user is on a detail page.

Figure 7. Torn Off detail page with Abridged Shell

- Clicking on the Tear Off icon duplicates the details page in a new tab within the browser chrome. The user is also brought back to the master table page in the original window.
 - The Abridged Shell will be used as a header for the new tab.

Section 4.1 – Deprecated Features

Workbench



Figure 8. Workbench Screenshot from Prime Infrastructure V2.0

- Workbench provided the user with sub-page navigation and page-level actions and title information within the header area.
- Workbench has been deprecated and all content previously within Workbench will be relocated.
 - Navigation-related content will be contained within the Global Navigation.
 - Page-level actions will be included within Page Toolbar.
 - Table actions will be located within the Table Toolbar.
 - Page titles will be included within the Local Breadcrumb or Page Title.

Interaction Specifications

Description

The following sections detail further interactions required to code the Page Toolbar, so are primarily targeted at the UI Framework team, but may be helpful for application team members and UX as well.

Section 4.2 – Interaction Details for Framework Developers

N/A

Section 5 - Technical Constraints

N/A

Section 6 - Rationale, Rejected and Future Ideas

Future

Move towards contextual actions rather than page level actions

- Users want toolbar actions to be more contextually relevant to the content, i.e. Page Toolbar and Workbench.

Section 7 - Accessibility

Ensure that users can navigate to and modify checkboxes using only the keyboard.

Follow Cisco's Accessibility Design Requirements <http://csmtg-wiki.cisco.com/confluence/images/icons/linkext7.gif> to ensure that the controls are available and understandable to users using only the keyboard or some assistive technology.

- Users must be able to visually see which item is currently selected using focus border/styling.
- User must be able to tab all navigational elements on the page.
- Once a user is focused on a tab, the Left and Right arrow keys can be used to navigate between tabs. The Tab key can be used to alternate to the 2nd or lower level tabs.
- When the user hovers over any icon or truncated breadcrumb, a tool tip will appear after immediately describing the action.
- When the user hovers over any link, a tool tip will appear after 2 secs to describe the link.

Visual Specifications



Figure 1. Toolbar Overview



Figure 2. Toolbar with Overflow Specification



Figure 3. Toolbar with Overflow Drop Down List

Font and Color Specification

Element	Font	Size	Style	Color
Pipe	Arial	1.5 rem	Normal	#464646
Text Link	Arial	1.2 rem	Normal	#28AAD7
Text Link (Hover)	Arial	1.2 rem	Normal, Underline	#28AAD7
Text Link (Disabled)	Arial	1.2 rem	Normal	#C8C8C8

Table 1: Fonts and Colors Specifications

Icons

Icon Name	Icon Example	HTML Code	Class Name	Size	Active Color	Hover Color	Selected Color
Toolbar Icon				1.6 rem	#969696	#74bad1	#379bbe
Overflow				1.6 rem	#969696	#74bad1	#379bbe
Drop Down Icon			icon_rotate90 (for rotation)	0.7 rem	#969696	#74bad1	#379bbe

Table 2. Icons Specifications

FONTS AND TYPE GUIDE

Visual Specifications

Body Fonts

Font Name	Font Family	Weight	Style	Size	Color	Usage Example
Content Body (Dark)	Arial	Normal		1.3 rem	#464646	Default text style for application content
Table Data (Body)	Arial	Normal		1.3 rem	#464646	Table Data
Content Label	Arial	Bold		1.3 rem	#464646	Group Box Label, Chart labels and legends, Check box field labels
Content Value	Arial	Normal		1.3 rem	#464646	Group Box value, Chart value and legends, Check box field values
Instructional Text	Arial	Normal		1.3 rem	#464646	Instructional text
<i>Hint text</i>	Arial	Normal	<i>Italic</i>	1.3 rem	#464646	Group Box titles, selected items in navigation
Body Text White	Arial	Normal		1.3 rem	#FFFFFF	
Disabled Text	Arial	Normal		1.3 rem	#C8C8C8	" * " designating required fields
*	Arial	Bold		1.8 rem	#EC2300	" * " designating required fields

Table 1. Body Text Fonts and Color Specifications

Link Fonts

Font Name	Font Family	Weight	Style	Size	Color	Usage Example
<u>Link Text</u>	Arial	Normal		1.3 rem	#28AAD7	Default text style for all links
Link Text White	Arial	Normal		1.3 rem	#FFFFFF	Links on a dark background
<u>Link Text</u>	Arial	Normal	<u>Underline</u>	1.3 rem	#28AAD7	Default hover treatment for all links
Link Text White	Arial	Normal	<u>Underline</u>	1.3 rem	#FFFFFF	Hover treatment for links on a dark background

Table 2. Link Text Fonts and Color Specifications

Links as Toggles

Under certain circumstances, links can be used to portray a type of toggle control. In these cases, the current state is displayed as plain text and the link provides the mechanism to change to a different state. See Figures 1 and 2, below, for an example of how links can be used as Stop/Start toggles.



Figure 1. Links in a Table.

		Active State	Selected State
Service	Status	Start/Stop	
MRM	Status	Start Stop	
Conference	Status	Start Stop	
Licenses	Status	Start Stop	

Disabled State Hover State

Figure 2. Links in a Table with One Row Selected.

Header and Title Fonts

Font Name	Font Family	Weight	Style	Size	Color	Usage Example
Product Family Name & Product Name	CiscoSans Thin, Arial	Normal		2 rem	#FFFFFF	Cisco Prime Infrastructure
Dashlet Title bar	CiscoSans Thin, Arial	Normal		2 rem	#646464	Dashlet Title
Title Pane Title (legacy pages)	Arial	Normal		1.3 rem	#da7a02	Title PaneTitle
Title pane Title	Arial	Bold		1.6 rem	#646464	Title PaneTitle
Content Title	CiscoSans Thin, Arial	Normal		2 rem	#646464	Content Title
Content Title(small)	Arial	Bold		1.3 rem	#646464	Small Content Title
Content Tab Title	Arial	Normal		1.5 rem	#464646	Content Tab
Table Title	Arial	Normal		1.8 rem	#646464	Table Title
Table Column Header	Arial	Bold		1.3 rem	#646464	Table Column Header Label

Table 3. Header and Title Fonts and Color Specifications

Error Font Specification

Font Name	Font Family	Weight	Style	Size	Color	Usage Example
Error Message	Arial	Normal	Normal	1.2	#EC2300	Contextual Error, Status Message Critical

Table 4. Error Fonts and Color Specifications.

