

Slide 1 - ZCCP-IA



ZCCP-IA

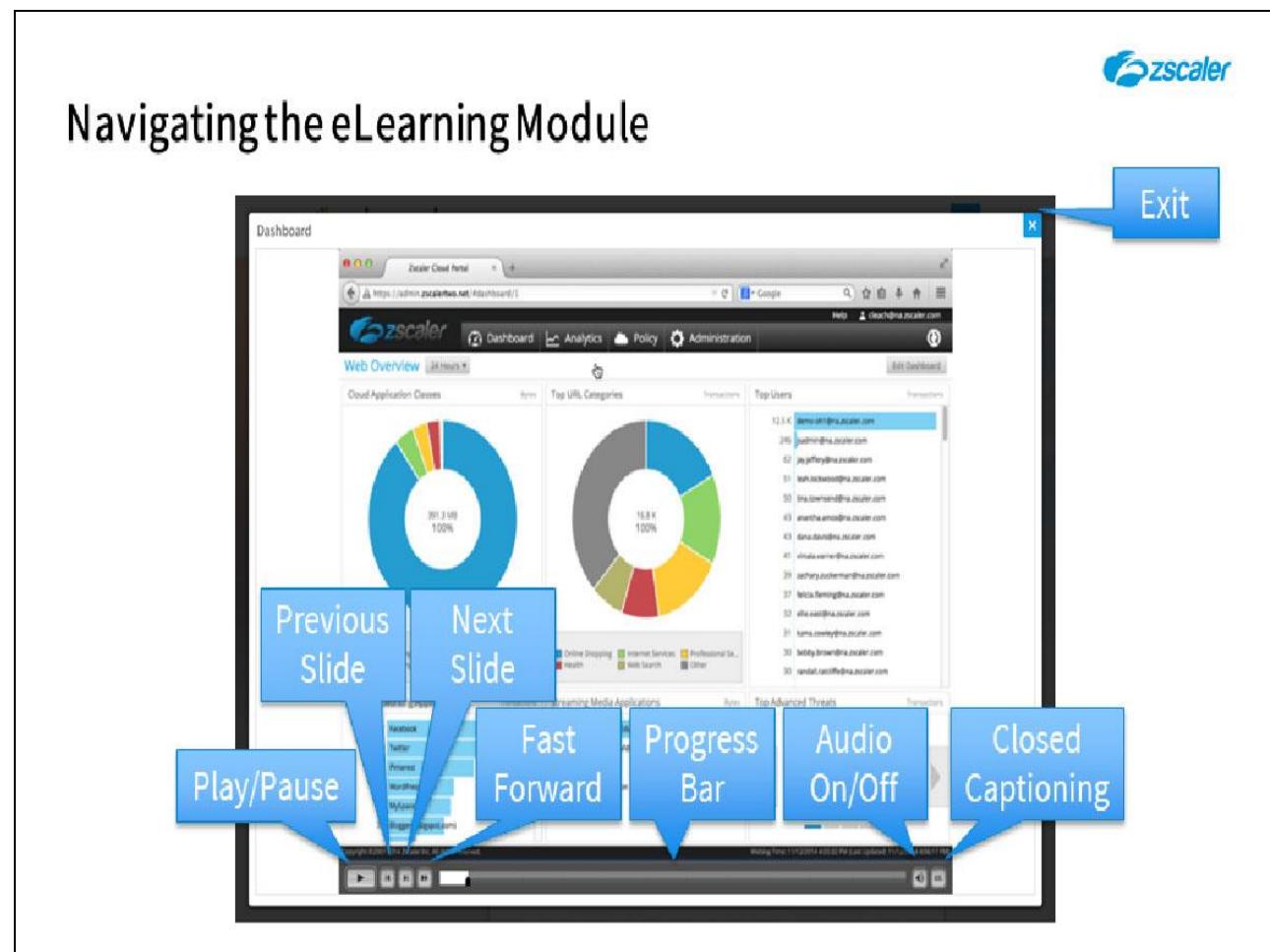
Zscaler Bandwidth Control

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Slide notes

Welcome to the Zscaler Bandwidth Control module.

Slide 2 - Navigating the eLearning Module



Slide notes

Here is a quick guide to navigating this module. There are various controls for playback including play and pause, previous, next slide and fast forward. You can also mute the audio or enable Closed Captioning which will cause a transcript of the module to be displayed on the screen. Finally, you can click the 'X' button to exit.

Slide 3 - Module Agenda

Module Agenda



- Bandwidth Control Overview
- Enabling Bandwidth Control
- Define Bandwidth Control Criteria
- Create Bandwidth Control Rules
- Bandwidth Control Reporting
- Interactive Demo

Slide notes

During this module we will cover the following: an overview of Zscaler's Bandwidth Control, enabling bandwidth control, defining bandwidth control criteria, creating bandwidth control rules, and bandwidth control reporting followed by an interactive demo.

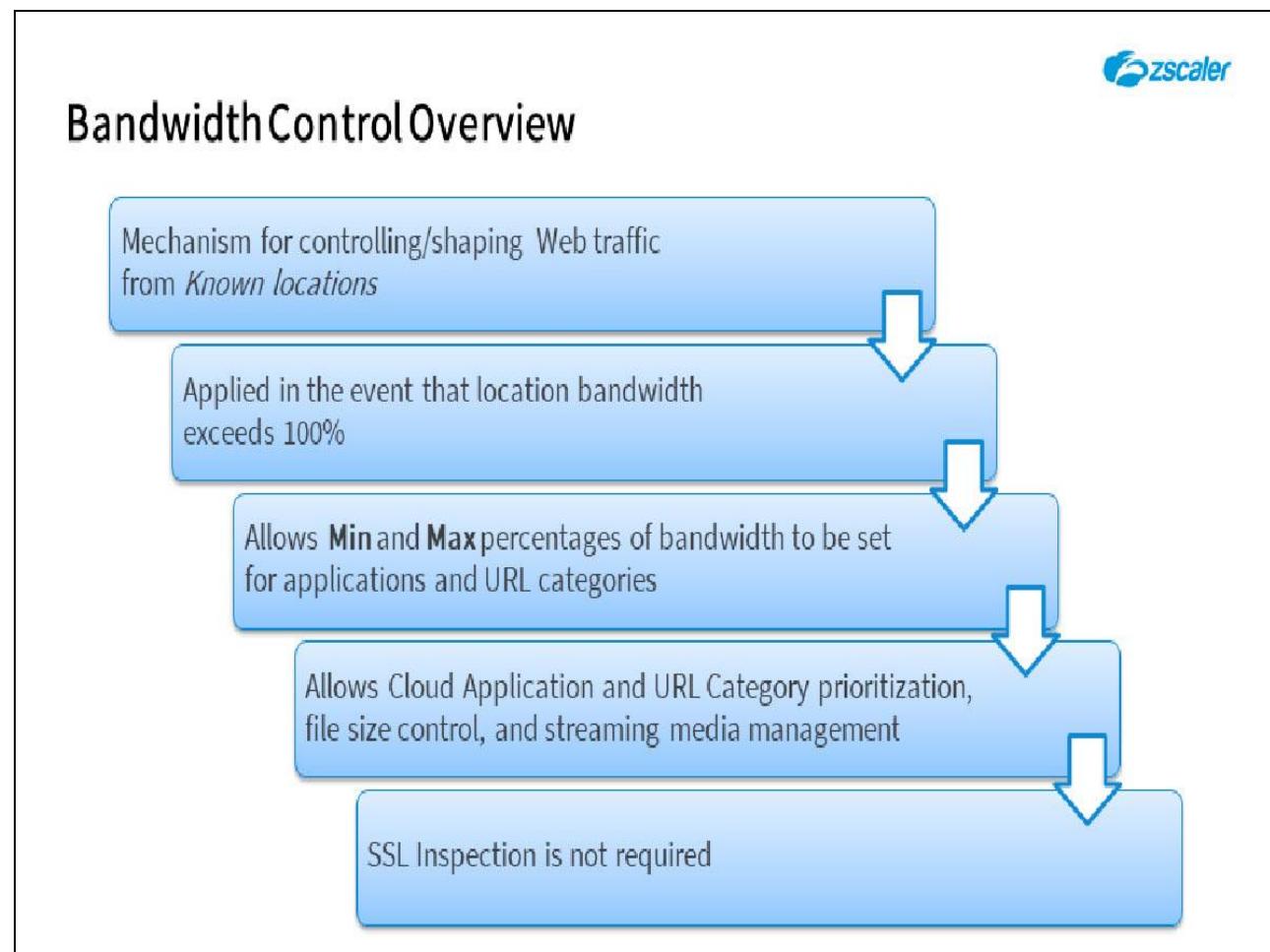
Slide 4 - Bandwidth Control Overview



Bandwidth Control Overview

Slide notes

Slide 5 - Bandwidth Control Overview



Slide notes

Zscaler's Bandwidth Control is a mechanism for controlling and shaping traffic coming from Known Locations. As with any kind of traffic shaping technology it only takes effect if the available bandwidth from a location is exceeded. Once that happens, Bandwidth Control rules allow Administrators to determine minimum and maximum percentages of location bandwidth as well as priorities for various applications and URL categories.

Finally, SSL Inspection is not required for bandwidth control since it operates at the TCP level.

Slide 6 - Enabling Bandwidth Control



Enabling Bandwidth Control

Slide notes

Slide 7 - Enabling Bandwidth Control



Enabling Bandwidth Control

Enabled per Location

- Bandwidth Control is applied on a per-Location basis in the upload and download directions
- Works at Location and Sub-Location level
- Applies to HTTP and HTTPS traffic only

Bandwidth Control Configuration

- Best Practice is to allow for 10 – 15% of link bandwidth for overhead and non-Web traffic
- Set Location link bandwidth to 85 – 90% of actual bandwidth to allow for protocol overhead

Slide notes

Bandwidth Control is enabled on a per-location basis and only affects HTTP and HTTPS traffic. For each location you will specify an upload and download bandwidth. Then when you create rules you will specify bandwidth needs as a percentage that will be translated into bandwidth for each location.

Because the system ignores headers and tunnel overhead and only applies to Web traffic, the best practice is to set the location bandwidth in Zscaler to be 85 - 90% of the location's actual bandwidth. So, if the location has a 100Mbps connection you will enter 85 to 90Mbps into the Bandwidth Control configuration.

Slide 8 - Define Bandwidth Control Criteria



Define Bandwidth Control Criteria

Slide notes

Slide 9 - Define Bandwidth Control Criteria



Define Bandwidth Control Criteria

- Define Bandwidth Classes and configure other criteria

Define Bandwidth Classes	Other Criteria
<ul style="list-style-type: none">• Select URL Categories• Select Cloud Applications• Specify by Domain list	<ul style="list-style-type: none">• Large Files threshold<ul style="list-style-type: none">◦ Define file size that triggers upload/download throttling (5MB - 1GB)• Select Web Conferencing Applications to include• Select VoIP Applications to include

Slide notes

The next step is to define a set prioritized rules that tell Zscaler how to allocate bandwidth once the location's defined rate is reached. But before we do that we need to define the sites and applications to which we will assign bandwidth. There are a few defined Applications for Web Conferencing, Voice over IP, and Large Files, but the bulk of the matching will be done on URLs.

We can use the same URL categories we use for creating URL Filtering rules and we can also manually add domains into our groups.

In the Admin UI, you can access the Bandwidth Classes page under the Administration Tab by clicking on Bandwidth Classes. There are a handful of predefined URL Classes. You can edit these or create new ones.

Slide 10 - Create Bandwidth Control Rules



Slide notes

Slide 11 - Create Bandwidth Control Rules



Create Bandwidth Control Rules

- Trigger for Bandwidth Control**
 - Once Location bandwidth rate is exceeded, rules define traffic allocation/priority
- Applying Bandwidth Control**
 - Can be applied based on concurrent sessions and/or bandwidth percentage
- Minimum Bandwidth**
 - Minimum guarantees bandwidth to Bandwidth Classes in that rule regardless of priority
 - Sum of all Minimums cannot exceed 100%
 - Bandwidth above Minimums allocated to Bandwidth Classes up to rule Maximum based on priority
- Undefined Traffic**
 - All traffic not classified in a defined rule fall into the Default rule

Slide notes

Bandwidth Control rules are created with the following criteria in mind. Bandwidth control only becomes active should the bandwidth, as specified for the location, is exceeded. In other words, if we have a 100Mbps link but we are trying to push or pull 120Mbps of traffic the link is saturated. Only now will Bandwidth control become active.

Rules are evaluated in order, similar to firewall rules, however, if a Minimum Bandwidth allocation is specified for a particular class the Minimum supersedes the Rule order. In addition to limiting on minimum and maximum bandwidth the number of concurrent sessions can be specified. The sum of all Minimum% cannot exceed 100% -- the UI will generate an error and the rule will not be allowed.

If any bandwidth is available a class can receive more bandwidth up to the stated maximum percentage. BW classes with a higher Rule number are allocated Maximus first. And last, any traffic not detailed by a rule will fall into the Default rule which is always evaluated after all other rules.

Slide 12 - Bandwidth Control Example (100Mbps location)



Bandwidth Control Example (100Mbps location)

- Defined rules:
 - Productivity_Class_BW** guaranteed a minimum BW of 30%, and up to 100%
 - Bus & Prod_BW** guaranteed a minimum BW of 20%, and up to 100%
 - Large File Bandwidth** guaranteed a minimum BW of 10%, and up to 100%
 - Default** rule for everything else, gets no guaranteed minimum BW, and up to 100%

Rule Order	Rule Name	Criteria	Action
1	Productivity_Class_BW	Bandwidth Classes: Productivity Locations: Site_1	Max. Concurrent Sessions: Unlimited Bandwidth Limits: 30 - 100%
2	Bus & Prod_BW	Bandwidth Classes: Business and Economy Locations: Site_1	Max. Concurrent Sessions: Unlimited Bandwidth Limits: 20 - 100%
3	Large File Bandwidth	Bandwidth Classes: Large Files	Max. Concurrent Sessions: Unlimited Bandwidth Limits: 10 - 100%
Default	Default Bandwidth Control	Bandwidth Classes: Large Files, Productivity, Business and Economy, General Surfing	Max. Concurrent Sessions: Unlimited Bandwidth Limits: 0 - 100%

Notes:

- Min BW takes priority over all else
- If two rules allow Max BW of 100%, the first rule hit takes priority
- If Min BW for a class is 0% then that class can be starved
- Total Min BW of all rules combined cannot exceed 100%

Slide notes

In this example a custom class has been created called “Productivity Class” that includes business critical apps such as Salesforce, Office365, etc. It is guaranteed a minimum of 30% of the available BW and can take up to 100% if needed during contention. Business and Productivity get 20% min / 100% max. Large file transfers get 10% min / 100% max. And last, the Default rule contains everything else and gets 0% min / 100%.

As stated in a previous slide the following rules are followed by the system: Minimum BW takes priority over all else – even Rule Order. If two rules allow Max BW of 100% and both classes are requesting 100% BW the first rule hit takes priority. If Min BW for a class is 0% then that class can be starved out by other classes with Min BW requirements. And last, Total Min BW of all rules combined cannot exceed 100%.

Slide 13 - Bandwidth Control Example (100Mbps location) – Result



Bandwidth Control Example (100Mbps location) – Result

Location Configured for 85% of Actual Bandwidth

- 85Mbps in the upload direction
- 85Mbps in the download direction

Under Bandwidth Contention:

- Productivity_Class_BW gets at least 30% of 85Mbps (25.5Mbps) and up to the full 85Mbps
- Bus & Prod_BW gets at least 20% of 85Mbps (17Mbps), and up to the full 85Mbps (as long as there is no contention with Rule 1)
- Large File Bandwidth gets at least 10% of 85Mbps (8.5Mbps), and up to the full 85Mbps (as long as there is no contention with Rules 1 or 2)
- Default has no minimum Bandwidth protection and can be starved by Rules 1, 2, or 3

When There is no Bandwidth Contention:

- As the Max BW for each rule is 100% any class can take all available BW
- Traffic balancing occurs every second so BW controls can kick-in immediately

Slide notes

The expected results of the rules we specified, assuming bandwidth contention exists, are as follows: Productivity_Class gets 30% of the BW stated on the Location configuration. In this case with a 100Mbps uplink we state 85Mbps available to take overhead for GRE or IPSec into account. Therefore, Productivity gets a minimum of 25.5Mbps and can take a max of 85Mbps.

Business and Productivity gets 17Mbps min / 85Mbps max (if no contention with Rule1). Large file transfers get 8.5Mbps min / 85Mbps max (if no contention with Rule1 or Rule 2). And last, Default has no Min BW protection. As such this class can effectively be starved for BW By Rule 1,2, or 3 during contention.

If no contention exists, then any class can take all available BW. Traffic balancing occurs every second so BW controls can kick-in immediately.

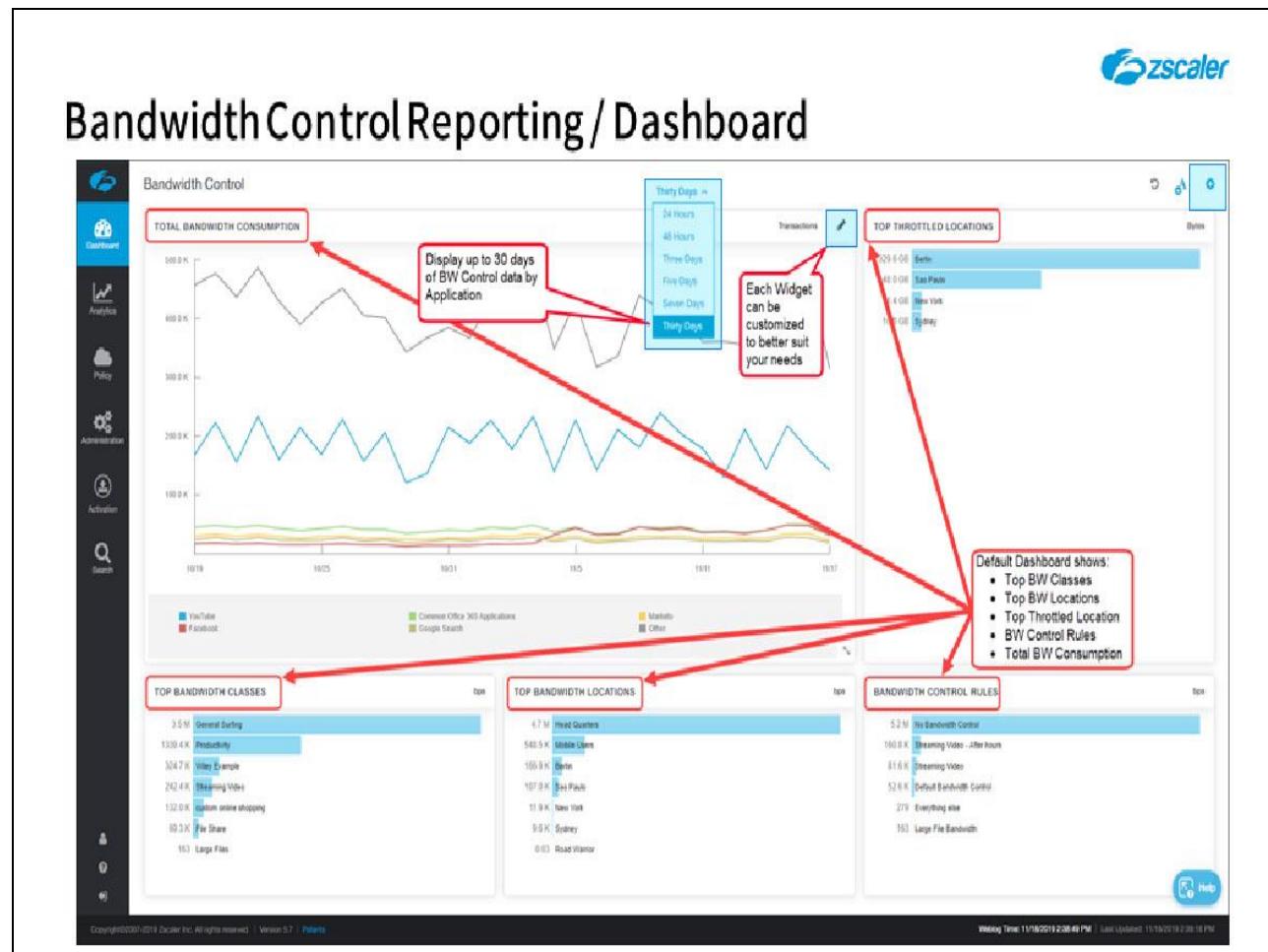
Slide 14 - Bandwidth Control Reporting



Bandwidth Control Reporting

Slide notes

Slide 15 - Bandwidth Control Reporting / Dashboard



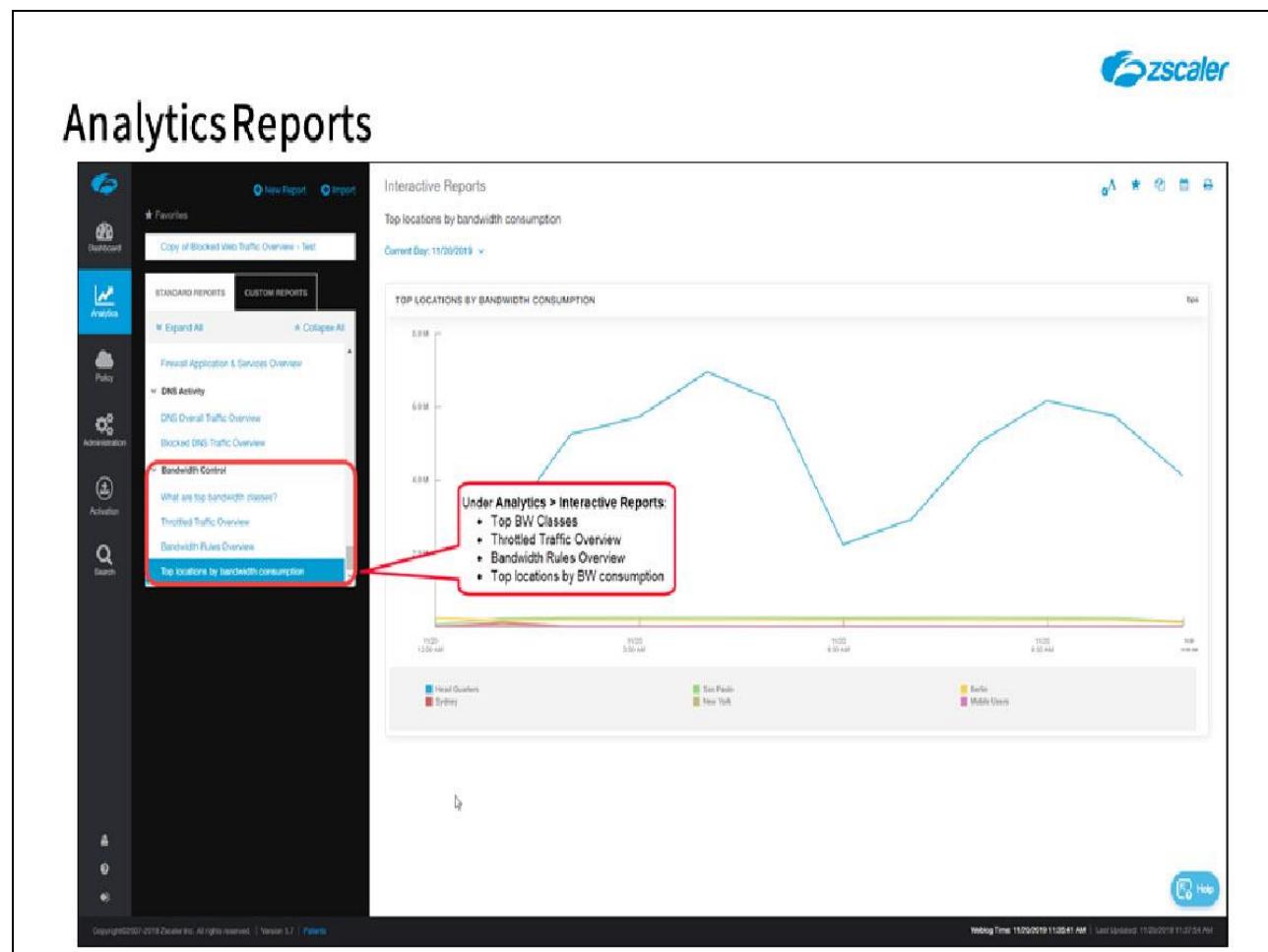
Slide notes

Let's take a quick look at the Bandwidth Reporting dashboard. By default, the following "Widgets" are shown: Top Bandwidth classes, Top BW Locations, Bandwidth Control rules, Top Throttled locations, and Total Bandwidth Consumption.

This page is customizable by clicking the "Add Widget" button in the top right corner.

This dashboard can display between 24 hours and 30 days' worth of Bandwidth Control data and the time frame is selectable at the top of the page. Each Widget can be customized by clicking on the edit icon to the top right of each Widget.

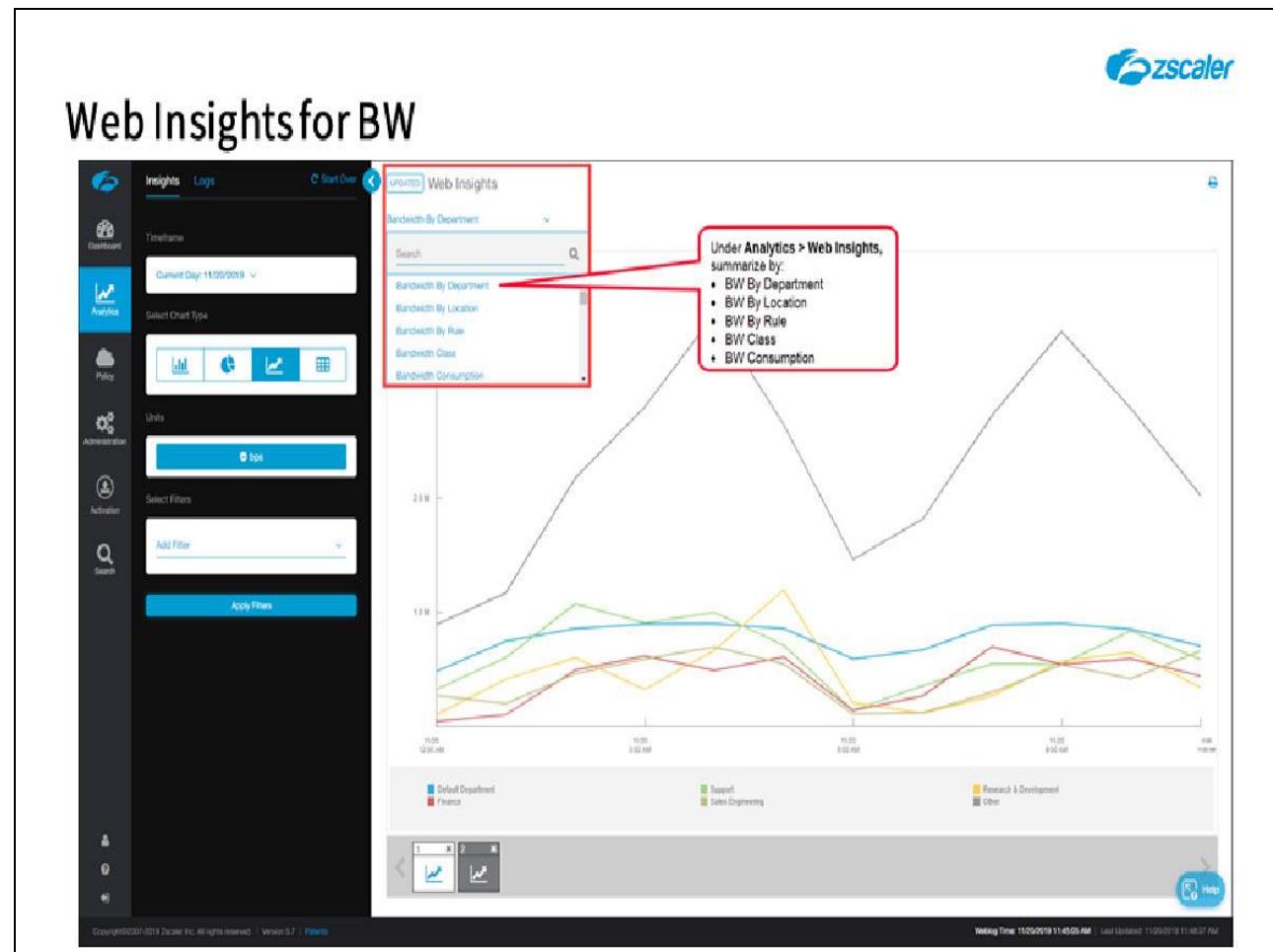
Slide 16 - Analytics Reports



Slide notes

Under Analytics, then Interactive reports, reports have been added for: Top BW classes, Throttled Traffic, BW Rules Overview, and Top Locations by BW consumption.

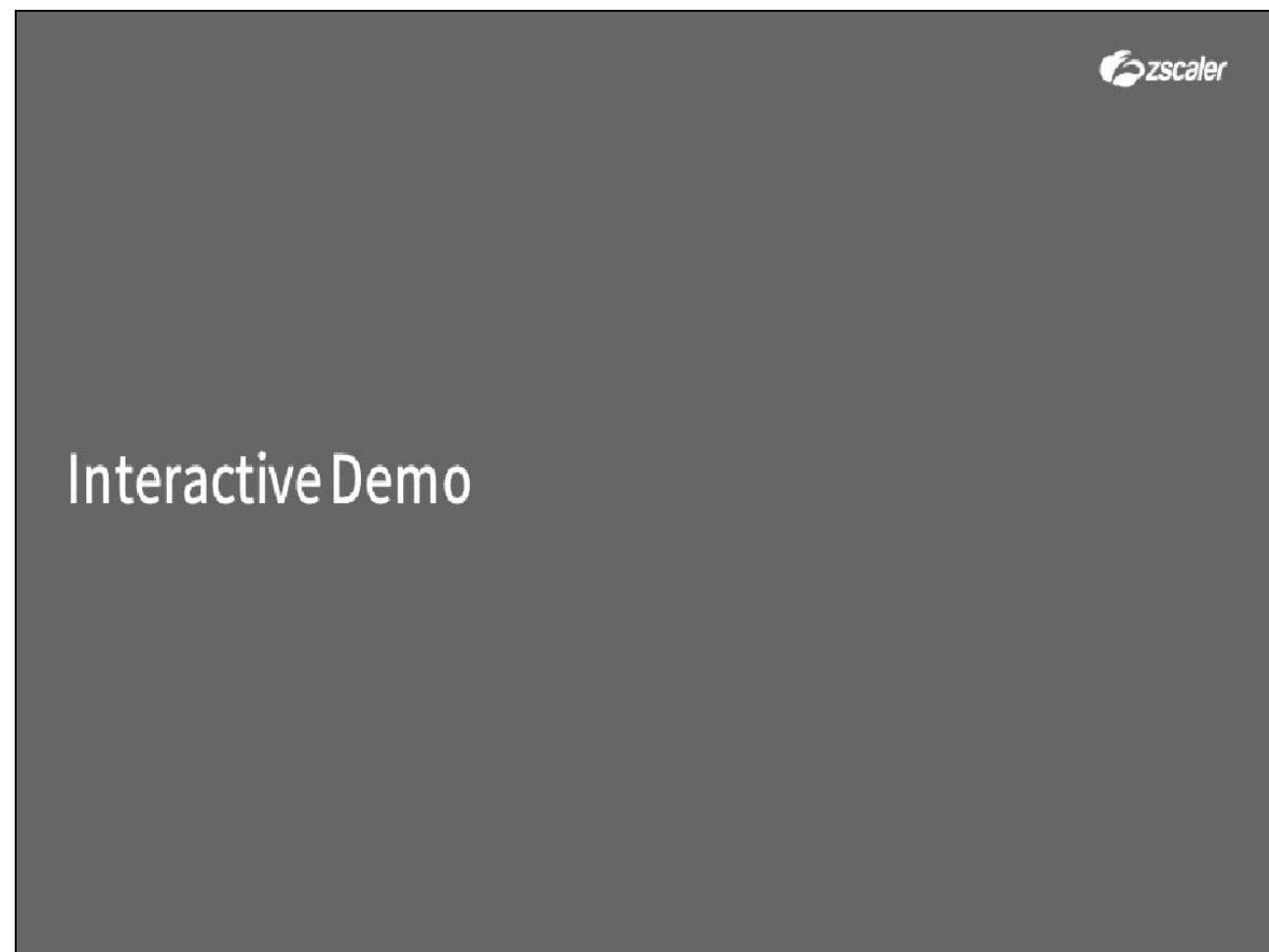
Slide 17 - New Web Insights for BW



Slide notes

Web Insights reports have also been added.

Slide 18 - Interactive Demo



Slide notes

Slide 19 - BW Control Configuration – High Level



BW Control Configuration – High Level

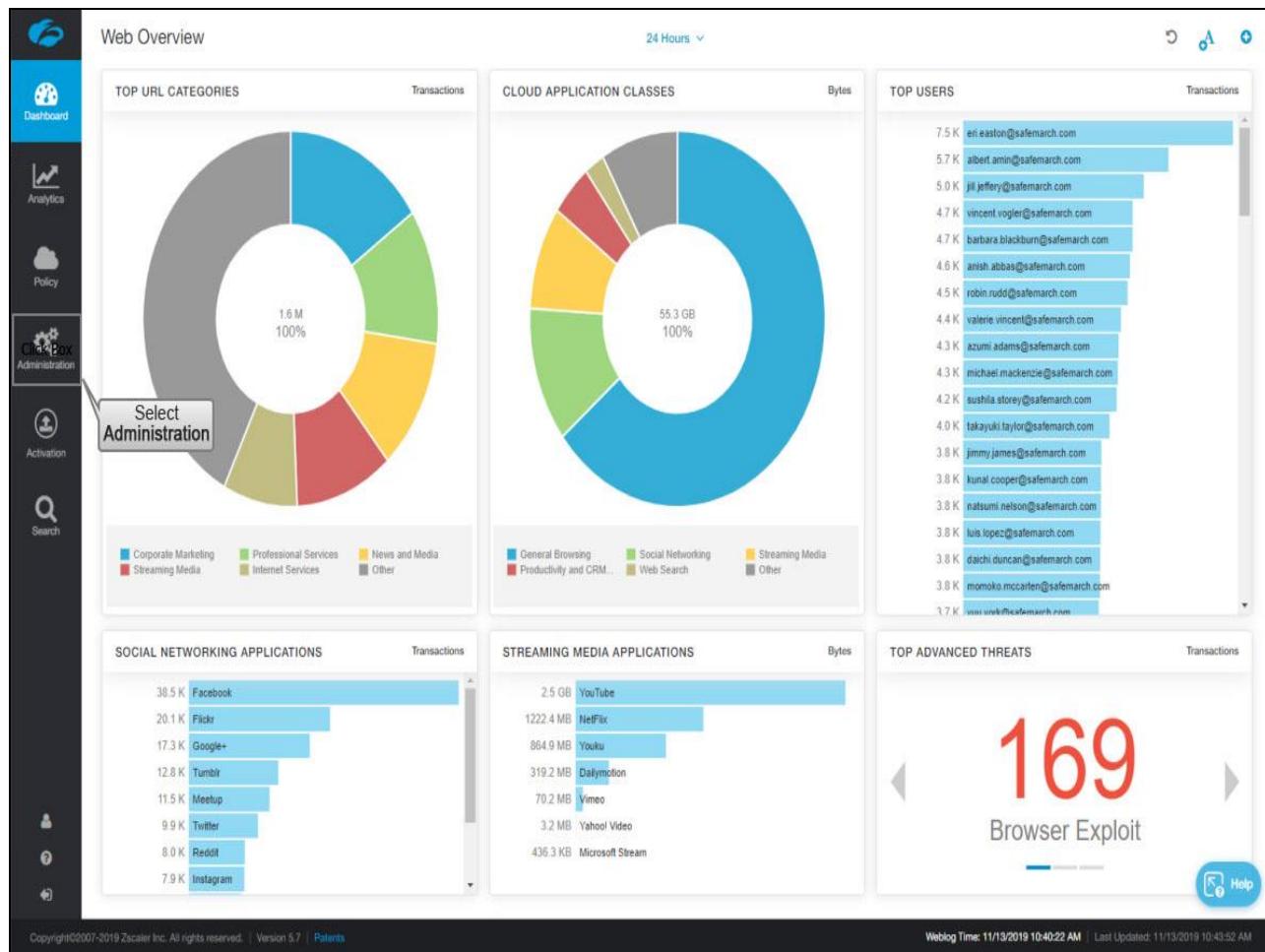
- Under a Location set the Bandwidth according to your uplink and downlink speed less 15% for overhead (GRE or IPSec tunnels)
- Define Bandwidth Classes under Administration > Bandwidth Classes
 - Use Domains or Cloud Applications first as best practice then URL Categories
 - Use default Cloud Applications or create your own
 - Define your definition of Large File size (from 5MB up to 1GB)
 - Select Web Conferencing Applications to be included in the Web Conferencing class
 - An app that is un-checked here will belong to the Default category
 - Select which VOIP Applications to be included in the VOIP class
 - An app that is un-checked here will belong to the Default category
- Under Policy> Bandwidth Control add your Bandwidth Control rules
 - Min and Max % are set here in the Action panel

Slide notes

Now let's take a look at configuring Bandwidth Control at a high level. The following will be shown next during the interactive demo. Begin under a Location and set the Bandwidth according to your uplink and downlink speed less 15% for overhead (GRE or IPSec tunnels). Next, define Bandwidth Classes under Administration -> BW Classes. Use default Cloud Apps or create your own. Use Domains or Cloud Applications as “Best Practice” then URL Categories.

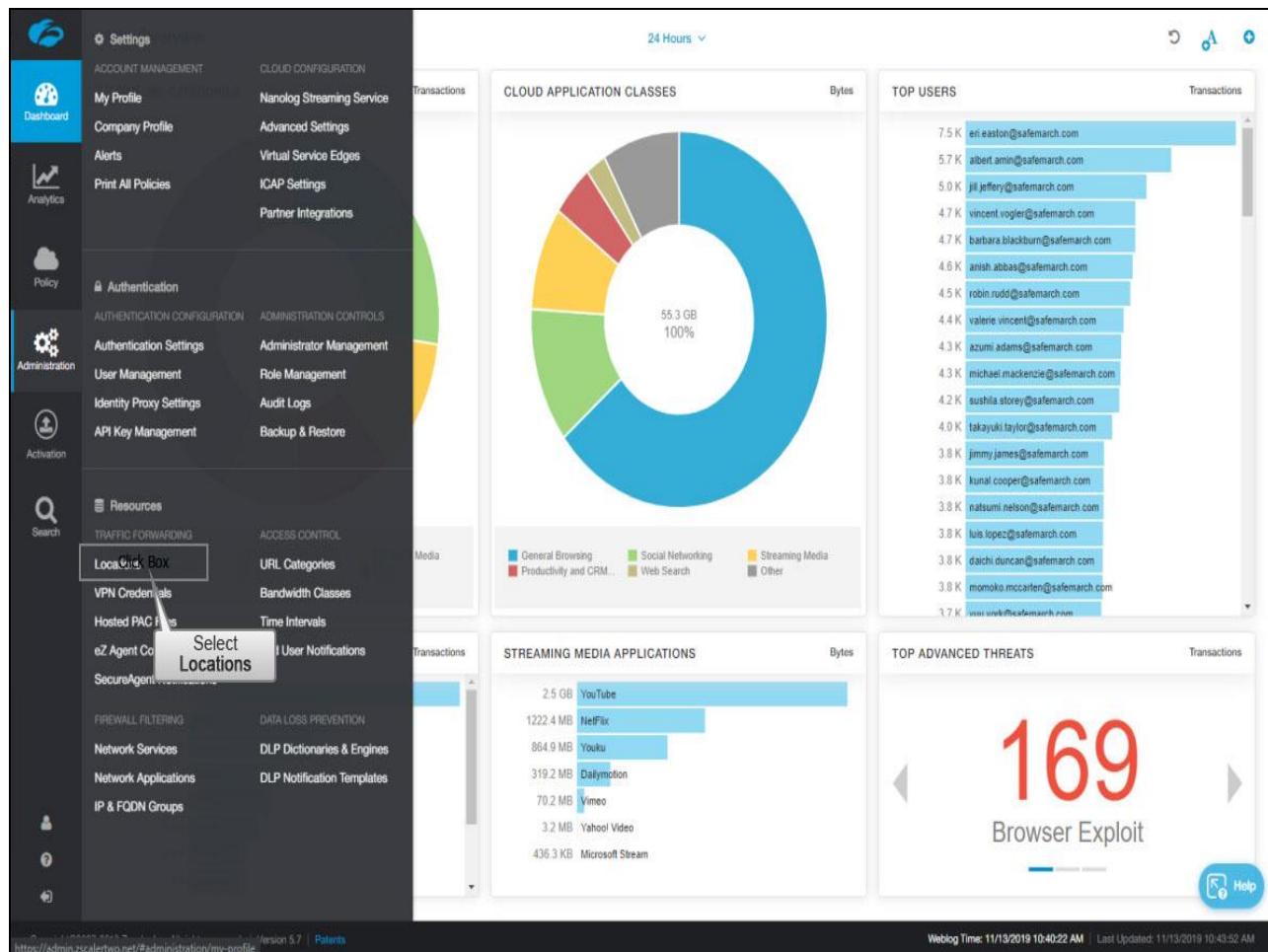
You can check which URL Category an app belongs to by going to the Help Portal -> URL Lookup and entering the URL. You can also go to [HTTPS://sitereview.Zscaler.com](https://sitereview.Zscaler.com). Define your definition of “Large File Size” beginning with 5MB up to 1GB and above. Define Web Conferencing applications. An app that is un-checked here will belong to the Default category.

Define which VoIP application to apply BW Control to. An app that is un-checked here will belong to the Default category. Last, under Policy, go to Bandwidth Control and add your BW Control rules. Min and Max % are set here under the Action pane.



Slide notes

Now let's walk through enabling Bandwidth Control. Click on the "Administration" tab.



Slide notes

Then “Locations”.

Locations

LOCATIONS (2) LOCATION GROUPS (0) AZURE VIRTUAL WAN LOCATIONS (0) NEW All Groups

Add Location Import Locations Download CSV Sample Import CSV file Enter Grouping Mode

No. Name IP Ad... Proxy Ports X-Forward... Authenticat... SSL Firewall Filt... Bandwidth Virtual Serv... Group

No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group
1	SF Office	---	10099	Enabled	Enabled: IP Su...	Enabled	Enabled	---	---	---
2	Site_1	23.119.16...	---	---	Enabled: IP Su...	Enabled	---	---	---	---

Select Location edit icon

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Help

Slide notes

Click the edit icon next to Site_1.

The screenshot shows the 'Edit Location' dialog box over a dark background. The dialog has tabs for LOCATION and ADDRESSING. In the LOCATION tab, fields include Name (Site_1), Country (United States), State/Province (CA), Time Zone (America/Los Angeles), and Group (None). In the ADDRESSING tab, there are sections for Static IP Addresses (23.119.162.188), Proxy Ports (None), and VPN Credentials (None). A GRE Tunnel Information table shows one entry: No. 1, Tunnel Source 23.119.162.188, Primary Destination 199.168.148.131, Secondary Destination 165.225.72.38, Primary Destination Internal Range 172.17.5.64 - 172.17.5.67, and Secondary Destination Internal Range 172.17.5.68 - 172.17.5.71. Below these are sections for Virtual Service Edges (None) and Virtual Service Edge Clusters (None). Under GATEWAY OPTIONS, 'Enable XFF Forwarding' is unchecked and 'Enforce Authentication' is checked. At the bottom are Save, Cancel, and Delete buttons.

Slide notes

Scroll down and click the box to enable Bandwidth Control.

The screenshot shows the 'Edit Location' dialog box in the Zscaler BW Control interface. The dialog is titled 'Edit Location' and contains several sections:

- GRE Tunnel Information:** Shows a table with one entry: No. 1, Tunnel Source IP 23.119.162.188, Primary Destination IP 199.168.148.131, Secondary Destination IP 165.225.72.38, Primary Destination Internal Range 172.17.5.64 - 172.17.5.67, and Secondary Destination Internal Range 172.17.5.68 - 172.17.5.71.
- Virtual Service Edges:** Shows a dropdown menu set to 'None'.
- Virtual Service Edge Clusters:** Shows a dropdown menu set to 'None'.
- GATEWAY OPTIONS:** Includes settings for XFF Forwarding (disabled), IP Surrogate (enabled), Known Browser IP Enforcement (disabled), SSL Inspection (enabled), Firewall Control (disabled), and Zscaler App SSL Setting (disabled).
- BANDWIDTH CONTROL:** Includes settings for Bandwidth Control (disabled) and Enforce Bandwidth Control (disabled). A tooltip 'Enable Enforce Bandwidth Control' points to the 'Click Box' checkbox.

At the bottom of the dialog are 'Save' and 'Cancel' buttons. The background shows a sidebar with tabs for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main dashboard area shows a search bar and a list of groups.

Slide notes

The screenshot shows the Zscaler interface for managing locations. The main window displays a list of locations with detailed configuration options for each. The 'Edit Location' dialog is open for the first location, allowing modification of gateway options like XFF forwarding and bandwidth control settings. The 'Bandwidth Control' section specifically highlights the configuration of upload and download speeds.

Slide notes

Let's assume that Site_1 has an uplink of 100Mbps. Remember that GRE and IPSec tunnels have protocol overhead. As such, Zscaler Best Practice is to set the link speed as the actual speed less 15% of the link speed. So, let's enter 85Mbps for both Upload and Download bandwidth.

The screenshot shows the Zscaler BW Control interface with a modal dialog titled "Edit Location".

Locations:

No.	Name
1	SF Office
2	Site 2

Virtual Service Edges: None

Virtual Service Edge Clusters: None

GATEWAY OPTIONS:

- Enable XFF Forwarding: Off
- Enforce Authentication: On
- Enable IP Surrogate: On
- Idle Time to Disassociation: 8 Hours
- Enforce Surrogate IP for Known Browsers: Off
- Enable SSL Inspection: On
- Enforce Zscaler App SSL Setting: Off
- Enforce Firewall Control: Off

BANDWIDTH CONTROL:

- Enforce Bandwidth Control: Enabled
- Sub-locations share the bandwidth value assigned to this location.
- Download (Mbps): 85
- Upload (Mbps): Type "85" and hit enter

Buttons:

- Save
- Cancel
- Delete

Help: A blue button labeled "Help" with a question mark icon.

Slide notes

The screenshot shows the 'Edit Location' dialog box over a dark-themed interface. The dialog box has a blue header bar with the title 'Edit Location'. Inside, there are several sections:

- Virtual Service Edges:** Shows 'None' for both 'No.' and 'Name'.
- Virtual Service Edge Clusters:** Shows 'None'.
- GATEWAY OPTIONS:** Includes:
 - Enable XFF Forwarding: Off (red switch)
 - Enable IP Surrogate: On (green switch)
 - Idle Time to Disassociation: 8 Hours
 - Enforce Surrogate IP for Known Browsers: Off (red switch)
 - Enable SSL Inspection: On (green switch)
 - Enforce Firewall Control: Off (red switch)
 - Enforce Authentication: On (green switch)
 - Enforce Zscaler App SSL Setting: Off (red switch)
- BANDWIDTH CONTROL:** Includes:
 - Enforce Bandwidth Control: On (blue switch)
 - Download (Mbps): 85
 - Upload (Mbps): 85
 - A note: "Sub-locations share the bandwidth value assigned to this location"

At the bottom right of the dialog box is a 'Delete' button. At the bottom left are 'Click Box' and 'Cancel' buttons. A 'Select Save' button is highlighted with a callout arrow pointing from a 'Click Box'.

Slide notes

Click “Save”.

The screenshot shows the Zscaler BW Control interface with the 'Locations' page selected. The left sidebar has icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area shows a table with two rows of location data. The first row has a 'Click Box' icon in the first column. A callout box labeled 'Select Expand' points to this icon. The table columns include: No., Name, IP Ad..., Proxy Ports, X-Forward..., Authenticat..., SSL, Firewall Filt..., Bandwidth, Virtual Serv..., Group, and a final column with edit and delete icons.

No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group		
1	SF Office	---	10099	Enabled	Enabled: IP Su...	Enabled	Enabled	---	---	---		
2		23.119.16...	---	---	Enabled: IP Su...	Enabled	---	85M Down, 85...	---	---		

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Slide notes

To enable bandwidth control on a sub-location, which in this case has previously been created, click the Expand icon for the location to view the configured sub-locations.

The screenshot shows the Zscaler BW Control interface with the 'Locations' page selected. The left sidebar has icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area shows a table of locations with columns: No., Name, IP Ad..., Proxy Ports, X-Forward..., Authenticat..., SSL, Firewall Filt..., Bandwidth, Virtual Serv..., Group, and Actions. There are 5 rows: 1. SF Office, 2. Site_1, 2.1 other, 2.2 Sub_location_1, and 2.3 Sub_Location_2. A callout box with the text 'Select Sub_Location_1 edit icon' points to the edit icon (pencil) in the Actions column for Sub_Location_1.

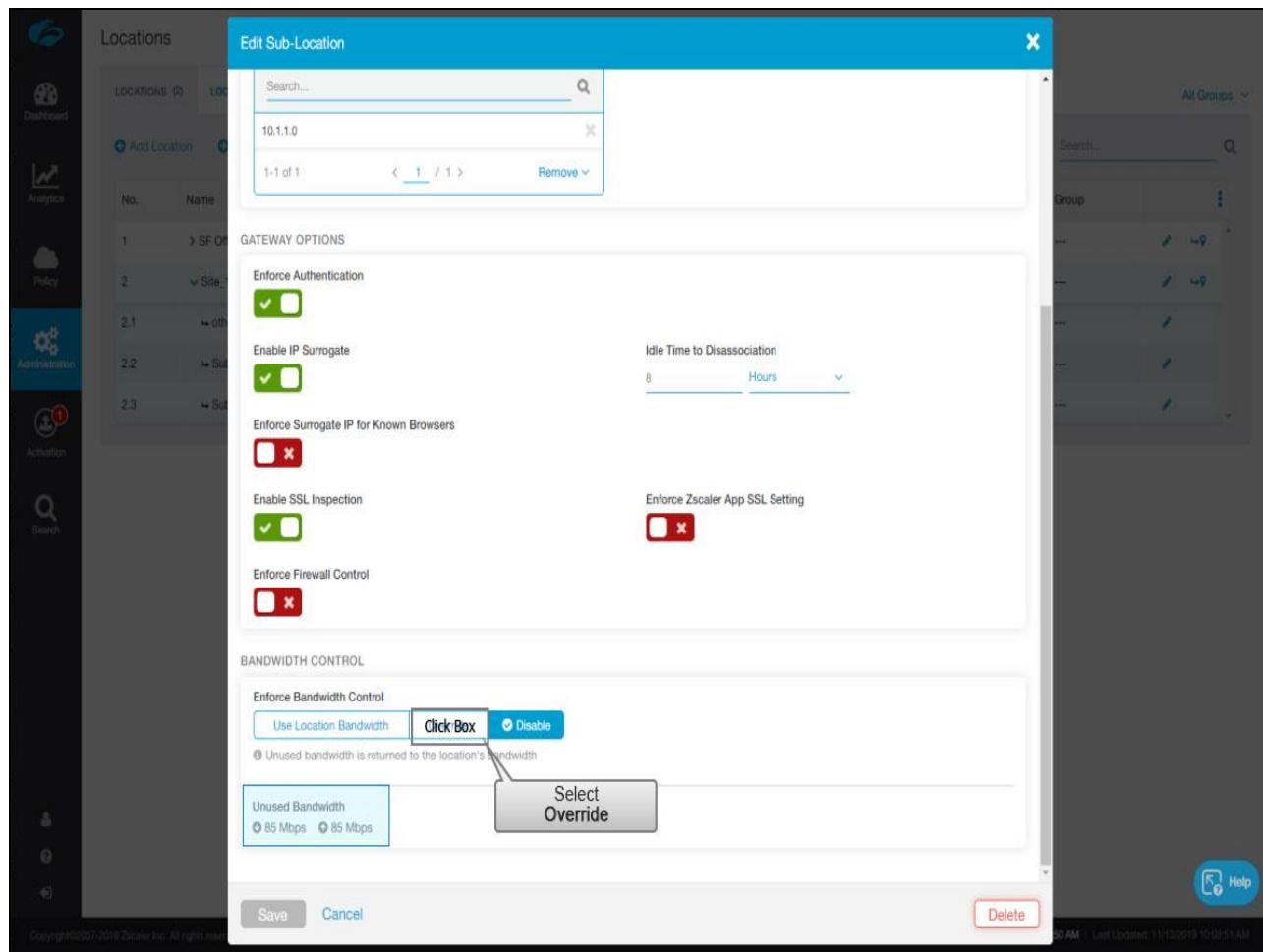
No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group	Actions
1	SF Office	---	10099	Enabled	Enabled: IP Su...	Enabled	Enabled	---	---	---	
2	Site_1	23.119.16...	---	---	Enabled: IP Su...	Enabled	---	85M Down, 85...	---	---	
2.1	other	---	---	---	Enabled: IP Su...	Enabled	---	---	---	---	
2.2	Sub_location_1	10.1.1.0	---	---	Enabled: IP Su...	Enabled	---	---	---	---	
2.3	Sub_Location_2	10.1.2.0	---	---	Enabled: IP Su...	Enabled	---	---	---	---	

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Slide notes

Then click the edit icon for the appropriate sub-location.



Slide notes

Under the Bandwidth Control section first notice the total available bandwidth for the parent Location. In this case, 85Mbps for both upload and download as we previously configured.

Just as with the parent location Bandwidth Control is disabled by default on sub-locations. You have the option to leave it disabled, "Use Location Bandwidth" which shares the available bandwidth, or Override. Override will reserve a dedicated slice out of the parent's total bandwidth. Select "Override".

Locations

Edit Sub-Location

1-1 of 1 / 1 Remove

GATEWAY OPTIONS

- Enforce Authentication
- Enable IP Surrogate
- Enforce Surrogate IP for Known Browsers
- Enable SSL Inspection
- Enforce Firewall Control

Idle Time to Disassociation: 8 Hours

BANDWIDTH CONTROL

Enforce Bandwidth Control Override Disable

Unused bandwidth is returned to the location's bandwidth

Download (Mbps): Type "5" and hit enter

Upload (Mbps): Type "5" and hit enter

Unused Bandwidth: 85 Mbps 85 Mbps

Save Cancel Delete

Slide notes

In this example, enter 5Mbps for both the upload and download direction. Again, this will dedicate, or reserve, 5Mbps of the total upload and download bandwidth, as specified in the parent location, specifically for this sub-location.

The screenshot shows the Zscaler BW Control interface with a modal dialog titled "Edit Sub-Location". The dialog contains several configuration sections:

- GATEWAY OPTIONS**:
 - Enforce Authentication: Enabled (green checkmark)
 - Enable IP Surrogate: Enabled (green checkmark)
 - Enforce Surrogate IP for Known Browsers: Disabled (red X)
 - Enable SSL Inspection: Enabled (green checkmark)
 - Enforce Firewall Control: Disabled (red X)
 - Idle Time to Disassociation: Set to 8 Hours
- BANDWIDTH CONTROL**:
 - Enforce Bandwidth Control: Options: Use Location Bandwidth (selected), Override, Disable.
 - Download (Mbps): Set to 5.
 - Upload (Mbps): Set to 5 (highlighted with a red box and the instruction "Type '5' and hit enter").
 - Unused Bandwidth: Options: 85 Mbps (selected), 85 Mbps.

At the bottom of the dialog are "Save" and "Cancel" buttons, and a "Delete" button with a red border. The background shows a sidebar with "Locations" and a list of locations, and a main pane with a search bar and a list of groups.

Slide notes

The screenshot shows the Zscaler BW Control interface with a modal dialog titled "Edit Sub-Location". The dialog is divided into several sections:

- GATEWAY OPTIONS:** Includes checkboxes for "Enforce Authentication" (checked), "Enable IP Surrogate" (checked), "Enforce Surrogate IP for Known Browsers" (unchecked), "Enable SSL Inspection" (checked), and "Enforce Firewall Control" (unchecked).
- Idle Time to Disassociation:** Set to 8 Hours.
- BANDWIDTH CONTROL:** Includes a section for "Unused bandwidth is returned to the location's bandwidth". It shows "Download (Mbps)" at 5 and "Upload (Mbps)" at 5. Below this, there are radio buttons for "Unused Bandwidth" set to 85 Mbps, and a "Select Save" button.
- Buttons:** "Delete" (red), "Select Save" (highlighted with a callout), and "Cancel".

A sidebar on the left shows a navigation menu with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main dashboard area shows a list of locations with details like Name, Site, and Sub-Site.

Slide notes

Click “Save”.

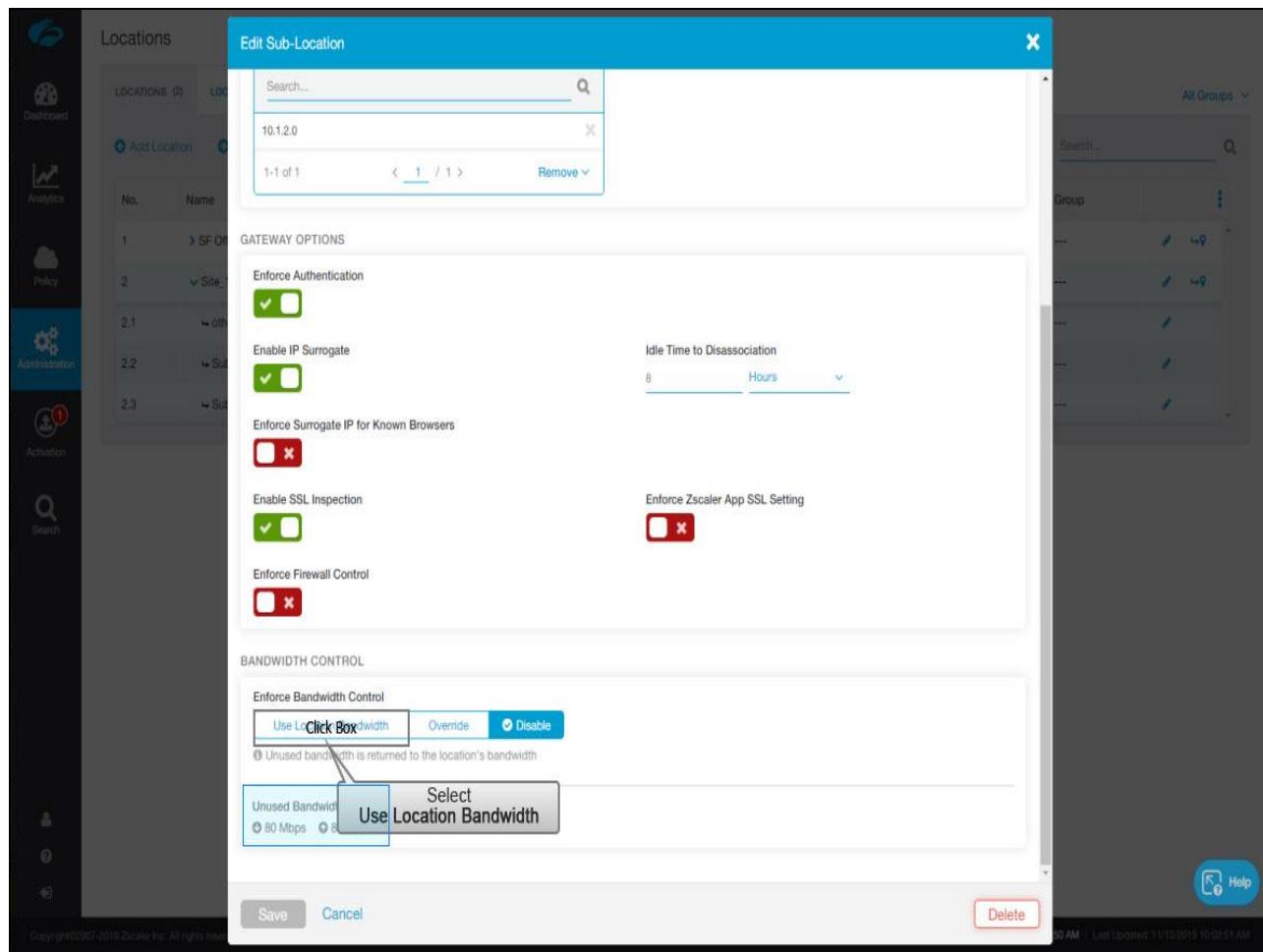
The screenshot shows the Zscaler BW Control interface. The left sidebar has icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main content area is titled 'Locations' and shows a table of locations. The table columns are: No., Name, IP Ad..., Proxy Ports, X-Forward..., Authentication, SSL, Firewall Filter, Bandwidth, Virtual Services, Group, and two icons for Edit and View. There are five rows in the table:

No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group	
1	SF Office	---	10099	Enabled	Enabled: IP Su...	Enabled	Enabled	---	---	---	
2	Site_1	23.119.16...	---	---	Enabled: IP Su...	Enabled	---	85M Down, 85...	---	---	
2.1	other	---	---	---	Enabled: IP Su...	Enabled	---	---	---	---	
2.2	Sub_location_1	10.1.1.0	---	---	Enabled: IP Su...	Enabled	---	5M Down, 5M Up	---	---	
2.3	Sub_Location_2	10.1.2.0	---	---	Enabled: IP Su...	Enabled	---	---	---	---	

A callout box with the text 'Select Sub_Location_2 edit icon' points to the edit icon for Sub_Location_2. The bottom right corner of the interface has a 'Help' button.

Slide notes

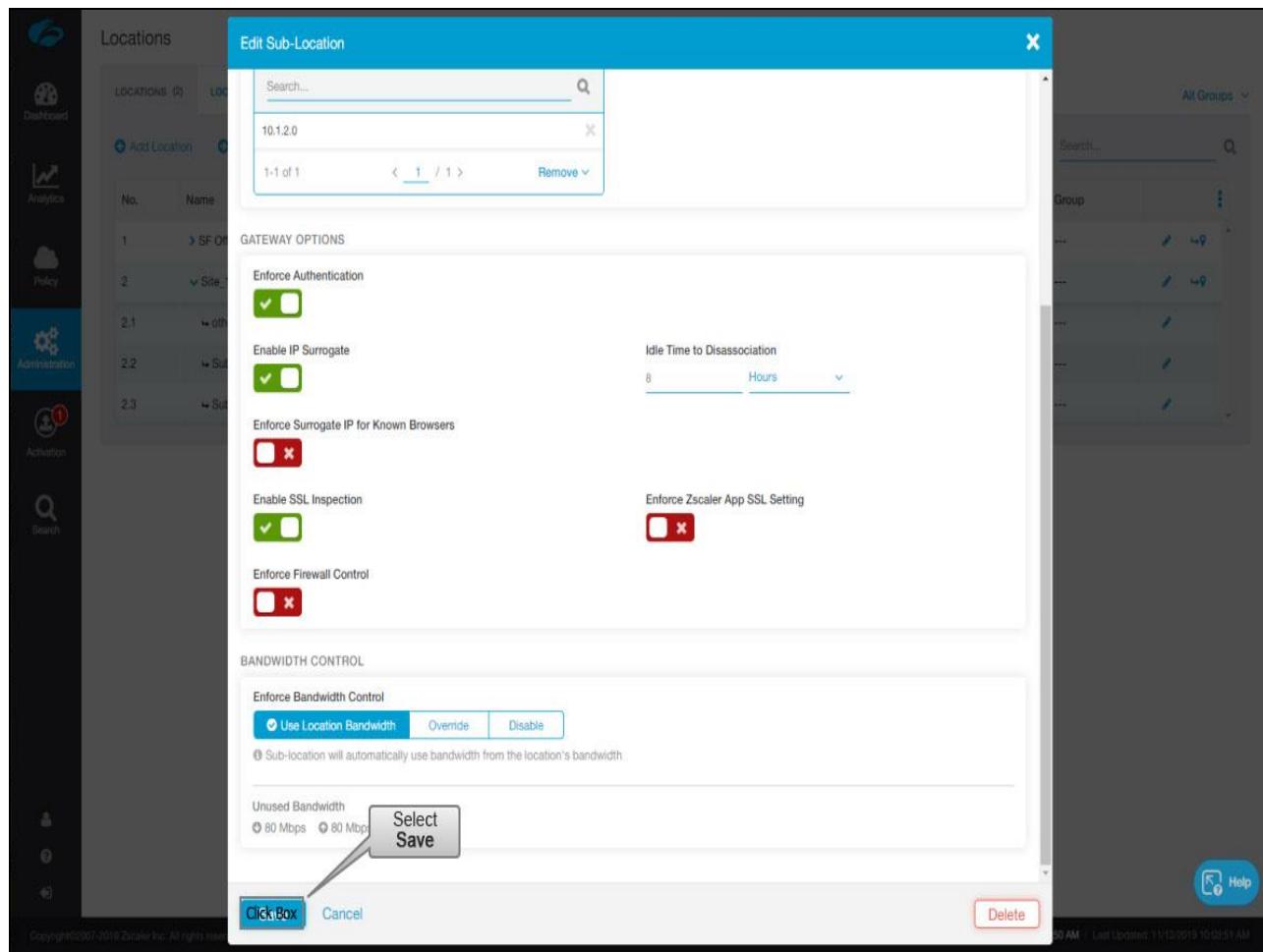
You just reserved a slice of bandwidth from the parent location specifically for use by sub-location 1. Let's configure sub-location 2 to share the available remaining bandwidth with the parent location. Click the edit icon for sub-location 2.



Slide notes

Notice, again, the amount of Unused Bandwidth that was configured on the parent location. Originally, this showed 85Mbps; however, as we dedicated 5Mbps for sub-location 1, this now shows 80Mbps remaining for use.

In this example, sub-location 2 will share the available bandwidth with the parent. Click “Use Location Bandwidth”.



Slide notes

Click “Save”.

No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group	
1	SF Office	---	10099	---	Enabled	Enabled: IP Su...	Enabled	---	---	---	
2	Site_1	23.119.16...	---	---	Enabled	Enabled: IP Su...	Enabled	---	85M Down, 85...	---	
2.1	other	---	---	---	Enabled	Enabled: IP Su...	Enabled	---	---	---	
2.2	Sub_location_1	10.1.1.0	---	---	Enabled	Enabled: IP Su...	Enabled	---	5M Down, 5M Up	---	
2.3	Sub_Location_2	10.1.2.0	---	---	Enabled	Enabled: IP Su...	Enabled	---	Use Location B...	---	

Slide notes

To see the result of our bandwidth configuration for the parent location and its' sub-locations click the edit icon for the parent location you were configuring.

Locations

LOCATIONS (2)

Add Location

No.	Name
1	SF Office
2	Site 1
2.1	Sub Location 1
2.2	Sub Location 2
2.3	Sub Location 3

Virtual Service Edges: None

Virtual Service Edge Clusters: None

GATEWAY OPTIONS

Enable XFF Forwarding:

Enable IP Surrogate:

Enforce Surrogate IP for Known Browsers:

Enable SSL Inspection:

Enable Firewall Control:

Idle Time to Disassociation: 8 Hours

Enforce Authentication:

Enforce Zscaler App SSL Setting:

BANDWIDTH CONTROL

Enable Bandwidth Control: Enable Disable

Sub-locations share the bandwidth value assigned to this location

Download (Mbps): 85

Upload (Mbps): 85

Shared Bandwidth: 80 Mbps 80 Mbps

Override Bandwidth: 5 Mbps 5 Mbps

Save Cancel Delete

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Help

Slide notes

You can now see a summary of the parent location and sub-locations bandwidth configuration. Again, we started with 85Mbps in both directions for the parent location, we then reserved 5Mbps for sub-location1, leaving 80Mbps remaining for all others to share.

Slide 63 - Slide 63

No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group	
1	SF Office	---	10099	Enabled	Enabled: IP Su...	Enabled	Enabled	---	---	---	
2	Site_1	23.119.16...	---	---	Enabled: IP Su...	Enabled	---	85M Down, 85...	---	---	
2.1	other	---	---	---	Enabled: IP Su...	Enabled	---	---	---	---	
2.2	Sub_location_1	10.1.1.0	---	---	Enabled: IP Su...	Enabled	---	5M Down, 5M Up	---	---	
2.3	Sub_Location_2	10.1.2.0	---	---	Enabled: IP Su...	Enabled	---	Use Location B...	---	---	

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Help

Slide notes

And Activate your changes.

The screenshot shows the Zscaler Click Box Administration interface. On the left, a vertical sidebar contains icons for Dashboard, Analytics, Policy, Click Box Administration (selected), Activation, and Search. The main content area is titled 'Locations' and displays a table of locations. The table has columns for No., Name, IP Ad..., Proxy Ports, X-Forward..., Authentication, SSL, Firewall Filt..., Bandwidth, Virtual Serv..., Group, and actions. There are five entries in the table:

No.	Name	IP Ad...	Proxy Ports	X-Forward...	Authenticat...	SSL	Firewall Filt...	Bandwidth	Virtual Serv...	Group	Action
1	SF Office	---	10099	Enabled	Enabled: IP Su...	Enabled	Enabled	---	---	---	Edit
2	Site_1	23.119.16...	---	---	Enabled: IP Su...	Enabled	---	85M Down, 85...	---	---	Edit
2.1	other	---	---	---	Enabled: IP Su...	Enabled	---	---	---	---	Edit
2.2	Sub_location_1	10.1.1.0	---	---	Enabled: IP Su...	Enabled	---	5M Down, 5M Up	---	---	Edit

A callout box labeled 'Select Administration' points to the 'Administration' icon in the sidebar. The bottom of the screen shows copyright information and a help button.

Slide notes

Now let's create a new Bandwidth Class. Go to "Administration".

The screenshot displays the ZCCP-IA BW Control interface. The left sidebar contains navigation links for Settings, Cloud Configuration, Account Management, Company Profile, Alerts, Print All Policies, Partner Integrations, Authentication, Authorization Configuration, Authentication Settings, User Management, Identity Proxy Settings, API Key Management, Resources, Traffic Forwarding, Access Control, Firewall Filtering, Network Services, Network Applications, IP & FQDN Groups, and Data Loss Prevention. The main content area shows a 'WAN LOCATIONS (0)' table with columns: Ports, X-Forward..., Authentication, SSL, Firewall Filter, Bandwidth, Virtual Services, Group, and Actions. A modal window titled 'WAN LOCATIONS (0)' is overlaid, showing a similar table with three rows of data. A tooltip 'Select Bandwidth Classes' points to the 'Bandwidth Classes' dropdown in the modal. The bottom status bar indicates the URL as https://admin.zscalerbeta.net/#administration/my-profile, Weblog Time: 11/13/2019 10:03:50 AM, and Last Updated: 11/13/2019 10:05:51 AM.

Slide notes

Then “Bandwidth Classes”.

The screenshot shows the 'Bandwidth Classes' section of the ZCCP-IA BW Control interface. At the top, there are tabs for CLOUD APPLICATIONS, LARGE FILES, WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. Below the tabs is a table with columns: No., Name, URI, Categories, Cloud Applications, Domains, and actions (Edit, Delete). The table contains five rows with the following data:

No.	Name	URI	Categories	Cloud Applications	Domains	Action
1	File Share	---	---	---	.box.net, .dropbox.com	Edit
2	Finance	---	---	---	.netsuite.com	Edit
3	General Surfing	---	---	---	---	Edit
4	Sales/Support Apps	---	---	---	---	Edit
5	Streaming Media	---	---	---	.dailymotion.com, .hulu.com, .metacafe.com, .shoutcast.co...	Edit

A tooltip 'Select Add Bandwidth Class' is displayed over a 'Click Box' button. The interface includes a search bar at the top right and a help icon at the bottom right. The left sidebar contains icons for Dashboard, Analytics, Policy, Administration, Activation, and Search.

Slide notes

Click “Add Bandwidth Class”.

The screenshot shows the ZCCP-IA BW Control interface. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays a table of Bandwidth Classes. The table has columns for No., Name, URL Categories, Cloud Applications, Domains, and a delete icon. There are five entries: 1. File Share, 2. Finance, 3. General Surfing, 4. Sales/Support Apps, and 5. Streaming Media. A modal dialog titled 'Add Bandwidth Class' is overlaid on the table. The dialog has fields for 'Name' (with placeholder 'Type "Productivity" and hit enter'), 'URL Categories' (set to 'None'), 'Cloud Applications' (set to 'None'), and 'Domains' (with an 'Add Items' button). At the bottom of the dialog are 'Save' and 'Cancel' buttons. The background table shows some domain names like 'box.net', 'dropbox.com', 'hulu.com', 'metacafe.com', and 'shoutcast.co...'. The bottom right corner of the dialog has a 'Help' button.

Slide notes

For the name enter “Productivity”.

The screenshot shows the ZCCP-IA BW Control interface with the 'Bandwidth Classes' page open. The sidebar on the left includes icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main content area displays a table of existing bandwidth classes and a modal window for adding a new one. The modal has fields for 'Name' (Productivity), 'Definition' (Custom), 'URL Categories' (set to 'Click Box'), 'Cloud Applications' (None), and 'Domains' (with an 'Add Items' button). A tooltip 'Select URL Categories drop-down' points to the URL Categories dropdown menu.

Slide notes

Click the URL Categories drop-down.

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays 'Bandwidth Classes' with 3 used out of a max of 25k. It lists five categories: File Share, Finance, General Surfing, Sales/Support Apps, and Streaming Media. A modal window titled 'Add Bandwidth Class' is open, showing fields for 'Name' (Productivity) and 'Definition' (Custom). Below these are sections for 'URL Categories' (None selected) and 'Cloud Applications' (None selected). A list of 'Unselected Items' includes categories like Adult Material, Adult Sex Education, Adult Themes, K-12 Sex Education, Lingerie/Bikini, and Nudity. At the bottom of the modal are 'Done', 'Cancel', and 'Clear Selection' buttons. The status bar at the bottom indicates 'Weblog Time: 11/13/2019 10:03:50 AM | Last Updated: 11/13/2019 10:09:51 AM'.

Slide notes

Then search for and select Professional Services.

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays 'Bandwidth Classes' with 3 used classes. A modal window titled 'Add Bandwidth Class' is open, showing fields for 'Name' (Productivity) and 'Definition' (Custom). Below these are sections for 'URL Categories' (None) and 'Cloud Applications' (None). A search bar at the top right of the modal shows 'Search...'. At the bottom of the modal are 'Done', 'Cancel', and 'Clear Selection' buttons. The background shows a list of bandwidth classes: File Share, Finance, General Surfing, Sales/Support Apps, and Streaming Media, each with associated URL categories and domains.

Slide notes

The screenshot shows the ZCCP-IA BW Control interface with a modal dialog box titled "Add Bandwidth Class". The dialog has fields for "Name" (set to "Productivity") and "Definition" (set to "Custom"). Under "URL Categories", there is a dropdown menu set to "None". Under "Cloud Applications", there is a dropdown menu set to "None". At the bottom of the dialog, there are "Done" and "Cancel" buttons, and a "Clear Selection" link. A search bar at the top right of the dialog box contains the text "professional". A callout bubble points to a checkbox labeled "Click Box" under the heading "Business and Economy" in the list of "Unselected Items". The background shows a list of existing bandwidth classes: File Share, Finance, General Surfing, Sales/Support Apps, and Streaming Media. The sidebar on the left includes icons for Dashboard, Analytics, Policy, Administration, Activation, and Search.

Slide notes

The screenshot shows the Zscaler BW Control interface with the 'Bandwidth Classes' page. A modal window titled 'Add Bandwidth Class' is open. In the 'Name' field, 'Productivity' is entered. Under 'Definition', 'Custom' is selected. In the 'URL Categories' section, 'None' is chosen. In the 'Cloud Applications' section, 'None' is also chosen. A list of unselected items shows 'professional' and 'Business and Economy'. A list of selected items shows 'Professional Services'. At the bottom of the modal, there is a 'Select Done' button, a 'Click Box' button, a 'Cancel' button, and a 'Clear Selection' button. The background shows a table with five rows labeled 1 through 5, each with a name like 'File Share', 'Finance', etc., and their respective URL categories, cloud applications, and domains.

Slide notes

Then click “Done”.

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays 'Bandwidth Classes' with 3 used and 25k max. It lists five categories: File Share, Finance, General Surfing, Sales/Support Apps, and Streaming Media. A modal dialog titled 'Add Bandwidth Class' is open, prompting for 'Name' (Productivity), 'Definition' (Custom), 'URL Categories' (Professional Services), 'Cloud Applications' (None), and 'Domains'. A 'Select Save' button is highlighted with a callout. The bottom of the dialog has 'Click Box' and 'Cancel' buttons. The background shows a list of domains.

Slide notes

You could also add individual domains directly here as well as selecting individual applications using the Cloud Applications drop-down. Click “Save”.

The screenshot shows the 'Bandwidth Classes' section of the ZCCP-IA BW Control interface. At the top, there are tabs for CLOUD APPLICATIONS, LARGE FILES, WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. Below the tabs is a table with columns: No., Name, URI, Categories, Cloud Applications, Domains, and actions. The table contains six rows of data. A context menu is open over the first row, with the option 'Select Add Bandwidth Class' highlighted. The interface includes a search bar at the top right and a help button at the bottom right.

No.	Name	URI	Categories	Cloud Applications	Domains	
1	File Share	---		---	.box.net, .dropbox.com	
2	Finance	---		---	.netsuite.com	
3	General Surfing	---		---	---	
4	Productivity		Professional Services	---	---	
5	Sales/Support Apps	---		---	---	
6	Streaming Media	---		---	.dailymotion.com, .hulu.com, .metacafe.com, .shoutcast.co...	

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Help

Slide notes

Let's create another URL Class. Click "Add Bandwidth Class".

The screenshot shows the ZCCP-IA BW Control interface. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Classes" with a note "Max 25k Used: 3". It lists six existing bandwidth classes: File Share, Finance, General Surfing, Productivity, Sales/Support Apps, and Streaming Media. A modal window titled "Add Bandwidth Class" is open in the center. The "Name" field contains "Business and Economy". The "Definition" field has a placeholder "Type 'Business and Economy' and hit enter". The "URL Categories" and "Cloud Applications" dropdowns are set to "None". The "Domains" section has an "Add Items" button. At the bottom of the modal are "Save" and "Cancel" buttons.

Slide notes

For the name enter “Business and Economy”.

The screenshot shows the ZCCP-IA BW Control interface. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Classes" with a note "Max 25k Used: 3". It has tabs for CLOUD APPLICATIONS, LARGE FILES, WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. A search bar is at the top right. Below the tabs is a table with columns: No., Name, URL Categories, Cloud Applications, Domains, and a more options column. The table lists six items: File Share, Finance, General Surfing, Productivity, Sales/Support Apps, and Streaming Media. An "Add Bandwidth Class" dialog is open in the center, titled "Add Bandwidth Class". It has sections for "BANDWIDTH CLASS", "Name" (Business and Economy), "Definition" (Custom), "URL Categories" (set to "Click Box"), "Cloud Applications" (None), and "Domains" (with an "Add Items" button). A tooltip "Select URL Categories drop-down" points to the URL Categories dropdown. At the bottom are "Save" and "Cancel" buttons.

Slide notes

Click the URL Categories drop-down box.

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays 'Bandwidth Classes' with a total of 3 used. A modal window titled 'Add Bandwidth Class' is open, showing fields for 'Name' (Business and Economy) and 'Definition' (Custom). Below these are sections for 'URL Categories' and 'Cloud Applications', both currently set to 'None'. A 'Selected Items (0)' section is shown, which is empty. At the bottom of the modal are 'Done', 'Cancel', and 'Clear Selection' buttons. The background shows a list of bandwidth classes with names like File Share, Finance, General Surfing, Productivity, Sales/Support Apps, and Streaming Media.

Slide notes

and search for and select “Other Business and Economy”.

Bandwidth Classes Max 25k Used: 3

CLOUD APPLICATIONS LARGE FILES WEB CONFERENCING APPLICATIONS VOIP APPLICATIONS

Add Bandwidth Class

No.	Name	URL Categories	Cloud Applications	Domains
1	File Share	---	---	box.net, dropbox.com
2	Finance	---	---	---
3	General Surfing	---	---	---
4	Productivity	---	---	---
5	Sales/Support Apps	---	---	---
6	Streaming Media	---	---	---

BANDWIDTH CLASS

Name: Business and Economy
Definition: Custom

URL Categories: None
Cloud Applications: None

Unselected Items: other

- Adult Material
 - Adult Sex Education
 - Adult Themes
 - K-12 Sex Education
 - Lingerie/Bikini
 - Nudity

Done Cancel Clear Selection Help

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Slide notes

and search for and select “Other Business and Economy”.

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays 'Bandwidth Classes' with 3 used and 25k max. It lists categories like File Share, Finance, General Surfing, Productivity, Sales/Support Apps, and Streaming Media. A modal window titled 'Add Bandwidth Class' is open, showing fields for Name (Business and Economy) and Definition (Custom). The URL Categories section is expanded, showing a list of categories: other, Adult Material, Business and Economy, Education, and Other Education. A tooltip 'Select Other Business and Economy' points to the 'Other Business and Economy' checkbox, which is highlighted with a blue border. The modal has 'Done' and 'Cancel' buttons at the bottom.

Slide notes

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays 'Bandwidth Classes' with a total of 3 used. A modal window titled 'Add Bandwidth Class' is open, showing a table for defining bandwidth classes. The 'Name' field is set to 'Business and Economy' and the 'Definition' is 'Custom'. Under 'URL Categories', 'None' is selected. Under 'Cloud Applications', 'None' is also selected. A dropdown menu lists various URL categories, with 'Other Business and Economy' checked. A 'Select Done' button is visible at the bottom of the dropdown. The background shows a list of bandwidth classes: File Share, Finance, General Surfing, Productivity, Sales/Support Apps, and Streaming Media.

Slide notes

Then click “Done”.

The screenshot shows the ZCCP-IA BW Control interface with a sidebar containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays a list of bandwidth classes and a modal window for adding a new one.

Bandwidth Classes (Max 25k Used: 3)

No.	Name	URL Categories	Cloud Applications	Domains
1	File Share	---	---	box.net, dropbox.com
2	Finance	---	---	---
3	General Surfing	---	---	---
4	Productivity	---	---	---
5	Sales/Support Apps	---	---	---
6	Streaming Media	---	---	---

Add Bandwidth Class

BANDWIDTH CLASS

Name: Business and Economy
Definition: Custom

URL Categories: Other Business and Economy
Cloud Applications: None

Domains: Add Items

Select Save

Click Box Cancel

Slide notes

and click “Save”.

The screenshot shows the Zscaler BW Control interface. On the left, there's a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main content area is titled "Bandwidth Classes" with a note "Max: 25k Used: 3". It has tabs for CLOUD APPLICATIONS, WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. A "Click Box" highlights the "WEB CONFERENCING APPLICATIONS" tab. Below is a table of bandwidth classes:

No.	Name	Cloud Applications	Domains
1	Business and Economy	Other Business and Economy	---
2	File Share	---	.box.net, .dropbox.com
3	Finance	---	.netsuite.com
4	General Surfing	---	---
5	Productivity	Professional Services	---
6	Sales/Support Apps	---	---
7	Streaming Media	---	.dailymotion.com, .hulu.com, .metacafe.com, .shoutcast.co...

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Slide notes

Click the “Large Files” tab.

The screenshot shows the 'Bandwidth Classes' section of the ZCCP-IA BW Control interface. On the left, a vertical sidebar contains icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled 'Bandwidth Classes' with a note 'Max: 25k Used: 3'. It includes tabs for CLOUD APPLICATIONS, LARGE FILES (selected), WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. Under 'LARGE FILES', there is a 'Minimum File Size' dropdown set to '5 MB' with a placeholder 'Click Box'. Below the dropdown are 'Save' and 'Cancel' buttons. A callout bubble points to the dropdown with the text 'Select Minimum File Size drop-down'. At the bottom right of the main area is a 'Help' button.

Slide notes

This option allows you to define the size at which a file is considered large for bandwidth control purposes. The range is from 5MB to 1GB. For this demo select “10MB”.

The screenshot shows the 'Bandwidth Classes' section of the ZCCP-IA BW Control interface. On the left, a vertical sidebar contains icons for Dashboard, Analytics, Policy, Administration (selected), Activation, Search, and Help. The main area is titled 'Bandwidth Classes' with a note 'Max: 25k Used: 3'. It includes tabs for CLOUD APPLICATIONS, LARGE FILES (selected), WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. Under 'LARGE FILES', there's a 'Minimum File Size' dropdown menu with options: 5 MB, 10 MB (selected), 50 MB, 100 MB, and 250 MB. A 'Click Box' highlights the '10 MB' option, and a callout box labeled 'Select 10 MB' points to it. At the bottom right of the main area is a 'Help' button.

Slide notes

The screenshot shows the 'Bandwidth Classes' section of the ZCCP-IA BW Control interface. On the left, a vertical sidebar contains icons for Dashboard, Analytics, Policy, Administration (selected), Activation, and Search. The main area displays 'Bandwidth Classes' with a note: 'Max: 25k Used: 3'. A tab bar at the top includes 'CLOUD APPLICATIONS', 'LARGE FILES' (selected), 'WEB CONFERENCING APPLICATIONS', and 'VOIP APPLICATIONS'. The 'LARGE FILES' section shows a 'Minimum File Size' dropdown set to '10 MB'. A modal dialog box is open, containing a 'Click Box' button and a 'Select Save' button. The bottom right corner of the dialog has a 'Help' icon.

Slide notes

The screenshot shows the Zscaler BW Control interface for managing bandwidth classes. On the left is a vertical navigation bar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main panel title is "Bandwidth Classes" with a note "Max: 25k Used: 3". Below the title are tabs: CLOUD APPLICATIONS, LARGE FILES, WEB CONFERENCING APPLICATIONS (which is highlighted with a callout box), and VOIP APPLICATIONS. Under the LARGE FILES tab, there is a "Minimum File Size" dropdown set to "10 MB". At the bottom are "Save" and "Cancel" buttons. A large, empty white area is present below the tabs. In the bottom right corner, there is a "Help" button.

Slide notes

Click the “Web Conferencing Applications” tab.

Slide 106 - Slide 106

Bandwidth Classes Max: 25k Used: 3

CLOUD APPLICATIONS LARGE FILES WEB CONFERENCING APPLICATIONS VOIP Click Box

WEB CONFERENCING APPLICATIONS

Application	Status
WebEx	Selected
GotoMeeting	Selected
Microsoft Live Meeting	Selected
CONNECT	Selected
InterCall	Selected

Select VOIP Applications tab

Save Cancel

Help

Slide notes

This Tab allows you to select which Web Conferencing Applications are in use and to which any Bandwidth Control rules will apply. To be clear, if you uncheck an application here, that application will not be part of the Web Conferencing Application Class and will instead be considered part of the Default Class in the ruleset. We will leave them all enabled for this demo.

Click the “VOIP Applications” tab.

Slide 107 - Slide 107

The screenshot shows the Zscaler BW Control interface. On the left is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Classes" with a note "Max: 25k Used: 3". It has tabs for CLOUD APPLICATIONS, LARGE FILES, WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. The VOIP APPLICATIONS tab is active, showing a list with "Skype" selected (indicated by a checked checkbox). Below the list are "Save" and "Cancel" buttons. At the bottom right is a "Help" button. The footer contains copyright information and a timestamp.

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Slide notes

Similar to the Web conferencing applications, this tab allows you to select which VoIP Applications are in use. We will leave Skype enabled for this demo.

Slide 108 - Slide 108

The screenshot shows the Zscaler BW Control interface. On the left is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration (selected), Activation, and Search. The main area is titled "Bandwidth Classes" with a note "Max: 25k Used: 3". It has tabs for CLOUD APPLICATIONS, LARGE FILES, WEB CONFERENCING APPLICATIONS, and VOIP APPLICATIONS. The VOIP APPLICATIONS tab is active, showing a list with "Skype" selected (indicated by a checked checkbox). Below the list are "Save" and "Cancel" buttons. At the bottom right is a "Help" button. The footer contains copyright information and a timestamp.

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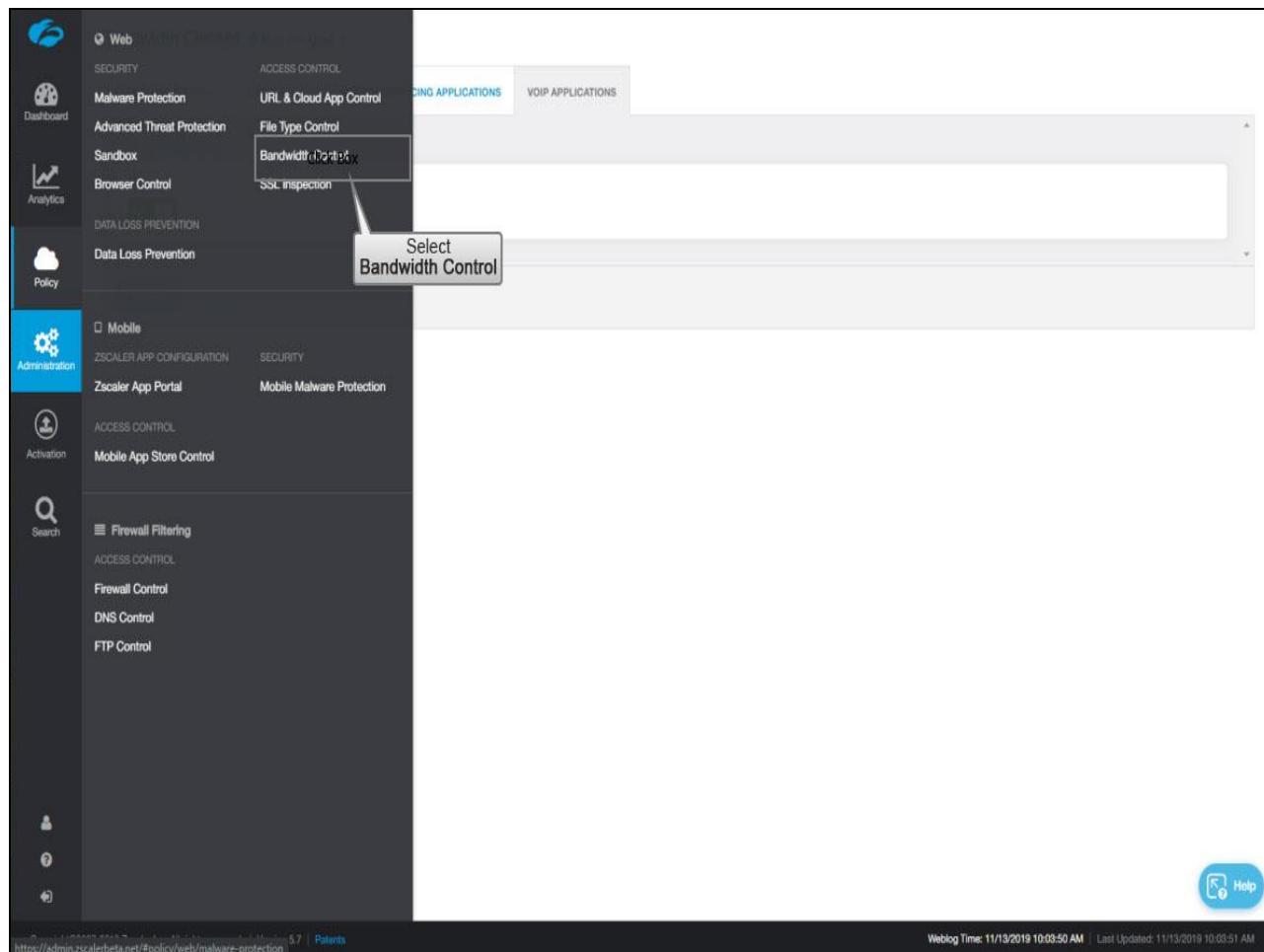
Slide notes

Activate your changes.

The screenshot shows the 'Bandwidth Classes' section of the ZCCP-IA BW Control Admin UI. The left sidebar has a 'Policy' tab selected. The main area shows a table with one row for 'Skype'. A 'Select Policy' button is highlighted with a callout arrow. The bottom status bar shows 'Copyright©2007-2019 Zscaler Inc. All rights reserved. | Version 5.7 | Patents' and 'Weblog Time: 11/13/2019 10:03:50 AM | Last Updated: 11/13/2019 10:03:51 AM'.

Slide notes

Now we'll talk about how to create Bandwidth Control Rules. In the Admin UI go to "Policy".



Slide notes

then “Bandwidth Control”.

The screenshot shows the Zscaler BW Control interface. On the left, a vertical navigation bar includes icons for Dashboard, Analytics, Policy (selected), Administration, Activation, and Search. The main content area is titled "Bandwidth Control" and contains a sub-section "Configure Bandwidth Control Policy". It states: "Rules are evaluated in the order specified. Rule evaluation stops at first match. Unless otherwise defined, URLs fall into General Browsing by default." Below this is a table for managing bandwidth control rules:

Rule Order	Admin Rank	Rule Name	Criteria	Action	Description
Default	7	Select	Add Bandwidth Control Rule	Bandwidth Limits: 0 - 100%	Default Bandwidth Rule

A callout box highlights the "Add Bandwidth Control Rule" button in the "Action" column. The bottom of the screen displays copyright information ("Copyright©2007-2019 Zscaler Inc. All rights reserved. | Version 5.7 | Patents") and a timestamp ("Weblog Time: 11/13/2019 10:03:50 AM | Last Updated: 11/13/2019 10:05:51 AM"). A "Help" button is also visible.

Slide notes

Adding BW Control rules is similar to Firewall rules in that rules are evaluated from the top down. As discussed during the presentation Rule Order sets precedence during contention if Bandwidth limits are set equal between two rules. Remember, minimum BW settings do take priority even over the Rule order.

Let's add the three rules we saw earlier in the presentation. Begin by clicking "Add Bandwidth Control Rule" in the upper left corner.

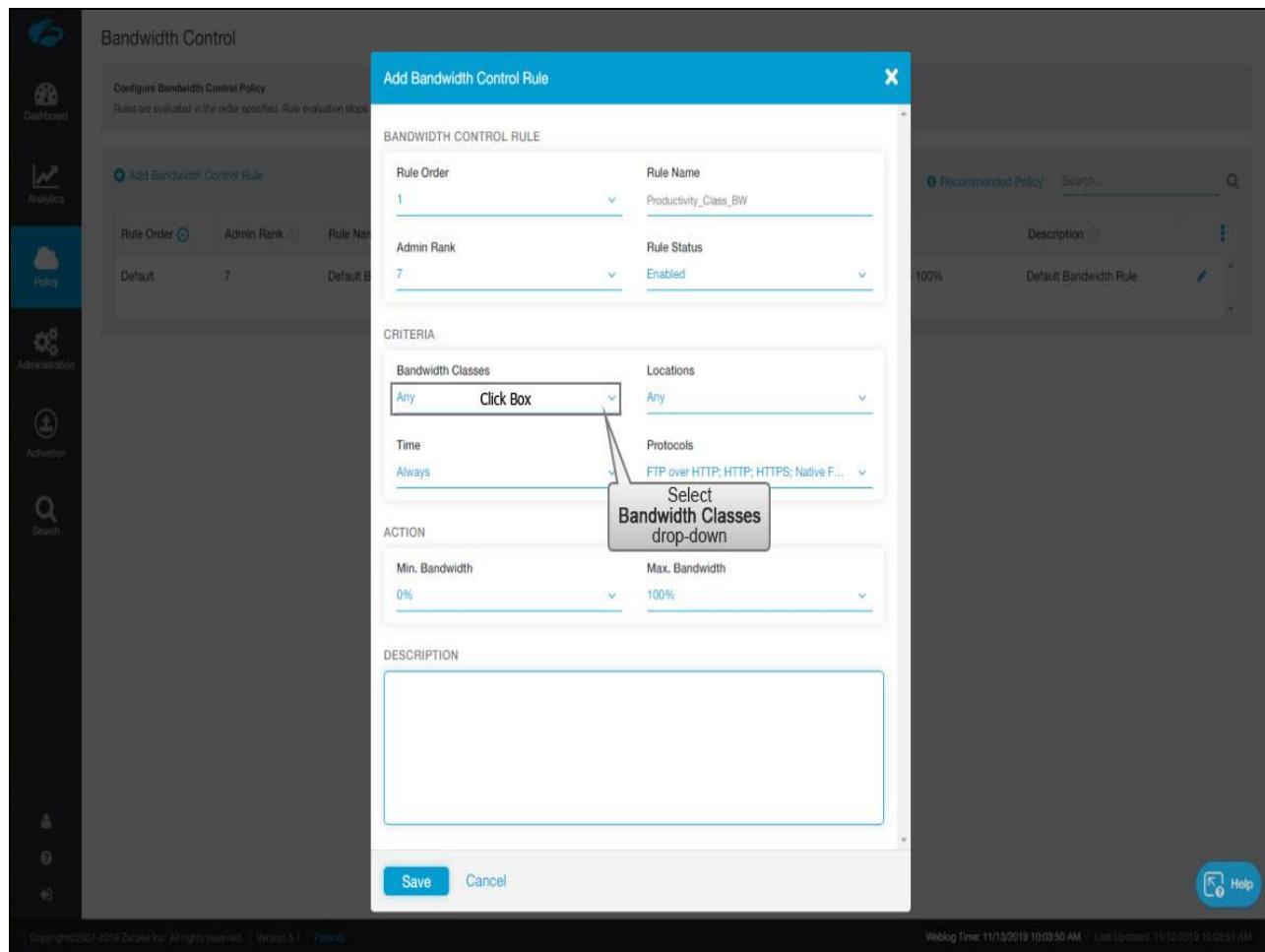
The screenshot shows the ZCCP-IA BW Control interface with a dark theme. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Control" and contains a sub-section "Configure Bandwidth Control Policy" with the note "Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches." A modal window titled "Add Bandwidth Control Rule" is open in the center. The modal has several sections: "BANDWIDTH CONTROL RULE" (Rule Order: 1, Rule Name: Bandwidth_1, Admin Rank: 7, Rule Status: Enabled); "CRITERIA" (Bandwidth Classes: Any, Locations: Any, Time: Always, Protocols: FTP over HTTP; HTTP; HTTPS; Native F...); "ACTION" (Min. Bandwidth: 0%, Max. Bandwidth: 100%); and "DESCRIPTION" (an empty text area). At the bottom of the modal are "Save" and "Cancel" buttons, and a "Help" button on the right.

Slide notes

For the Rule Name enter “Productivity_Class_BW”.

The screenshot shows the ZCCP-IA BW Control interface with a dark theme. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Control" and contains a sub-section "Configure Bandwidth Control Policy" with the note "Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches." A modal window titled "Add Bandwidth Control Rule" is open in the center. The modal has several sections: "BANDWIDTH CONTROL RULE" with fields for "Rule Order" (set to 1), "Rule Name" (with a placeholder "Type 'Productivity_Class_BW' and hit enter"), "Admin Rank" (set to 7), and "Rule Status" (set to Enabled). The "CRITERIA" section includes "Bandwidth Classes" (set to Any), "Locations" (set to Any), "Time" (set to Always), and "Protocols" (set to "FTP over HTTP; HTTP; HTTPS; Native F..."). The "ACTION" section shows "Min. Bandwidth" (0%) and "Max. Bandwidth" (100%). The "DESCRIPTION" section is empty. At the bottom of the modal are "Save" and "Cancel" buttons, and a "Help" button on the right.

Slide notes



Slide notes

Under the Criteria pane go to the “Bandwidth Classes” drop-down.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops when a rule matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 1 Rule Name: Productivity_Class_BW

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Any Locations: Any

Unselected Items Selected Items (0)

Search...

AC Business and Economy
File Share
Finance
General Surfing
DE Large Files
Productivity **Click Box**

Done Cancel Clear Selection

Save Cancel

Help

Slide notes

and search for and select “Productivity”.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 1 Rule Name: Productivity_Class_BW

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Any Locations: Any

Select Bandwidth Classes

Unselected Items Selected Items (1)

Search... Productivity

Business and Economy

File Share

Finance

General Surfing

Large Files

Productivity

Select Done

Click Box Cancel Clear Selection

Save Cancel

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Slide notes

Then click “Done”.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 1 Rule Name: Productivity_Class_BW

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Productivity Locations: Any

Time: Always Protocols: FTP over HTTP; HTTP; HTTPS; Native F...

ACTION

Min. Bandwidth: 0% Click Box Max. Bandwidth: 100%

DESCRIPTION

Select Min. Bandwidth drop-down

Save Cancel

Slide notes

Under the “Action” pane set Min BW as 30%.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops when a rule matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 1 Rule Name: Productivity_Class_BW

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Productivity Locations: Any

Time: Always Protocols: FTP over HTTP; HTTP; HTTPS; Native F...

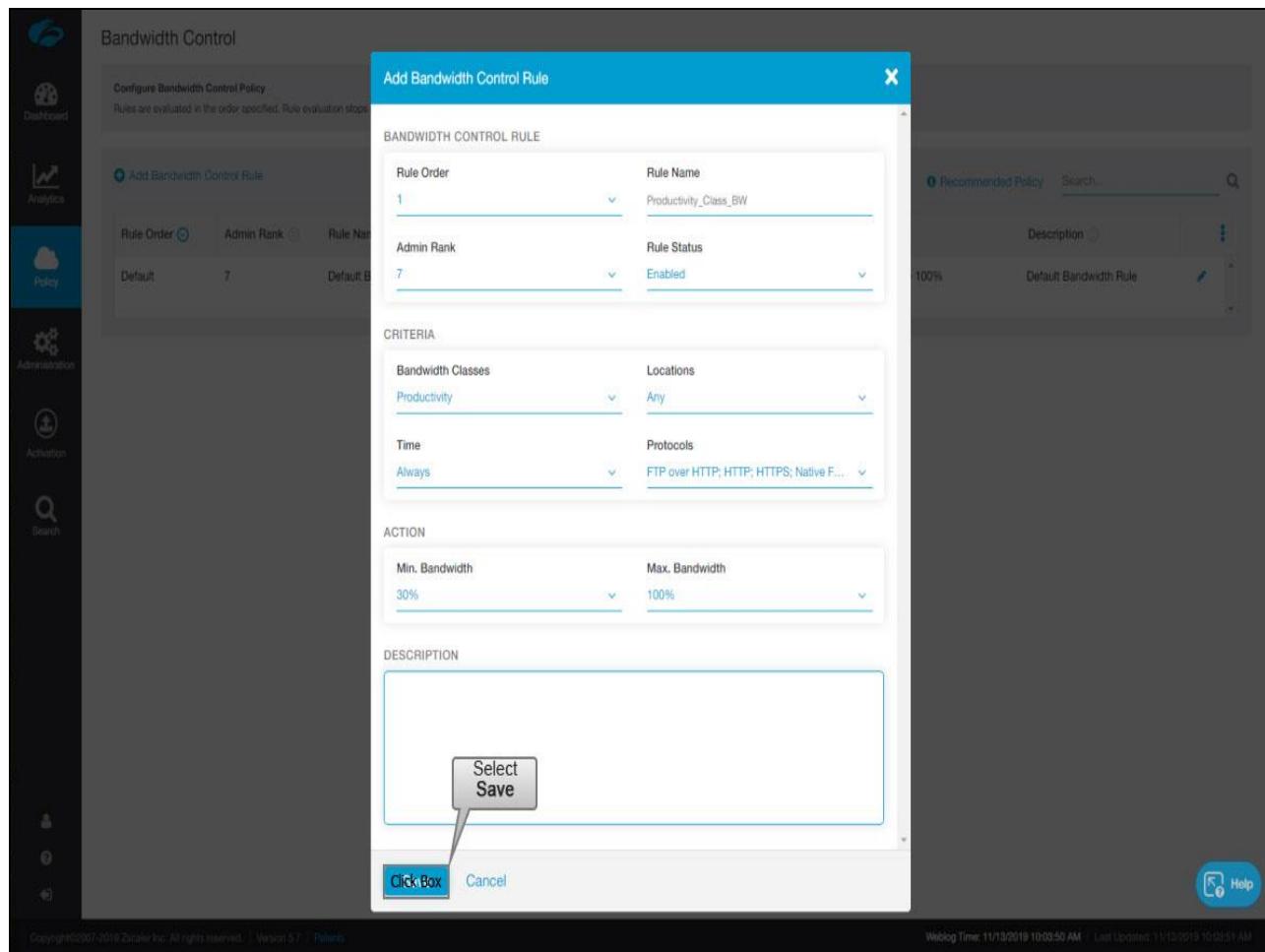
ACTION

Min. Bandwidth: 0% Max. Bandwidth: 100%

30% (Selected)

Save Cancel Help

Slide notes



Slide notes

This will always guarantee at least 30% of the stated BW under the location for the Productivity class and it can take up to 100% if there is no contention or if no other Classes have Minimum BW reservations set. Click “Save”.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops at first match. Unless otherwise defined, URLs fall into General Browsing by default.

Add Bandwidth Control Rule Click Box

Rule Order	Admin Rank	Rule Name	Criteria	Action	Description	⋮
1	7	Select Add Bandwidth Control Rule	CLASSES	Bandwidth Limits: 30 - 100%		
PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel						
Default	7	Default Bandwidth Control	PROTOCOLS Any	Bandwidth Limits: 0 - 100%	Default Bandwidth Rule	

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Slide notes

Let's create our next rule. Click "Add Bandwidth Control Rule".

The screenshot shows the ZCCP-IA BW Control interface with a central modal dialog titled "Add Bandwidth Control Rule". The dialog is divided into several sections:

- BANDWIDTH CONTROL RULE**:
 - Rule Order: 2
 - Rule Name: Bandwidth_1
 - Admin Rank: 7
 - Rule Status: Enabled
- CRITERIA**:
 - Bandwidth Classes: Any
 - Locations: Any
 - Time: Always
 - Protocols: FTP over HTTP; HTTP; HTTPS; Native F...
- ACTION**:
 - Min. Bandwidth: 0%
 - Max. Bandwidth: 100%
- DESCRIPTION**: A large text area for notes.

At the bottom of the dialog are "Save" and "Cancel" buttons. The background shows a dark-themed dashboard with various icons and a list of bandwidth rules.

Slide notes

For the name enter “Business & Productivity_BW”.

The screenshot shows the ZCCP-IA BW Control interface with a dark-themed sidebar on the left containing icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Control" and displays a list of bandwidth control rules. A modal window titled "Add Bandwidth Control Rule" is open in the center.

BANDWIDTH CONTROL RULE

- Rule Order:** 2
- Rule Name:** Type "Business & Productivity_BW" and hit enter
- Admin Rank:** 7
- Rule Status:** Enabled

CRITERIA

- Bandwidth Classes:** Any
- Locations:** Any
- Time:** Always
- Protocols:** FTP over HTTP; HTTP; HTTPS; Native F...

ACTION

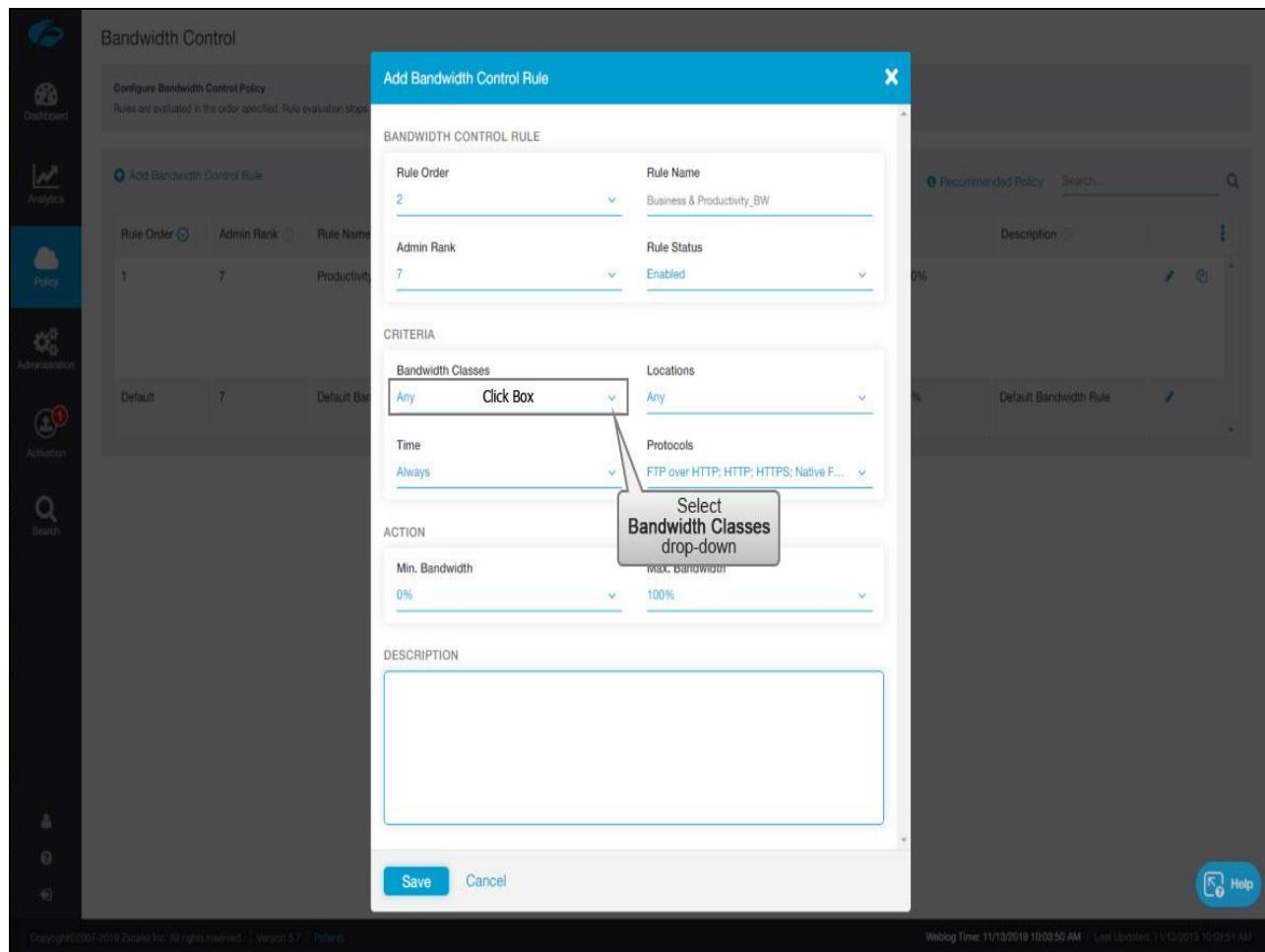
- Min. Bandwidth:** 0%
- Max. Bandwidth:** 100%

DESCRIPTION

Save Cancel Help

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Slide notes



Slide notes

Under Bandwidth Class select “Business and Economy”.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 2 Rule Name: Business & Productivity_BW

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Any Locations: Any

Unselected Items Selected Items (0)

Search...

All DE

- Business and Eco Click Box
- File Share
- Finance
- General Surfing
- Large Files
- Productivity

Select Business and Economy

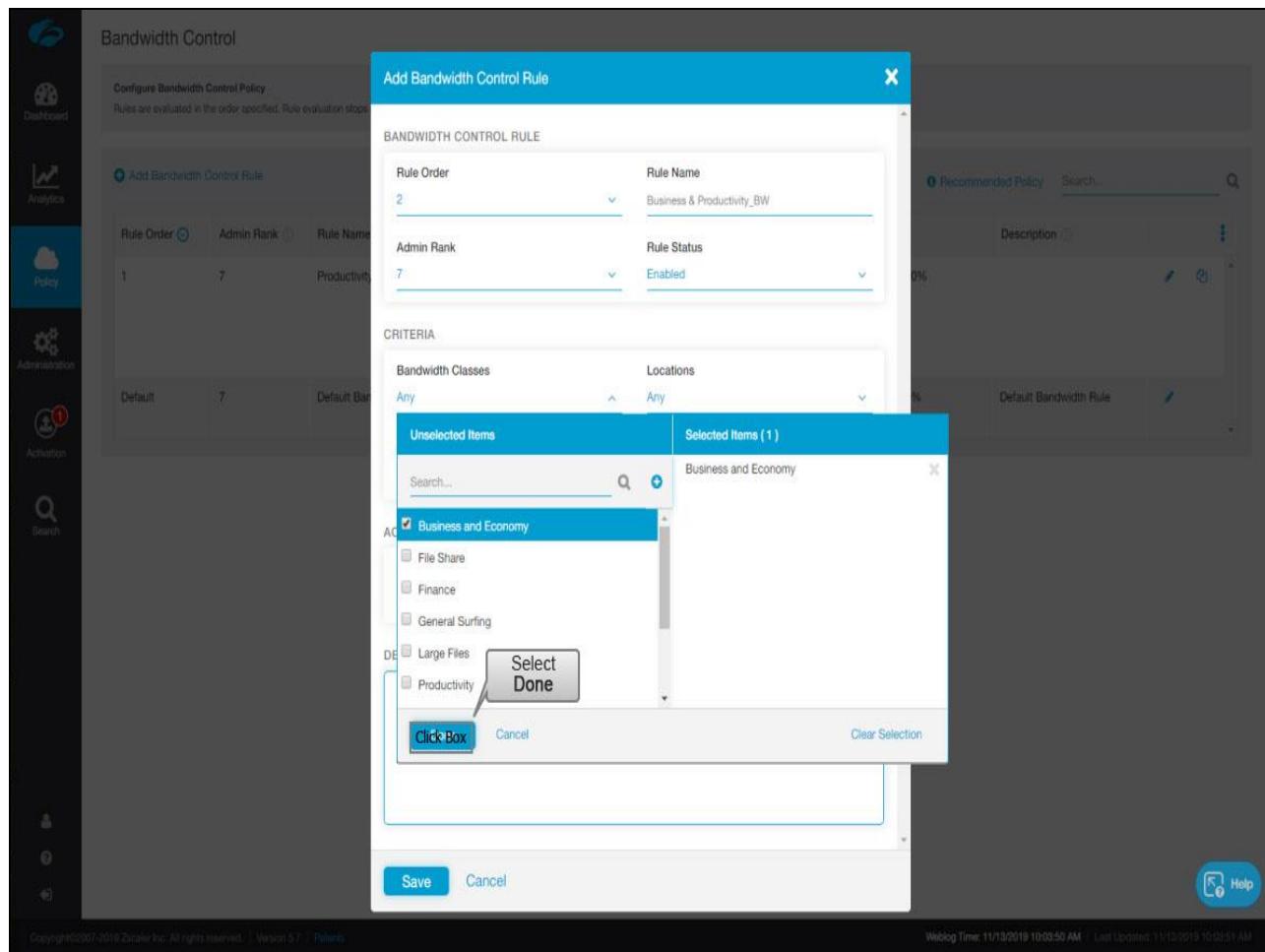
Done Cancel Clear Selection

Save Cancel

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Help

Slide notes



Slide notes

Then click “Done”.

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 2 Rule Name: Business & Productivity_BW

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Business and Economy Locations: Any

Time: Always Protocols: FTP over HTTP; HTTP; HTTPS; Native F...

ACTION

Min. Bandwidth: 0% Click Box Max. Bandwidth: 100%

DESCRIPTION

Select Min. Bandwidth drop-down

Save Cancel

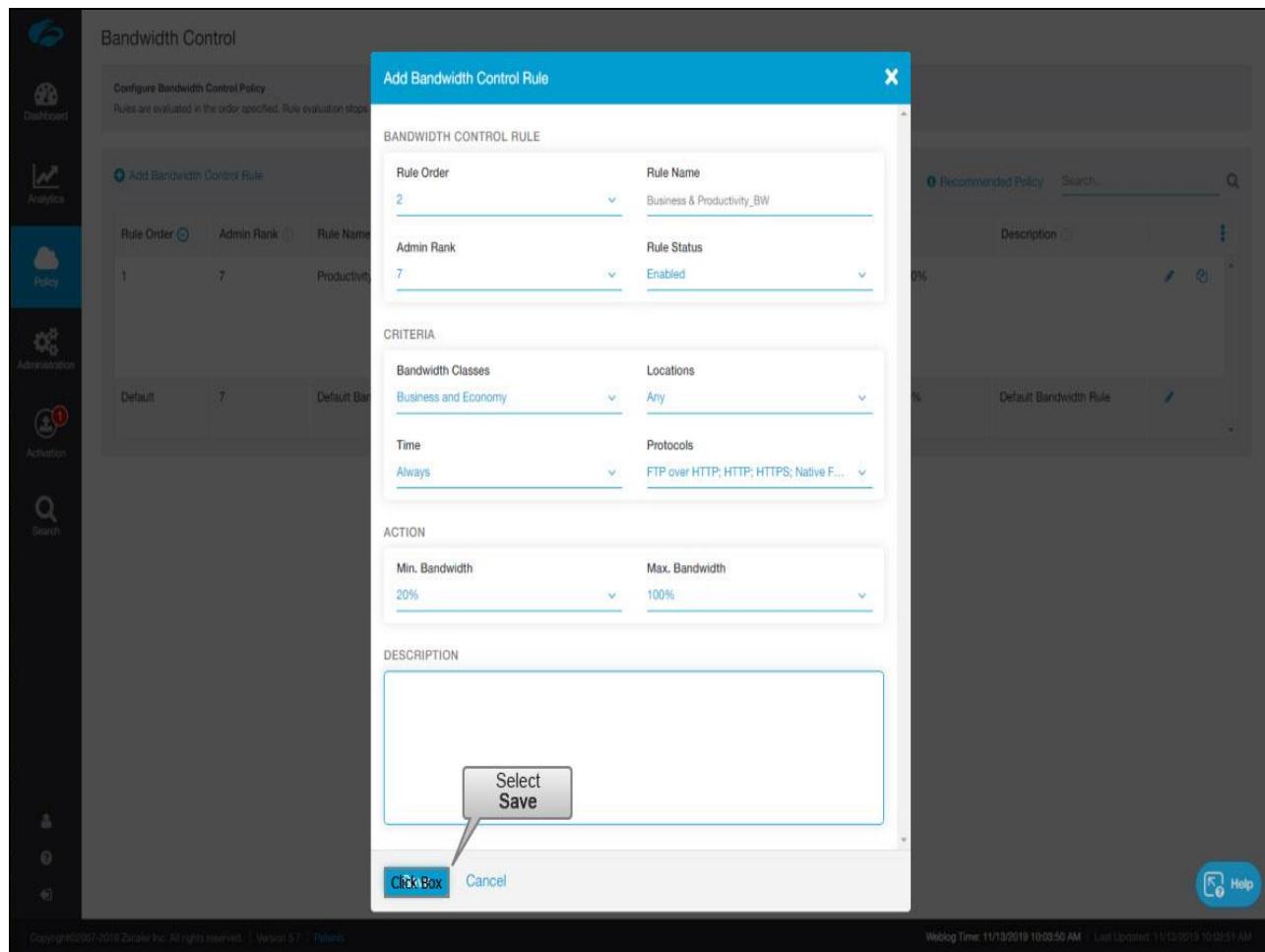
Slide notes

For Min BW select 20%

Slide 144 - Slide 144

The screenshot shows the ZCCP-IA BW Control interface with the 'Bandwidth Control' page open. A modal dialog box titled 'Add Bandwidth Control Rule' is displayed in the center. The dialog contains three main sections: 'BANDWIDTH CONTROL RULE', 'CRITERIA', and 'ACTION'. In the 'BANDWIDTH CONTROL RULE' section, 'Rule Order' is set to 2 and 'Rule Name' is 'Business & Productivity_BW'. In the 'CRITERIA' section, 'Bandwidth Classes' is 'Business and Economy', 'Locations' is 'Any', 'Time' is 'Always', and 'Protocols' includes 'FTP over HTTP; HTTP; HTTPS; Native F...'. In the 'ACTION' section, the 'Min. Bandwidth' slider is at 0%, and the 'Max. Bandwidth' slider is at 100%. A tooltip 'Select 20%' points to a 'Click Box' on the slider scale between 0% and 100%. At the bottom of the dialog are 'Save' and 'Cancel' buttons. The background shows a list of existing bandwidth rules.

Slide notes



Slide notes

and Max BW 100%. Click “Save”.

The screenshot shows the 'Bandwidth Control' section of the ZCCP-IA BW Control interface. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays a table of bandwidth control rules:

Rule Order	Admin Rank	Rule Name	Criteria	Action	Description	Actions
1	7	Business & Productivity_BW	BANDWIDTH CLASSES Business and Economy PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 30 - 100%		
2	7	Default Bandwidth Control	PROTOCOLS Any	Bandwidth Limits: 20 - 100%	Default Bandwidth Rule	
Default						

At the top of the main area, there is a header with 'Configure Bandwidth Control Policy' and a note: 'Rules are evaluated in the order specified. Rule evaluation stops at first match. Unless otherwise defined, URLs fall into General Browsing by default.' There are also 'Recommended Policy' and 'Search...' buttons.

At the bottom of the page, there are copyright information ('Copyright©2007-2019 Zscaler Inc. All rights reserved. | Version 5.7 | Patents'), a timestamp ('Weblog Time: 11/13/2019 10:03:50 AM | Last Updated: 11/13/2019 10:03:51 AM'), and a 'Help' button.

Slide notes

Last, create a rule for Large File transfers. Remember, we set a Large file to equal only 10MB for this demo. You might choose something larger for your environment. For the Rule Name enter “Large File Bandwidth”.

The screenshot shows the ZCCP-IA BW Control interface with a dark theme. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Control" and contains a sub-section "Configure Bandwidth Control Policy" with the note "Rules are evaluated in the order specified. Rule evaluation stops at the first rule that matches." Below this is a table with columns "Rule Order", "Admin Rank", and "Rule Name". A new row is being added with "Rule Order" set to 3, "Admin Rank" set to 7, and "Rule Name" set to "Large File Bandwidth". The "Large File Bandwidth" field has a tooltip "Type 'Large File Bandwidth' and hit enter". The "Add Bandwidth Control Rule" dialog box is open, titled "Add Bandwidth Control Rule". It contains several sections: "BANDWIDTH CONTROL RULE" with fields for "Rule Order" (3), "Rule Name" (input field containing "Large File Bandwidth" with a tooltip), "Admin Rank" (7), and "Rule Status" (Enabled). "CRITERIA" section includes "Bandwidth Classes" (Any), "Locations" (Any), "Time" (Always), and "Protocols" (FTP over HTTP; HTTP; HTTPS; Native F...). "ACTION" section includes "Min. Bandwidth" (0%) and "Max. Bandwidth" (100%). "DESCRIPTION" section has a large empty text area. At the bottom are "Save" and "Cancel" buttons, and a "Help" button on the right.

Slide notes

Bandwidth Control

Configure Bandwidth Control Policy
Rules are evaluated in the order specified. Rule evaluation stops when a rule matches.

Add Bandwidth Control Rule

BANDWIDTH CONTROL RULE

Rule Order: 3 Rule Name: Large File Bandwidth

Admin Rank: 7 Rule Status: Enabled

CRITERIA

Bandwidth Classes: Any Locations: Any

Time: Always Protocols: FTP over HTTP; HTTP; HTTPS; Native F...

ACTION

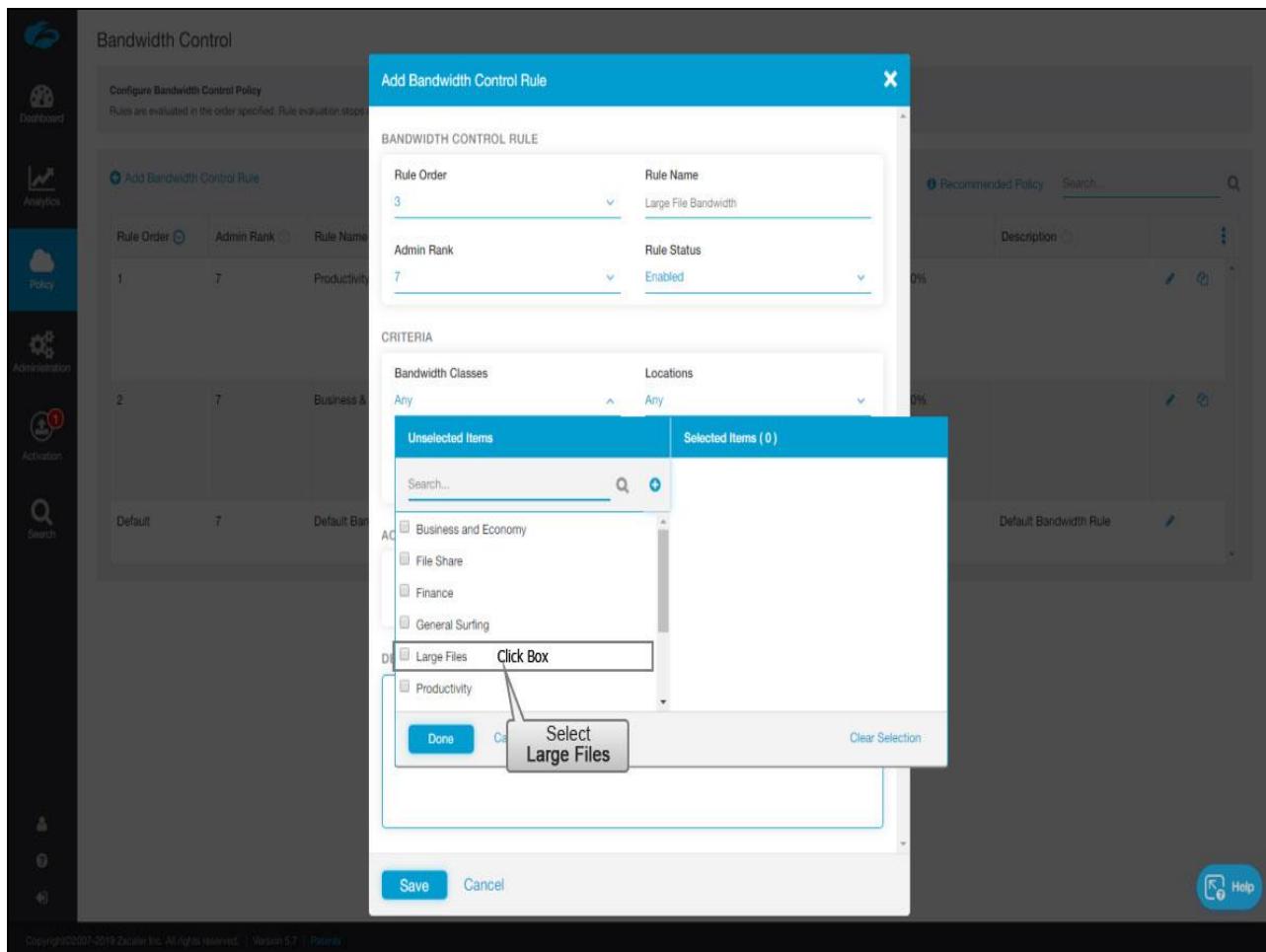
Min. Bandwidth: 0% Max. Bandwidth: 100%

DESCRIPTION

Save Cancel

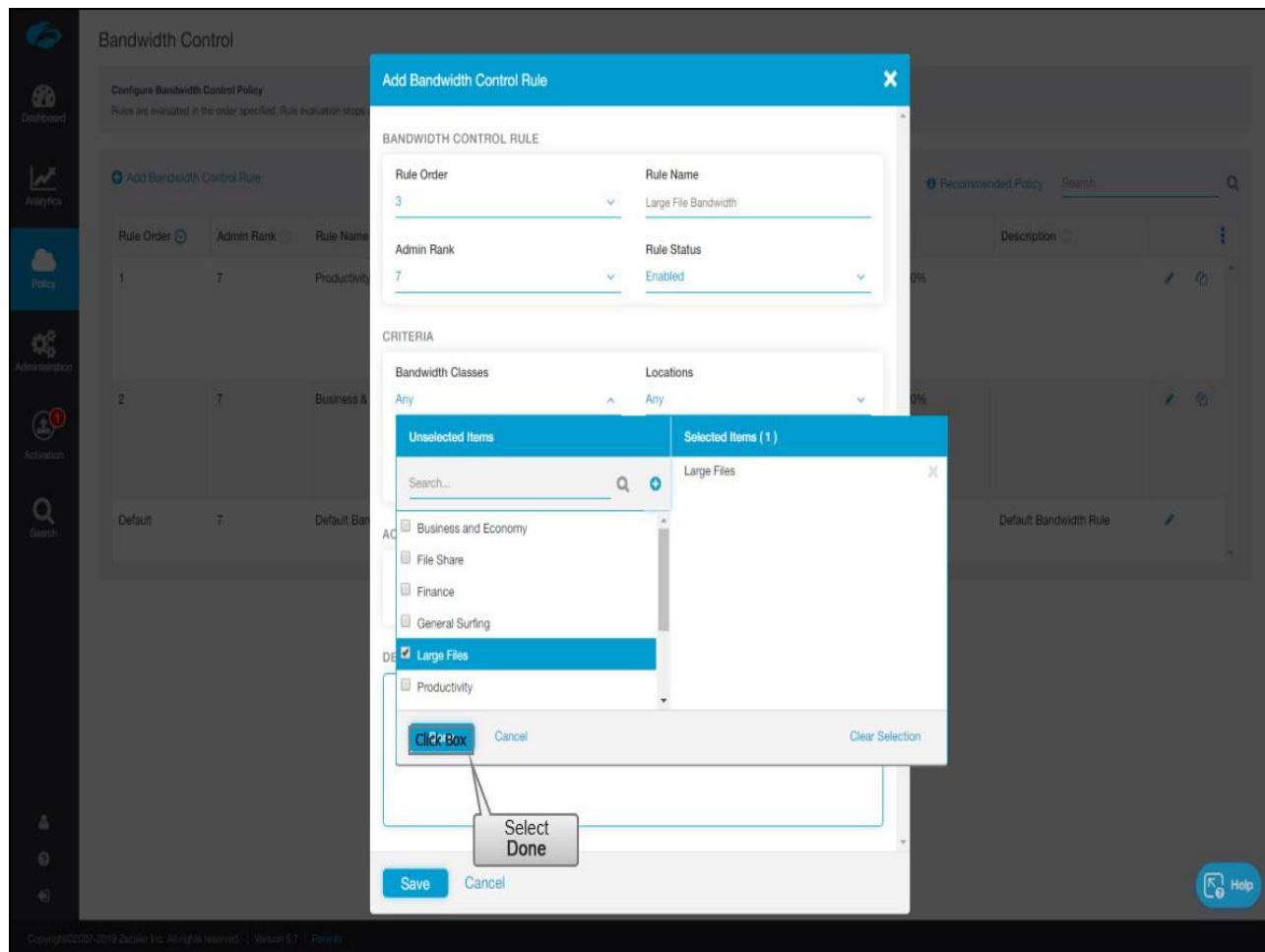
Slide notes

Under the Criteria select “Bandwidth Classes”.



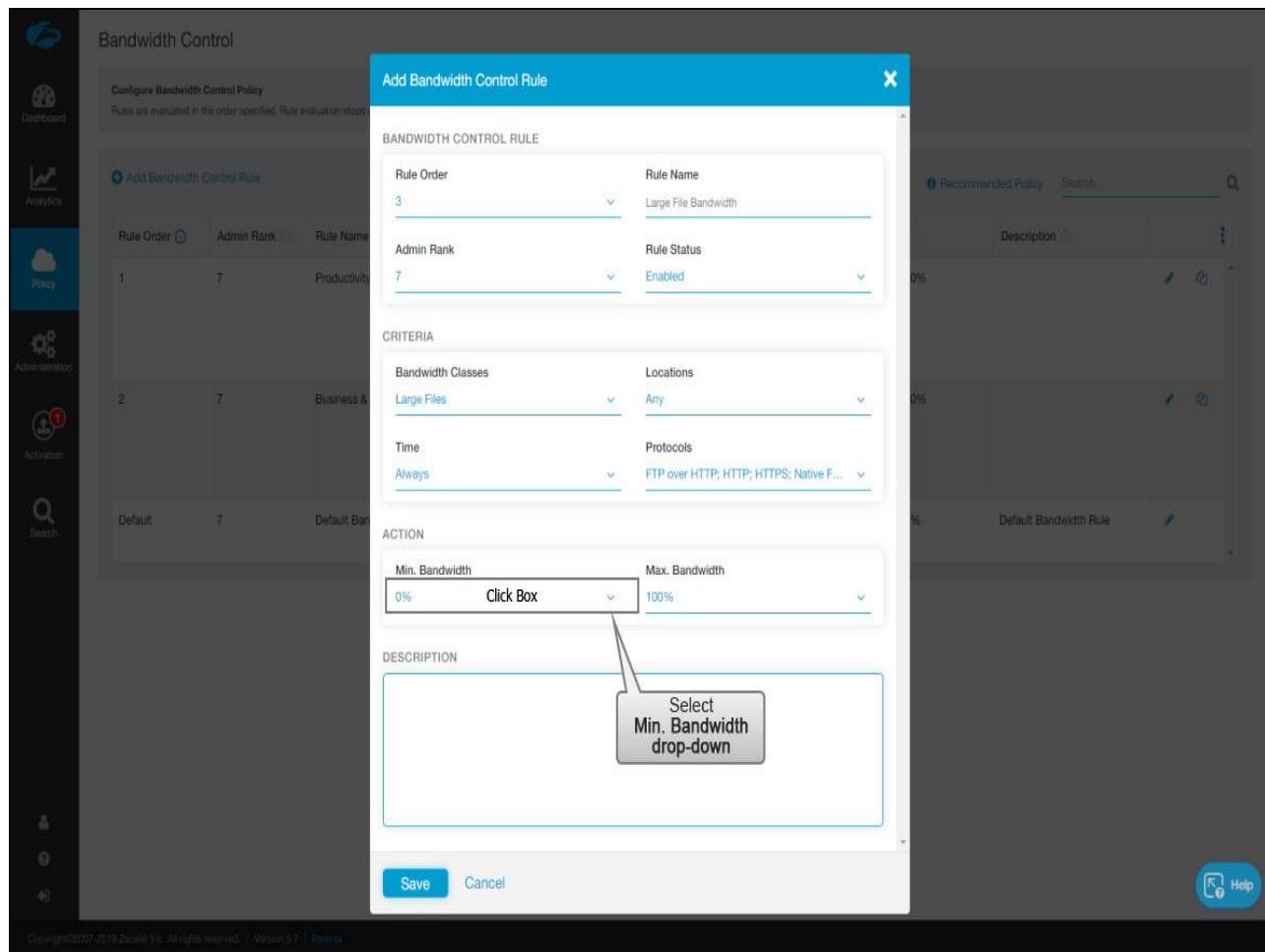
Slide notes

Then select “Large Files”.



Slide notes

Then click “Done”.



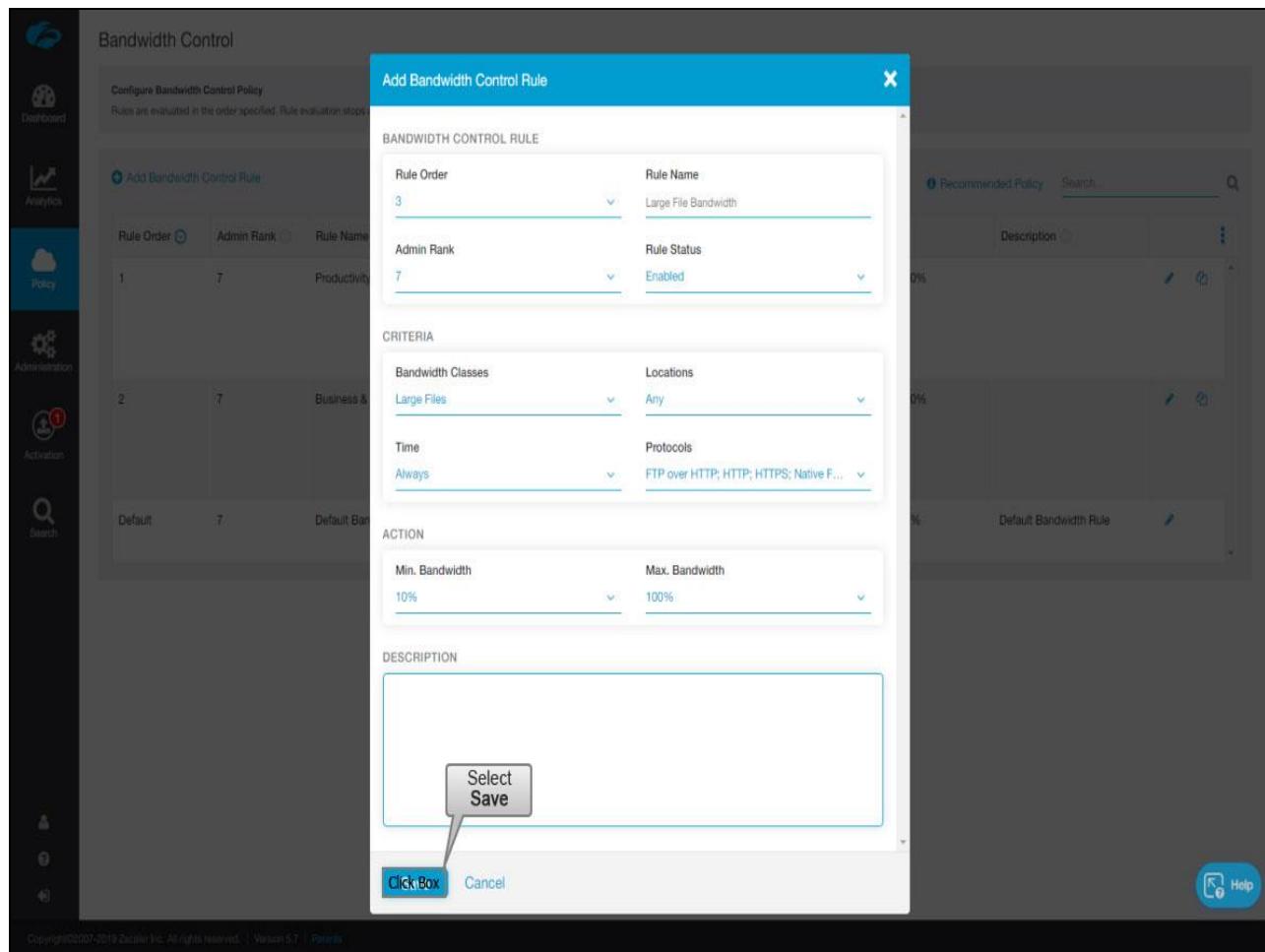
Slide notes

Set Min BW to 10%.

The screenshot shows the ZCCP-IA BW Control software interface. On the left, there is a vertical sidebar with icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area is titled "Bandwidth Control" and contains a table with three rows of bandwidth control rules. The first rule has a "Rule Order" of 3, an "Admin Rank" of 7, and a "Productivity" category. The second rule has a "Rule Order" of 2, an "Admin Rank" of 7, and a "Business & Productivity" category. The third rule is a "Default" rule with an "Admin Rank" of 7 and a "Default Bandwidth" category.

A modal window titled "Add Bandwidth Control Rule" is open in the center. It has sections for "BANDWIDTH CONTROL RULE", "CRITERIA", and "ACTION". In the "ACTION" section, there is a slider for "Min. Bandwidth" with a tooltip "Select 10%" pointing to the 10% mark. The "Max. Bandwidth" is set to 100%. At the bottom of the modal are "Save" and "Cancel" buttons, and a "Help" button on the right.

Slide notes



Slide notes

Then Max BW to 100%. Click “Save”.

The screenshot shows the 'Bandwidth Control' section of the Zscaler BW Control interface. On the left, a vertical sidebar contains icons for Dashboard, Analytics, Policy, Administration, ClickBox Activation, and Search. The main area is titled 'Configure Bandwidth Control Policy' with a note: 'Rules are evaluated in the order specified. Rule evaluation stops at first match. Unless otherwise defined, URLs fall into General Browsing by default.' A table lists four bandwidth control rules:

Rule Order	Admin Rank	Rule Name	Criteria	Action	Description	Actions
1	7	Productivity_Class_BW	BANDWIDTH CLASSES Productivity PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 30 - 100%		
2	7	Business & Productivity_BW	BANDWIDTH CLASSES Business and Economy PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 20 - 100%		
Default	7	Default Bandwidth Control	BANDWIDTH CLASSES Large Files PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 10 - 100%	Default Bandwidth Rule	

A button labeled 'Activate your changes' with an arrow pointing to it is located on the left side of the table. In the bottom right corner of the main area, there is a 'Help' button.

Slide notes

And Activate your changes.

MY ACTIVATION STATUS: Editing

CURRENTLY EDITING (1) Rule evaluation stops at first match. Unless otherwise defined, URLs fall into General Browsing by default.
admin@zccp-ia.com

QUEUED ACTIVATIONS (0)

None

Force Activate

Click Box

Select Activate

Rule Name	Criteria	Action	Description	
Productivity_Class_BW	BANDWIDTH CLASSES Productivity PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 30 - 100%		
Business_and_Economy	BANDWIDTH CLASSES Business and Economy PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 20 - 100%		
Large File Bandwidth	BANDWIDTH CLASSES Large Files PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 10 - 100%		
Default Bandwidth Control	PROTOCOLS Any	Bandwidth Limits: 0 - 100%	Default Bandwidth Rule	

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Help

Slide notes

The screenshot shows the Zscaler BW Control interface under the 'Bandwidth Control' section. On the left, a vertical sidebar contains icons for Dashboard, Analytics, Policy, Administration, Activation, and Search. The main area displays a table of bandwidth control rules:

Rule Order	Admin Rank	Rule Name	Criteria	Action	Description	Actions
1	7	Productivity_Class_BW	BANDWIDTH CLASSES Productivity PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 30 - 100%		
2	7	Business & Productivity_BW	BANDWIDTH CLASSES Business and Economy PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 20 - 100%		
3	7	Large File Bandwidth	BANDWIDTH CLASSES Large Files PROTOCOLS FTP over HTTP; Native FTP; HTTPS; HTTP; SSL; Tunnel	Bandwidth Limits: 10 - 100%		
Default	7	Default Bandwidth Control	PROTOCOLS Any	Bandwidth Limits: 0 - 100%	Default Bandwidth Rule	

At the bottom right of the main area is a 'Help' button with a question mark icon.

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Slide notes

This concludes our demonstration of configuring Bandwidth Controls.

Slide 176 - Thank You and Quiz



Thank You and Quiz

Slide notes

This completes the Zscaler Bandwidth Control module. We hope this module has been useful to you and thank you for your time. What will follow is a short quiz to test your knowledge of the material presented in this module. You may retake the quiz as many times as necessary to pass.