



Custom Report Guidelines

Version 3.1

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Thursday, July 15, 2010

Introduction

About N-compass

N-compass is an offline advanced reporting solution used by managed service providers (MSPs) and other IT service companies to report on the performance of IT infrastructure under their management. It allows you to communicate key network and system information to a wide range of report consumers. N-compass includes a data warehouse and reporting features that provide extensive reporting capabilities without affecting N-central's data processing activities.

N-compass comes with valuable predefined reports, while also providing the ability for you to create and upload your own custom reports that suit the specific needs of your report audience.

About the Guidelines

These Guidelines provide you with information on creating custom reports, regardless of your requirements or experience level.

We have included tutorials for both Report Builder 1.0 and Report Builder 2.0. Report Builder is an easy-to-use report designer included with Microsoft SQL Server Reporting Services.

If you have development experience, you may prefer to use Microsoft Visual Studio for custom report creation. These Guidelines include tips and procedures for creating reports using Visual Studio and database SQL queries.

We have also included appendices which contain the details of report properties and the data warehouse schema for N-compass 3.1.

We hope that you will provide us with feedback about your custom reports that we can use in the creation of predefined reports for future releases of N-compass.

More Resources

Within the Partner Center, you will find the Community where you and other Partners can share custom services, custom reports, management scripts, and service templates. We encourage you to share your custom reports with the other members of the N-able Community.

If you need credentials to access the N-able Resource Center, please contact Partner Care at 1-866-302-4689.

For Microsoft Visual Studio technical support, please contact Microsoft.

Report Builder Custom Report Creation

Report Builder is an easy-to-use tool for report creation that you can launch from within N-compass. If you have used Microsoft Office products such as Word, Powerpoint or Excel, you will find yourself comfortable with Report Builder.

Report Builder 1.0 allows you to create basic custom reports for ad hoc use or data mining, using one of three offered report templates (table, matrix, chart).

Report Builder 2.0 meets the needs of those looking for a quick but more advanced custom report authoring tool, suited for novice users as well as experienced report designers. With Report Builder 2.0, you can use more than one dataset and create reports with multiple reporting elements.

Reports created using Report Builder 1.0 or 2.0 can be uploaded to the N-compass user interface and used in the same way as predefined reports. Any reports made using Report Builder 1.0 can be edited in Report Builder 2.0 for updating and enhancement.

See the table below for availability and a brief feature summary.

Report Builder Version	Feature Summary	SQL Server Version	N-compass Version
Report Builder 1.0	To create quick ad hoc reports for data mining Easy to use, one off report designer	both 2005 and 2008	both 3.0 and 3.1
Report Builder 2.0	Easy to use report designer for simple or complex reports	only 2008	3.1

Report Builder 2.0: Three Tutorials

In these tutorials, we will walk you through the process of setting up a report called "Managed Devices Summary" as an introduction to the Report Builder 2.0 environment. In Tutorial 1 we create an rdl, setup our first dataset and design a table. Tutorials 2 and 3 use the rdl created in the first tutorial and introduce different report elements and a second dataset.

Tutorial 1: Creating the first dataset and a table: In this tutorial, we create the rdl file "Managed Devices Summary", which will be our example report file. We start by opening the Table or Matrix wizard and using the designer query we create the first dataset in order to define the data that we will use in the table data region. Then we format the table, Managed Devices, that will use this dataset.

Tutorial 2: Adding charts: In this tutorial, we use the file created in the first tutorial and add two charts to the report, a funnel chart called Device Class Summary, and a bar graph chart called Operating System Summary. Both charts the dataset we created in the first tutorial.

Tutorial 3: Adding a second dataset: Using the same rdl file, this tutorial adds a second data set and another table called Monitored Services to the report.

Tutorial 1: Creating the first dataset and a table

Through the Table or Matrix wizard and query design features, we will create our first dataset, DeviceData and a table (our first data region), Managed Devices from the dataset. We will set up filters on the data and use the wizard to format the table.

Opening Report Builder 2.0

1. Sign in to the N-compass Administration Console.

The Administration Console appears.

N-compass 3.1 Report Builder 2.0: Three Tutorials

2. Click **Custom Report Management**.

The Custom Report Management screen appears. Ensure Report Builder 2.0 is selected.

3. Click **Report Builder**.

A prompt for credentials to connect appears.

*If no prompt appears, skip to **No prompt?** below.*

4. Provide the credentials that N-compass uses to access Reporting Services and select **Remember my password**.

5. Click **OK**.

Report Builder opens.

No prompt?

If you are unable to run Report Builder and there is no prompt for credentials, use the following procedure:

- a. On the N-compass server, click **Start>Run**.

- b. Type control userpasswords2.

- c. Click OK.

- d. In the User Accounts dialog, select the **Advanced** tab.

- e. Click **Manage Passwords**.

- f. Click **Add**.

- g. In the **Logon Information Properties** dialog, provide the N-compass server name and its credentials using an appropriate format, for example: <IP\username> or <domain\username>.

- h. Click **Close**.

- i. Sign back into the N-compass Administration Console and open report builder again.

6. In the design area, click **Table or Matrix** to open the wizard.

This wizard takes us through setting up the dataset, setting filters on the dataset and formatting the data region (in this case, the table).

7. In "Choose a connection to a data source", click **Browse**.

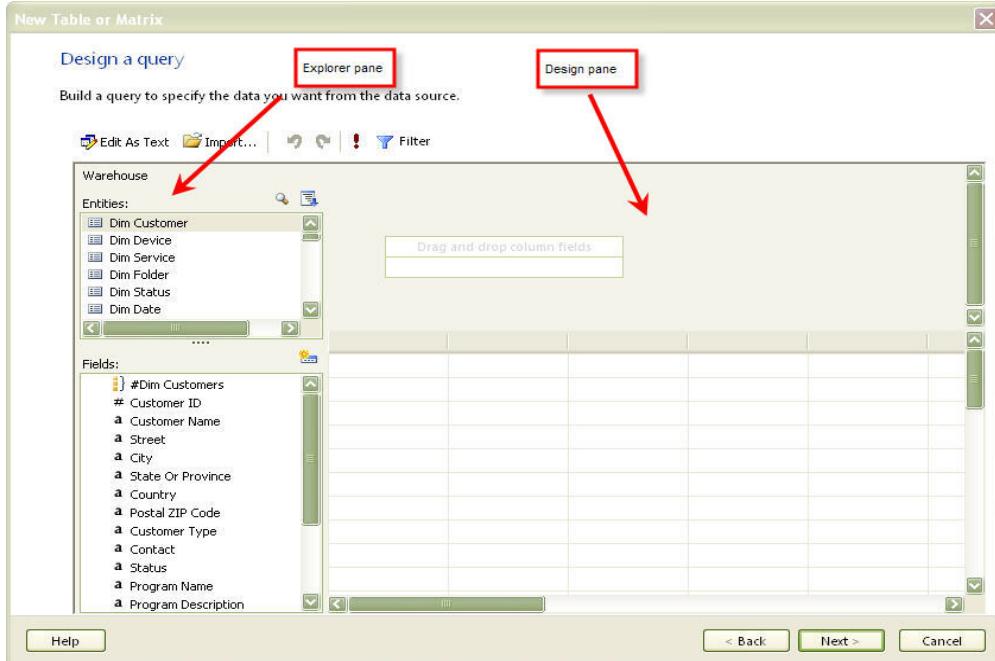
This opens a window into your report server with the folders for Models and Reports. N-compass has predefined a data model, which is the source of data for your report. The data model contains entities and fields from the data warehouse.

8. Double-click the **Models** folder to open it and click **Warehouse**.

Warehouse is now selected as your data source.

9. Click **Next**.

The Design a query wizard appears. All the entities from the data warehouse are displayed. When an entity is selected in the Entities list, only the fields from that entity are displayed in the Fields list.



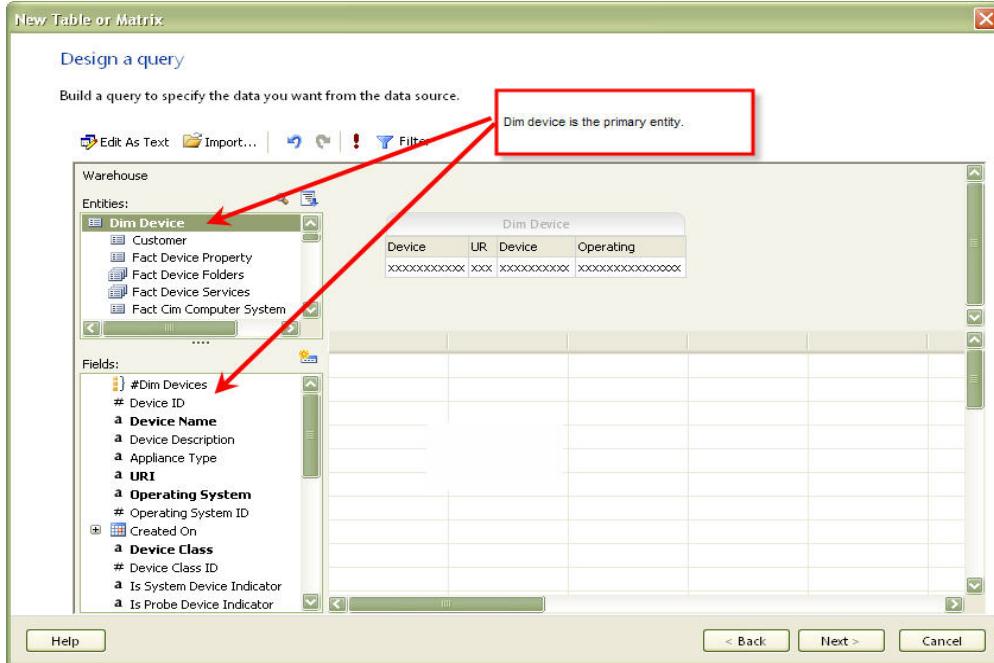
We are creating a table with managed devices, so we need to define the data for the report by selecting the device dimension table, Dim Device.

10. In the Entities list in the Explorer pane, double-click Dim Device.

The following happens:

- The Entities list refreshes to display only entities related to the selected or primary entity (Dim Devices).
- The Fields list displays fields available in the selected entity.
- In the report design area, the default fields for Dim Device appear: Device Name, URI, Device Class and Operating System.

This is the dataset from which we will build our table, Managed Devices.



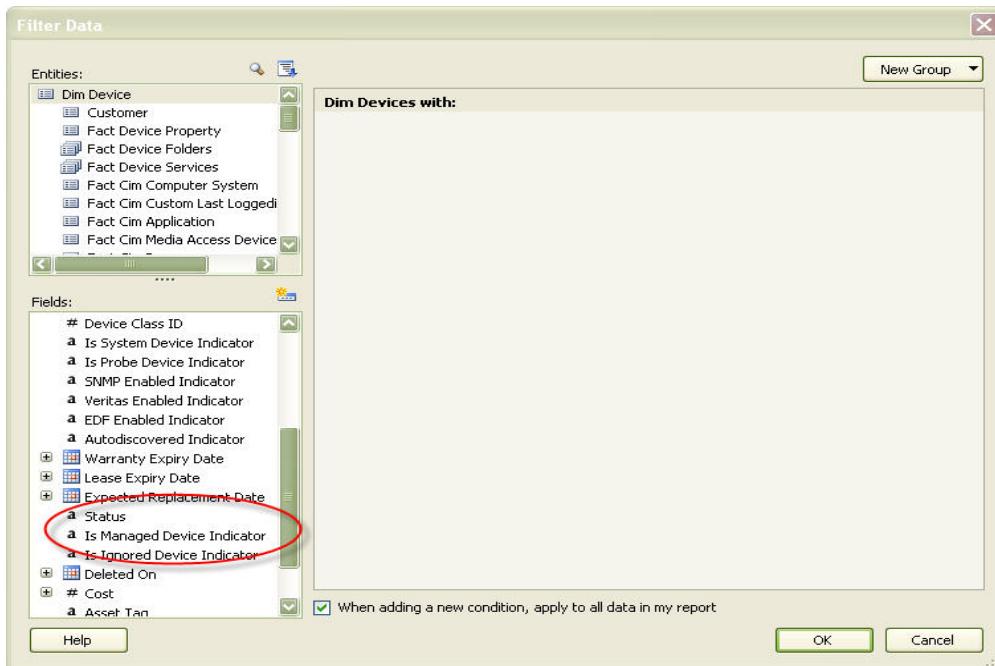
Setting filters on the dataset

We would like the report to include only data from devices that are managed and not deleted. We will do this by setting up a filter on this dataset.

Tip: If you would like to edit the filters after the dataset has been created, you can edit the dataset through the query designer.

11. On the menu bar in the wizard, click **Filter**.

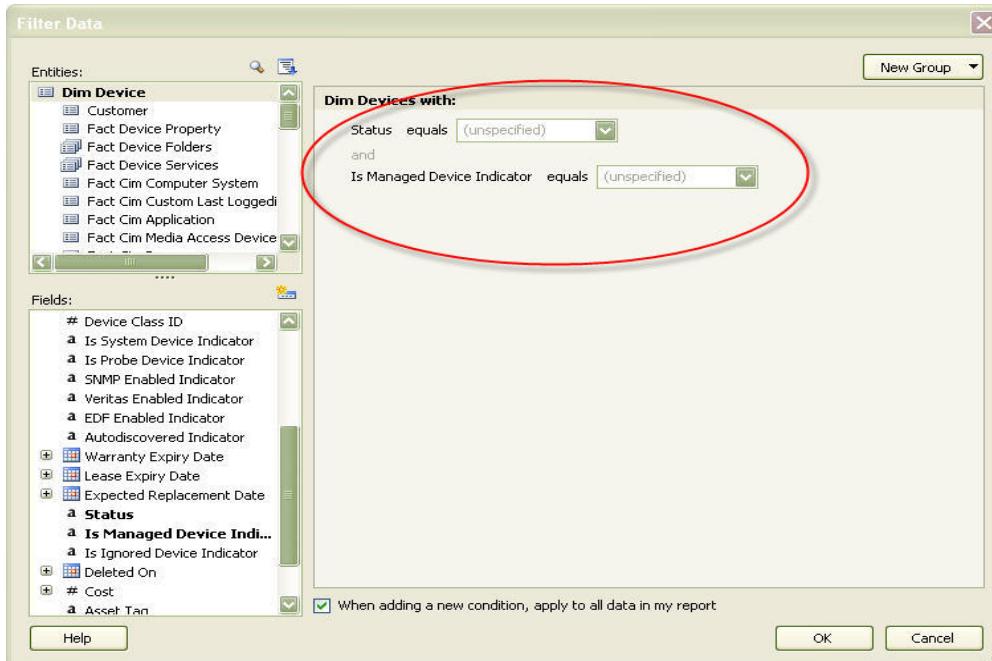
The Filter Data screen appears.



12. In Fields, double-click **Status**.

13. Double-click **Is Managed Device Indicator**.

The conditions "Status equals" and "Is Managed Device Indicator equals" show up in the design pane of the wizard.



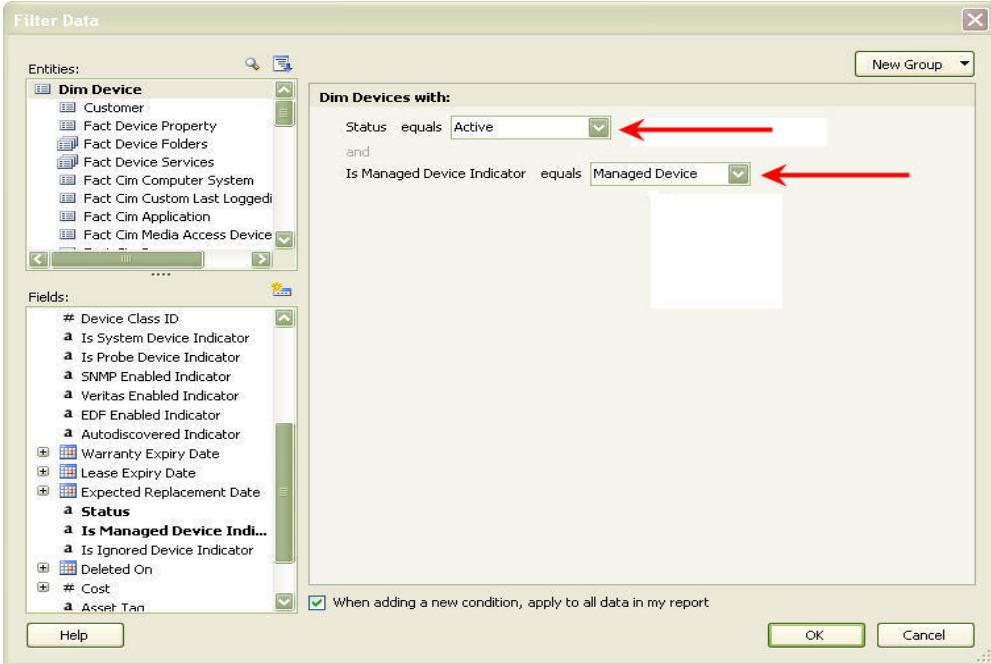
14. In the **Status** drop-down, select **Active**.

Only active devices will be included in our table.

15. In the **Is Managed device** drop-down, select **Managed Device**.

N-compass 3.1 Report Builder 2.0: Three Tutorials

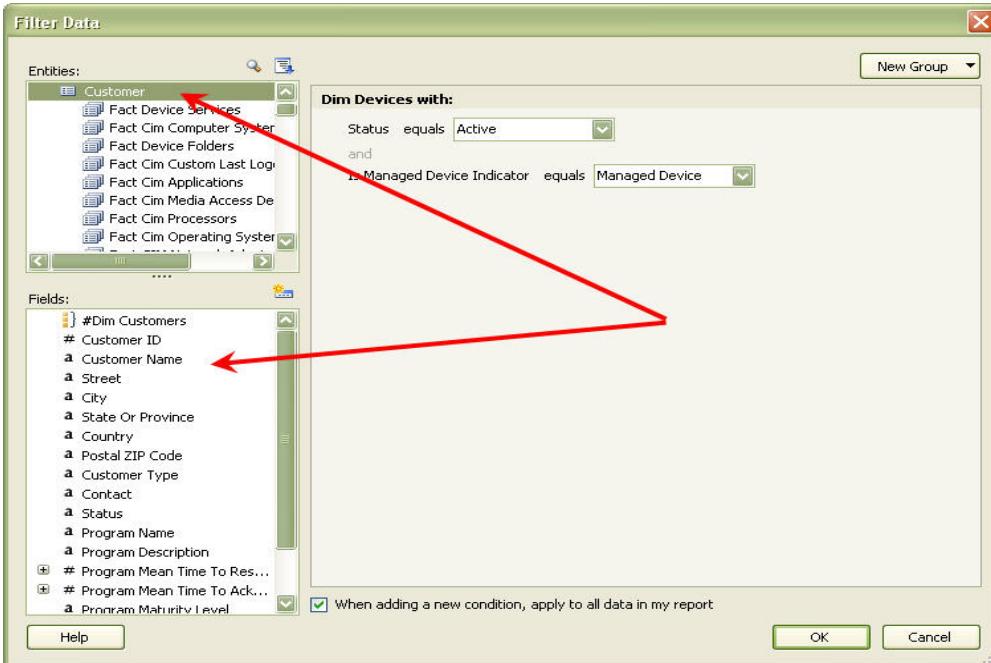
Only managed devices will be included in our table.



We want the user to be able to generate the report for a single customer at a time. There are multiple customers that this dataset may apply to so we would like the user to provide the name of the customer at report creation time. We can create a filter on customer and make it a prompt.

16. In Entities, click Customer.

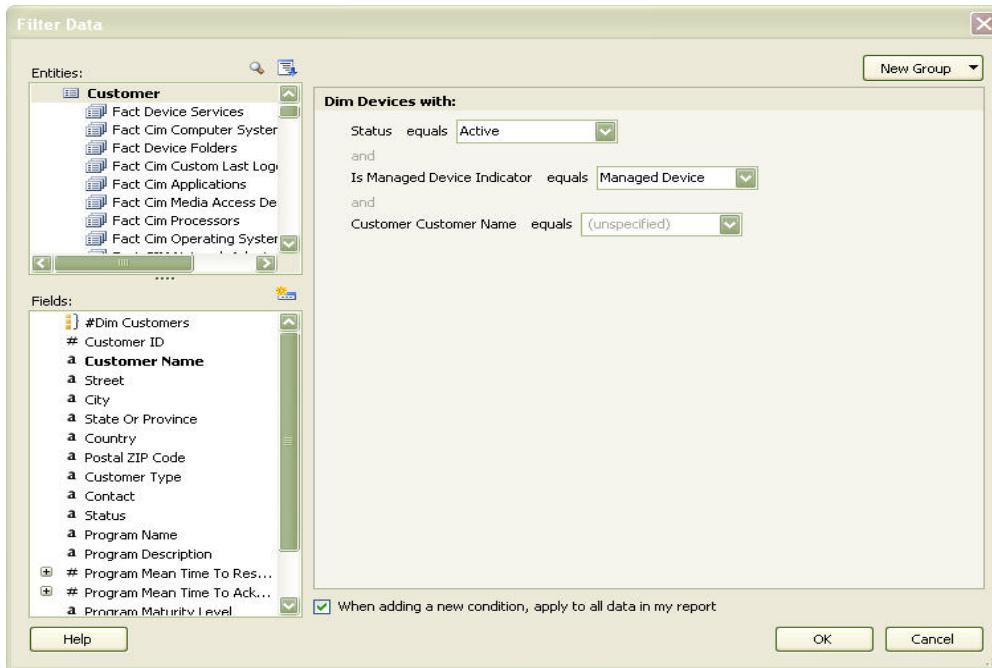
Fields refreshes to display only fields available to the Customer entity.



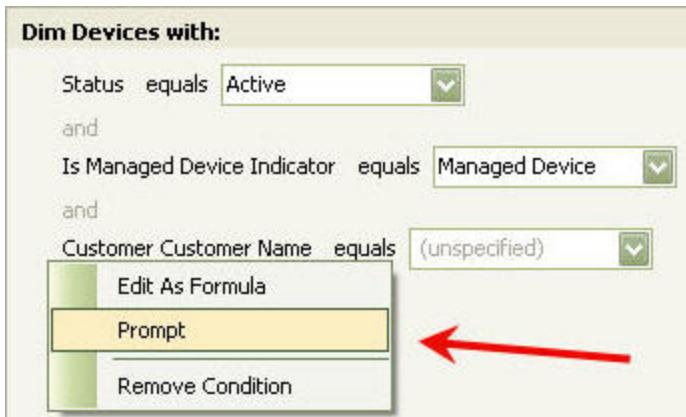
17. In Fields, double-click Customer Name.

N-compass 3.1 Report Builder 2.0: Three Tutorials

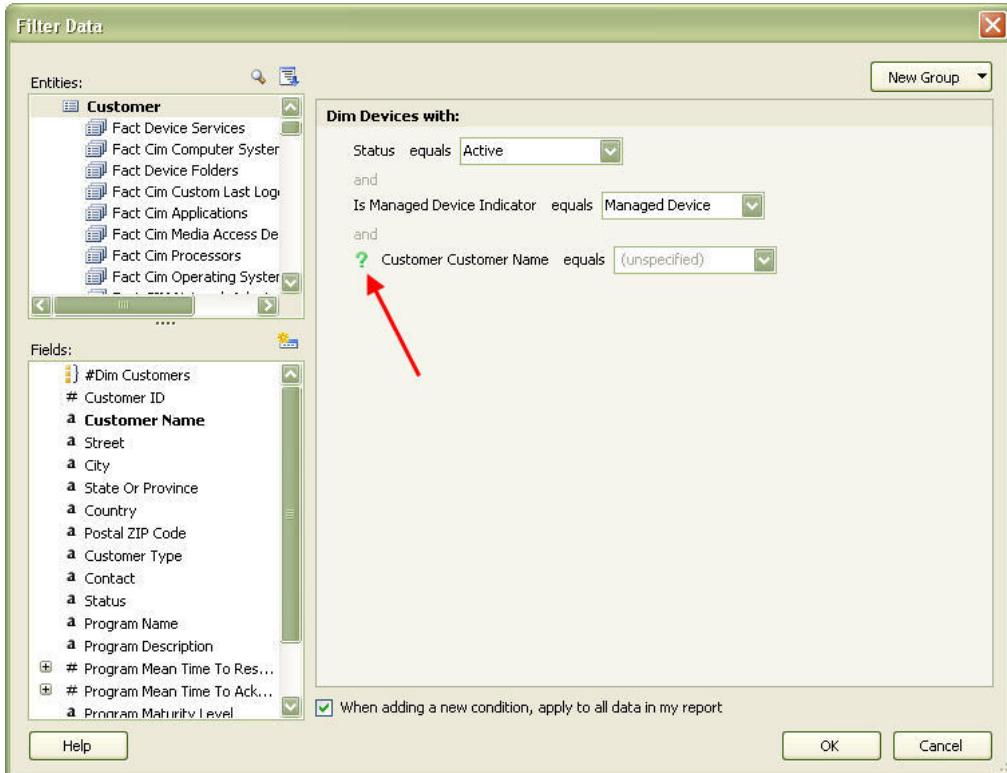
A Customer Name condition shows up in the right pane.



18. Right-click **Customer Name** and select **Prompt** from the list that appears.



A green question mark appears next to *Customer Customer Name*. The user will be prompted to supply the name of a customer during report generation.



19. Click **OK**.

"Design a Query" appears.

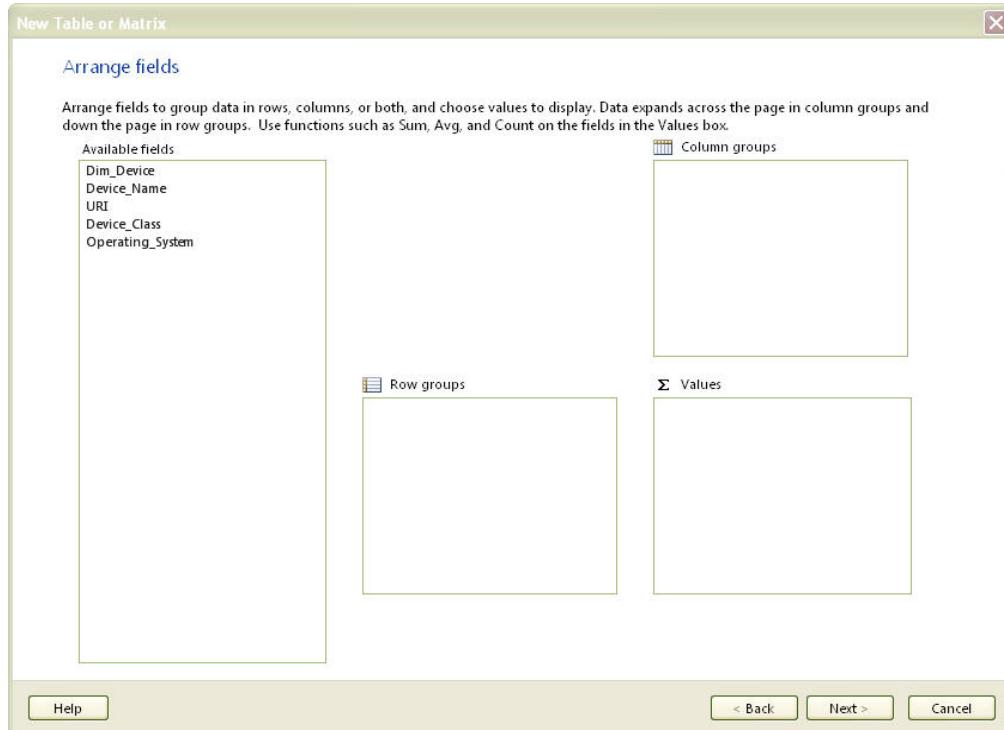
20. Click **Next**.

The query wizard opens to the **Arrange fields** screen.

Formatting the table and choosing a style

In the **Arrange fields** screen of the **New Table or Matrix** wizard, we can select which fields will appear in the table and the order in which they will appear.

N-compass 3.1 Report Builder 2.0: Three Tutorials



21. From **Available fields**, click and drag the following available fields to the **Values** list box:

- Device_Name
- URI
- Operating_System

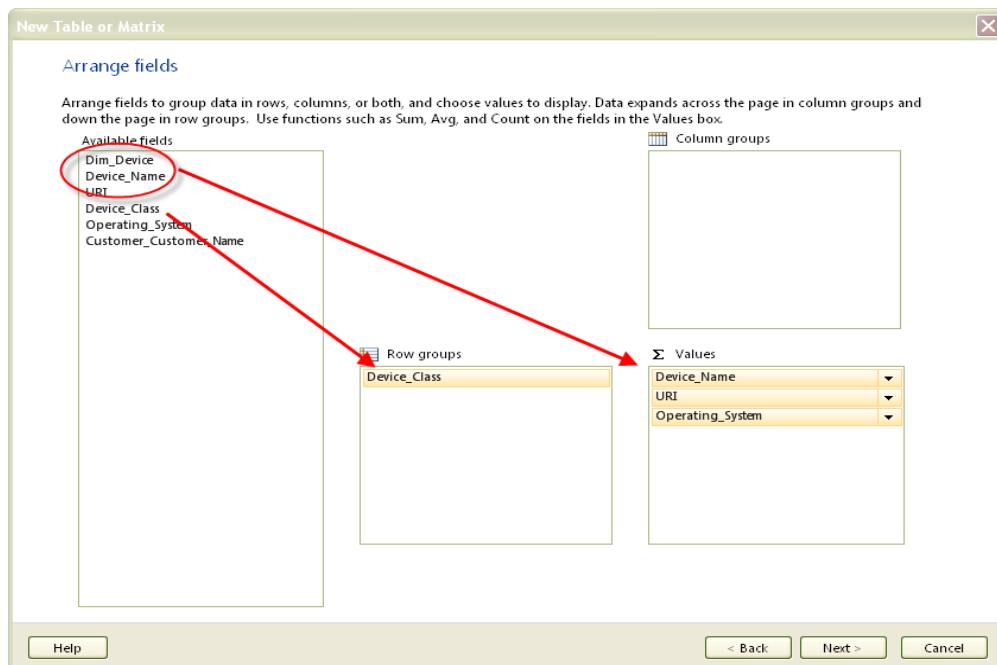
Note: Do not move Dim_Devices.

We'd like to group our data by Device Class in the report.

22. From **Available fields**, click and drag **Device_Class** to **Row Groups**.

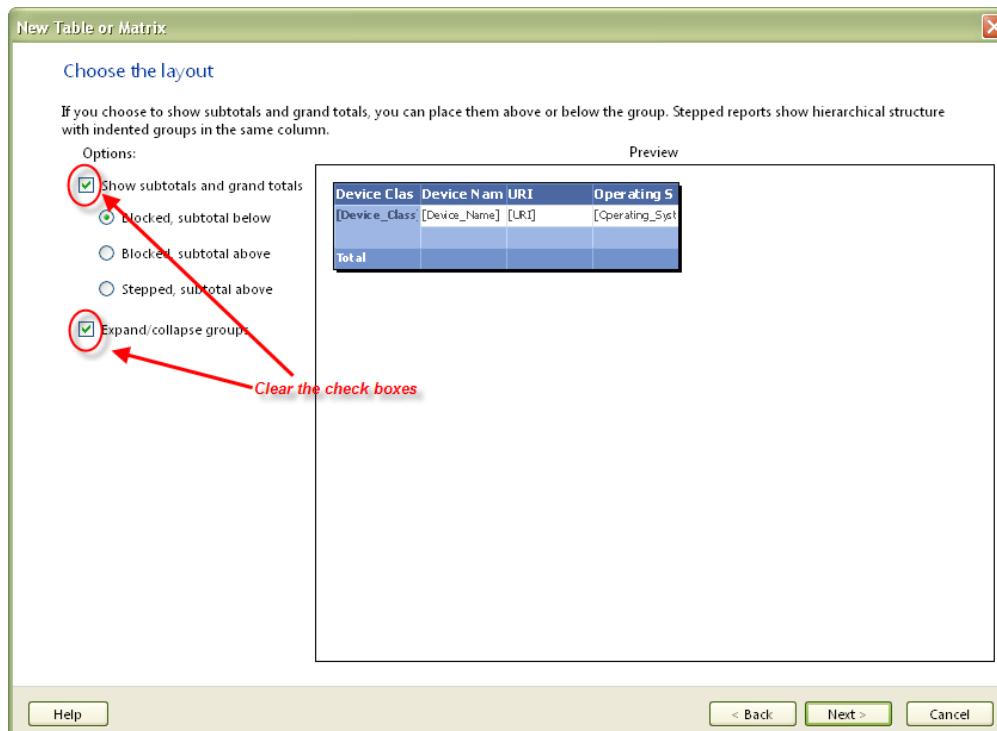
Devices with the same device class will be grouped together in the table.

N-compass 3.1 Report Builder 2.0: Three Tutorials



23. Click **Next**.

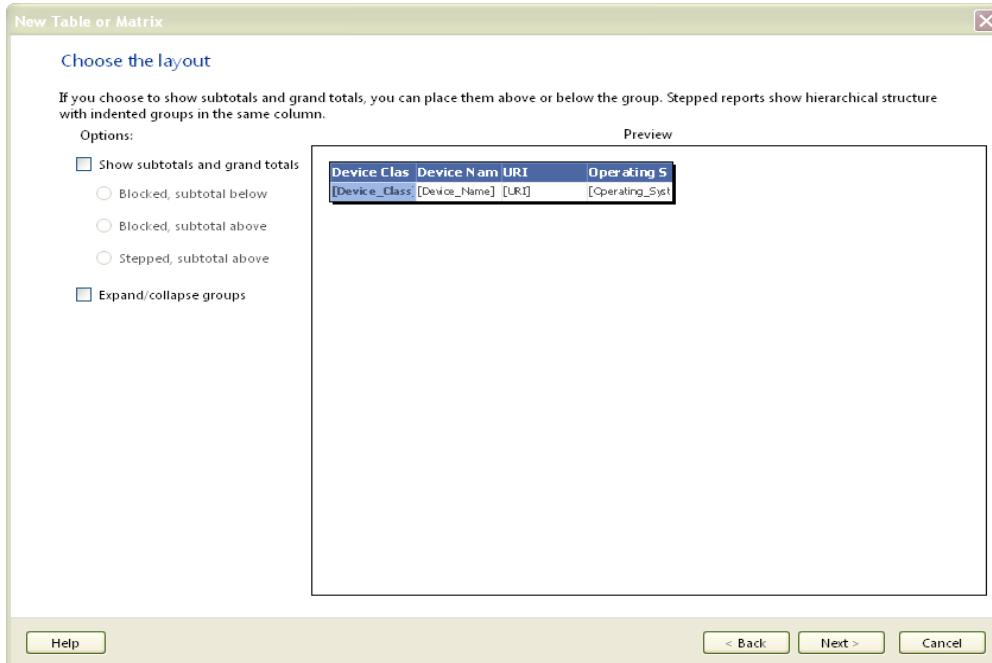
"Choose the layout" appears, with a preview of what the table will look like.



24. Clear the **Show subtotals and grand totals** check box. For our example, we will not be displaying the total for each column because we do not deal with the numeric fields at this point.

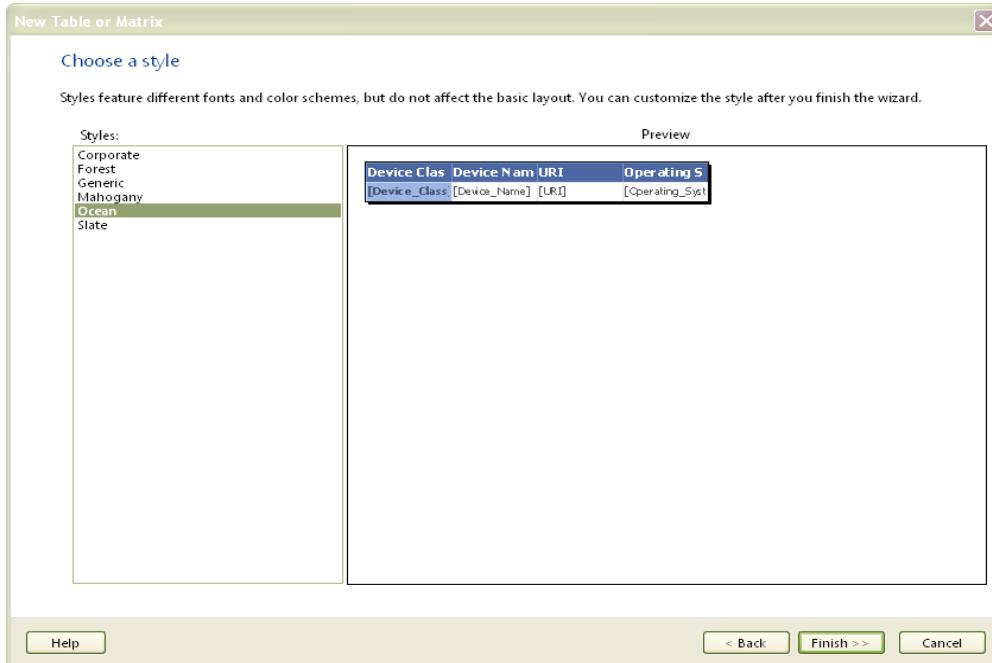
25. Clear the **Expand/collapse** check box. This will display all data without requiring the user to click the expand icon.

N-compass 3.1 Report Builder 2.0: Three Tutorials



26. Click **Next**.

"Choose a style" appears.



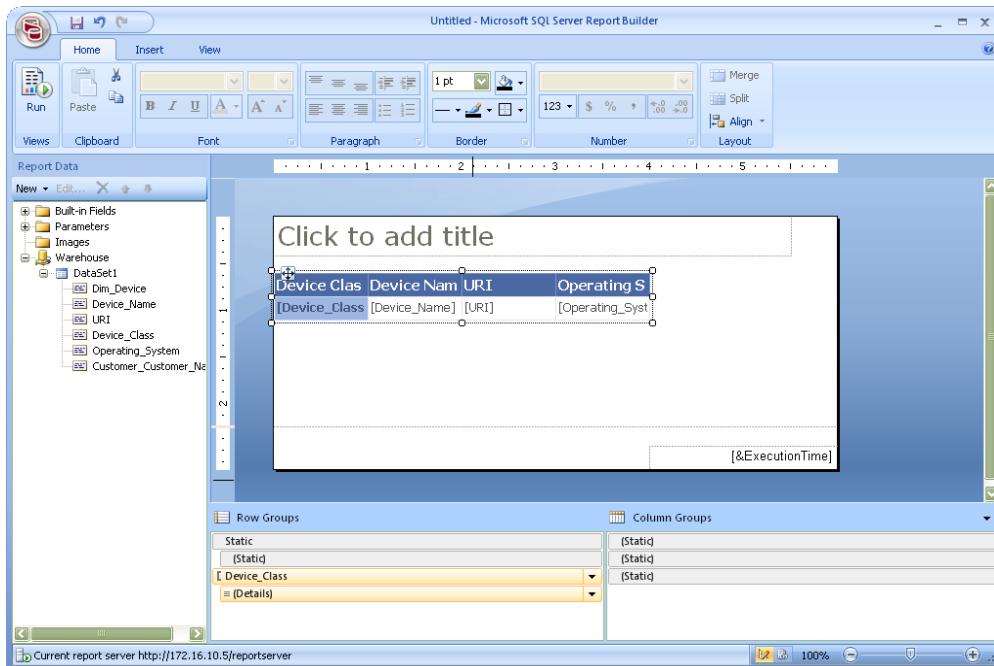
27. In **Styles**, click each style to view it in the **Preview** pane. If you would like your screens to look like the tutorial, select **Ocean**.

The style you select here becomes the default style for the fonts, borders and colors of the table. You can customize the style after you exit the wizard.

28. Click **Finish**.

The wizard closes and the report opens in the design view.

N-compass 3.1 Report Builder 2.0: Three Tutorials



The design view is very similar to Office 2007 applications, with tabs and ribbons. The design view has three tabs: **Home**, **Insert** (for adding report items to the report), and **View**.

Report Builder data regions are very similar to other tools you may have worked with.

Saving the report on your local file system

29. Save the report to your local file system to make it available to N-compass.
 - a. In the top left corner of Report Builder, click the ribbon icon.
 - b. In the menu that displays, click **Save As**.
 - c. Save the file as **Managed Devices Summary.rdl** in a convenient and appropriately named location on your local file system.

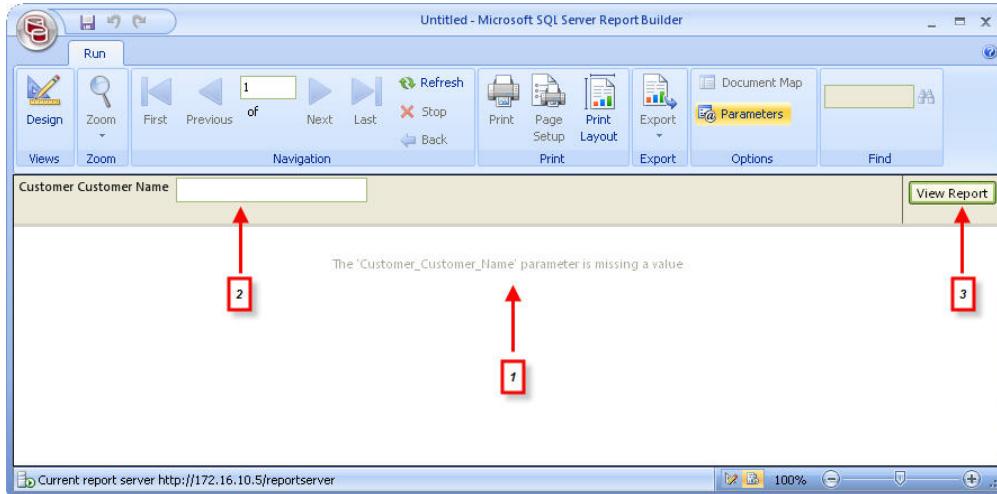
Note: Do not click the save icon on the main menu in Report Builder, which saves the rdl directly to Reporting Services, making it unavailable to N-compass.

Previewing the report

1. On the **Home** tab, click **Run** to generate the report for preview in the HTML viewer.

The Run tab appears.

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2. Provide a customer name from your database in the text box at the top left (2).
3. In the top right, click **View Report** (3).

The report is displayed in a preview of how it will look when uploaded and generated through N-compass.

The screenshot shows the Microsoft SQL Server Report Builder interface with the title bar 'Untitled - Microsoft SQL Server Report Builder'. The main area displays a report titled 'Customer Customer Name' with a placeholder box containing 'Complex inc'. Below it is a table with the following data:

Device Class	Device Name	URI	Operating System
Other	darthvader0	192.168.101.210	Other Operating System
	ROB-2K8SVR - Windows 4	192.168.101.114	Unknown
	N-7YEARWRS05 UCS	192.168.101.109	Microsoft Windows 2003 Server
	Eaton Evolution UPS	192.104.67.81	Other Operating System
	Dell UPS	192.104.67.82	Other Operating System
	darthvader0	192.168.101.210	Other Operating System
	CREID-W7 - Windows	192.168.20.160	Unknown
	PORTRAIT95	192.168.101.105	Other Operating System
Windows Laptop	RBISETT-DBV	rbisett-dbv.office.n-able.com	Microsoft Windows Vista Ultimate
	DELL-LAPTOP	192.168.2.101	Microsoft Windows XP Home

*Any time that you change a report parameter or edit the report, clicking **View Report** will re-render the report in the HTML preview.*

4. Click **Design View** on the **Run** tab.

Report Builder opens in the Design View.

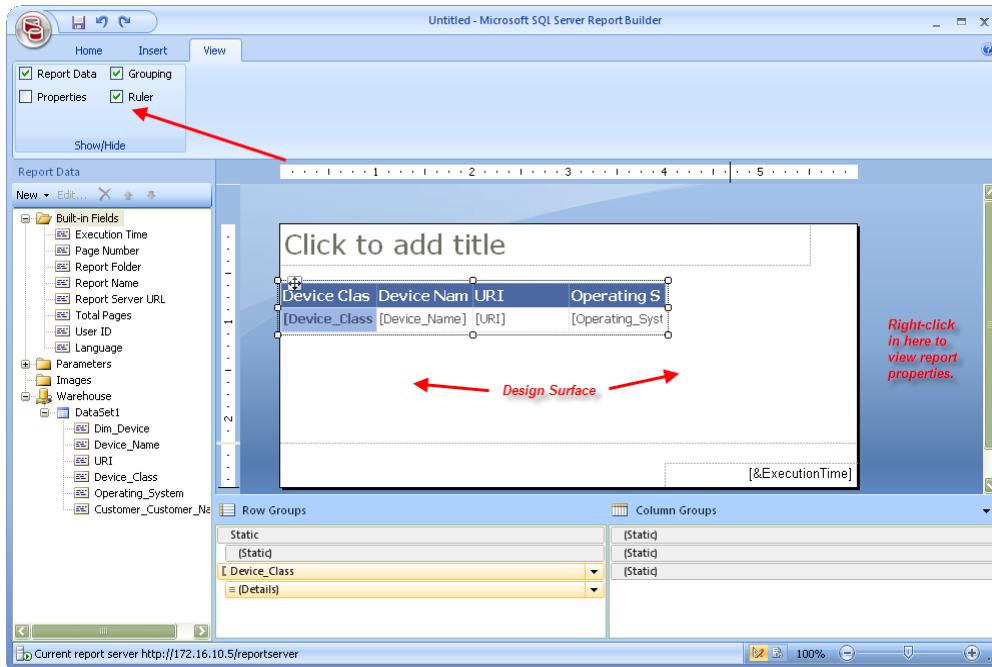
Adding labels and other items to the report

Now we are going to take the time to organize and label items before we proceed to the next tutorials.

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On the design surface in the design view we will add the title to the report, label the table, move the execution time (a built-in parameter shown on the report by default) from the bottom to the top of the report page. First of all, we are going to expand the table to display all the table information comfortably.

1. If you are continuing and Report Builder is open, skip to [step](#). Otherwise, open Report Builder 2.0. Refer to [Tutorial 1: Creating the first dataset and a table on page 5](#).
2. In Report Builder 2.0, click the icon in the upper left corner and double-click Managed Devices Summary.rdl.
3. If you have not done so already, click the View tab and select Ruler from the submenu.



Viewing report properties

Let's look at the paper set up for the printed report.

4. Right-click in the blue area outside the report design surface and click Report Properties.

For our example, we will use inches as our page units and portrait letter, 8.5 by 11 inches with 1 inch margins all around.

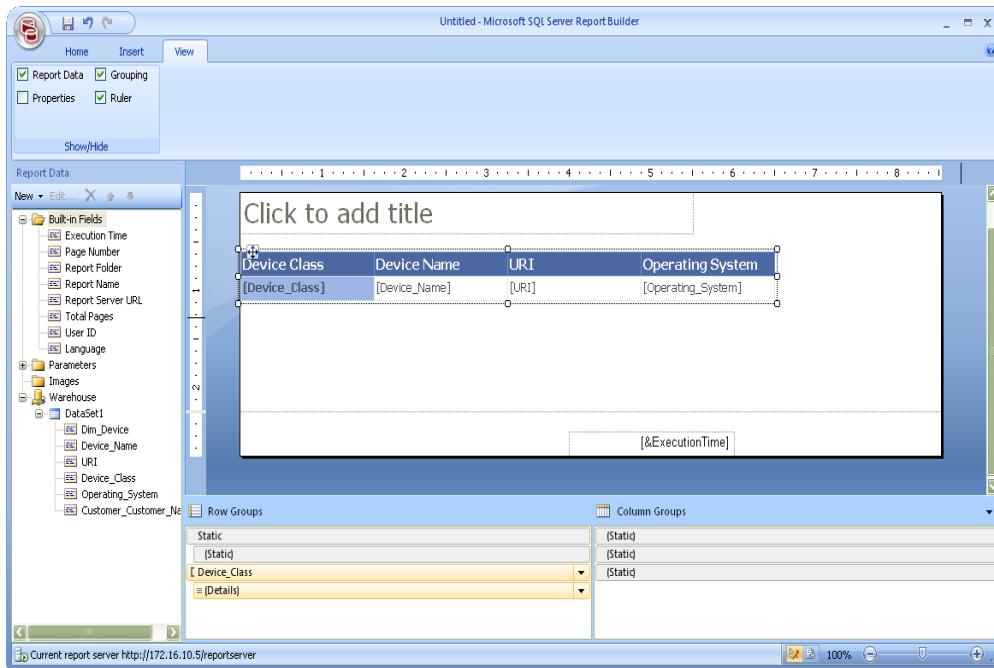
5. Click OK.

Tip: To view the properties of any element in the design surface, right-click it to display a menu.

Expanding and moving the table

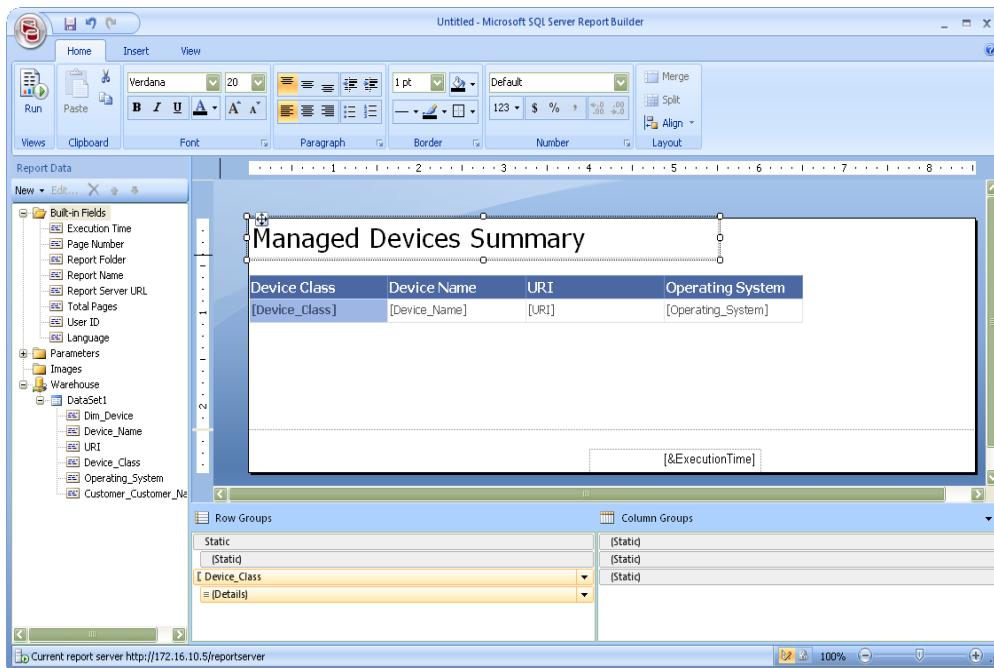
6. In the design surface of the report, expand the table to display the complete content of the columns by clicking and dragging the right side of the table. Notice that the design surface expands as you go. Watch the ruler above the report design surface and adjust the size of the report to fit the paper appropriately.

N-compass 3.1 Report Builder 2.0: Three Tutorials



7. Click to add title and type "Managed Devices Summary" for the report title.

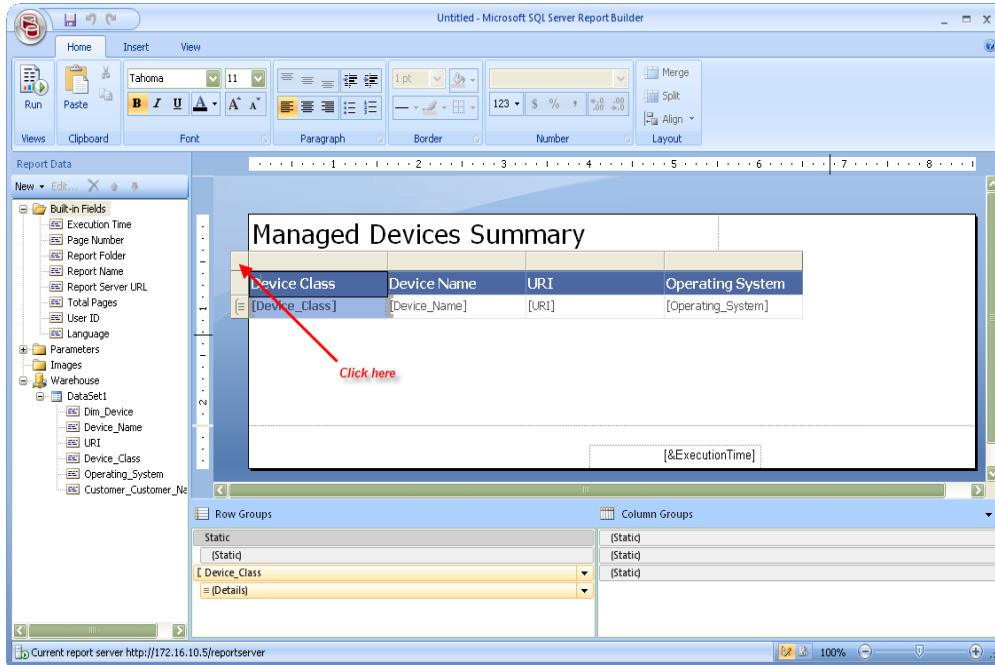
Tip: You can move the title text box around by its handles, stretch it out and format the text using the formatting tools on the Home tab.



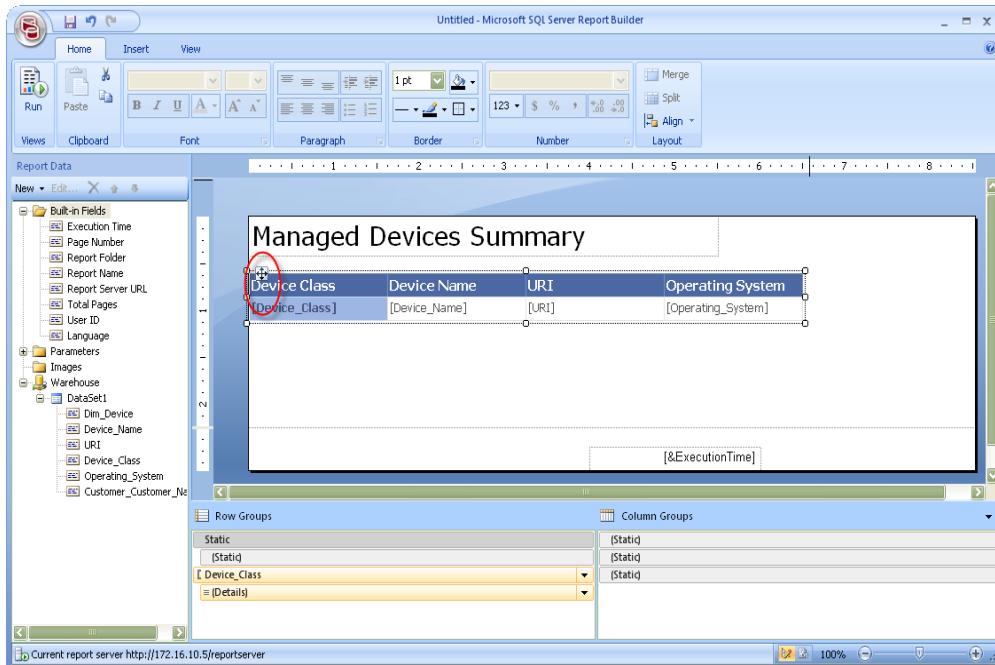
We are going to need to move the table around as we do more labelling and eventually add more data regions in the second and third tutorials. The handles on the table are not visible; we need to restore the table to click and drag mode.

8. Click in the table to display the row and column handles.

N-compass 3.1 Report Builder 2.0: Three Tutorials



9. Click the top left corner to display the drag-and-drop icon.

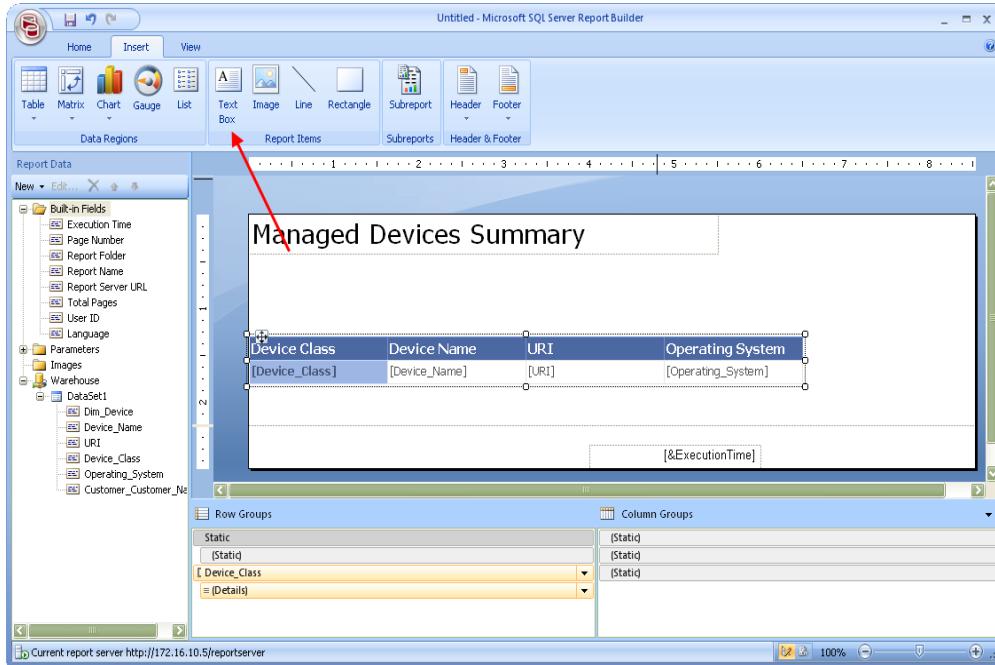


10. Click the drag-and-drop icon to drag the table down to create space between the title and the table.

Adding labels and a customer field

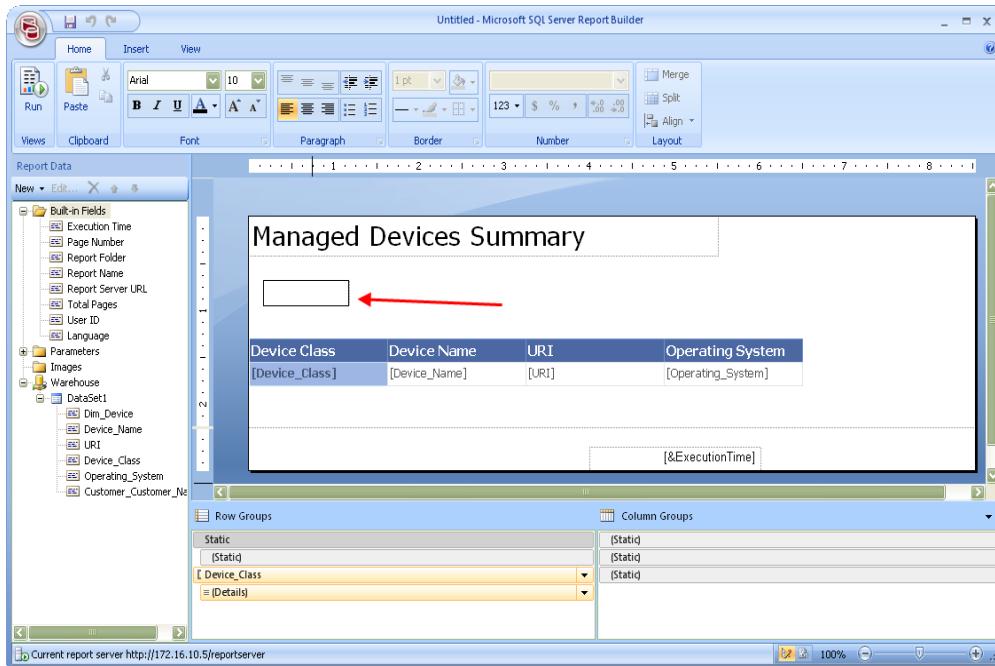
Now we are ready to add a few labels and a customer field.

N-compass 3.1 Report Builder 2.0: Three Tutorials



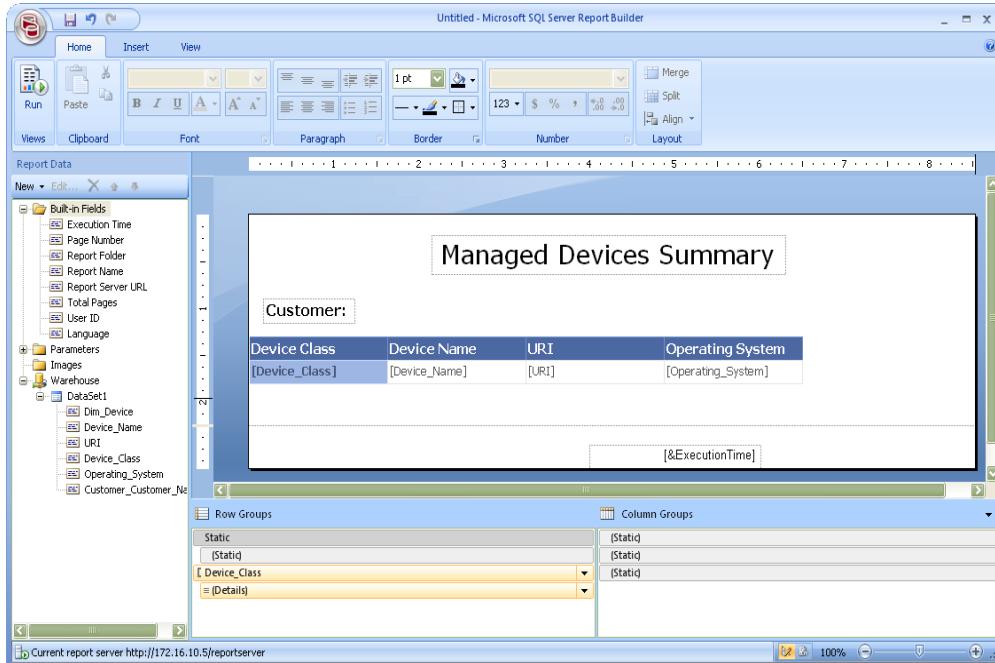
11. Click the Insert tab and click Text Box.

12. Click in the design surface to drop a text box.



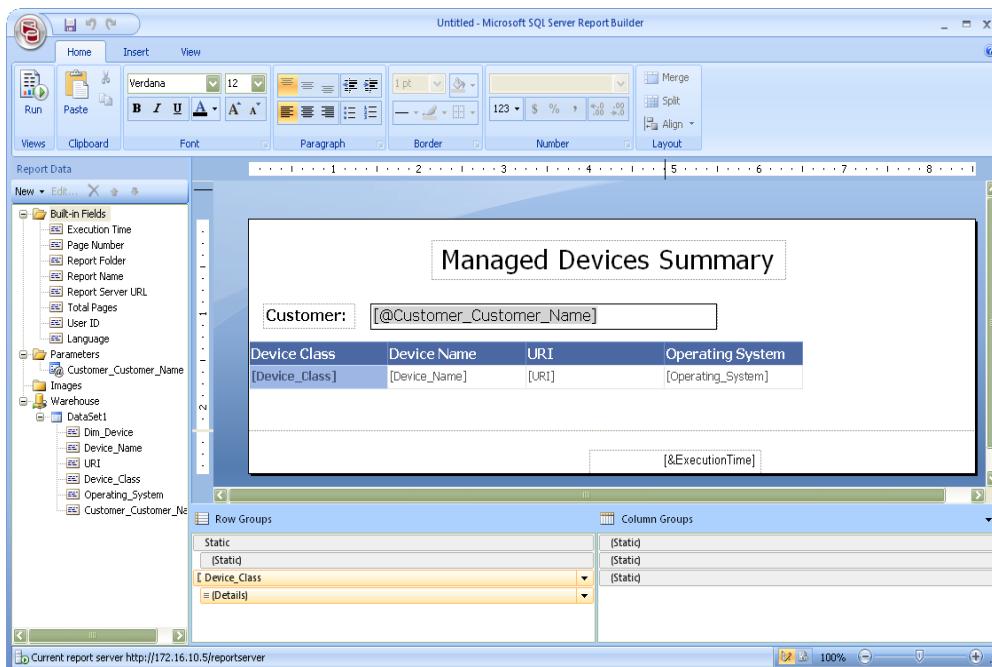
13. Click in the text box and type "Customer:". I used the formatting ribbon on the Home tab to select Verdana, 10 and bold for my customer label. (I also moved Managed Devices Summary to the middle of the page.)

N-compass 3.1 Report Builder 2.0: Three Tutorials



14. Click the Insert tab, click Text Box and drop another text box next to Customer. We will display the customer field in this box.
15. In the Explorer pane, click Parameters and select and drag Customer_Name and drop it in the text box next to Customer. Expand the box so that it will accomodate any customer name in your database. I formatted it the same as the label, Verdana, 10, but no bold this time.

Tip: As you expand the text box, blue alignment lines appear to help you place the parameter box evenly with the label.



By default, the date and time of the report generation (ExecutionTime) is in the bottom right of the report. It's a built-in field that appears automatically in the design surface after the creation of a dataset and a data region. (See the list of built-in

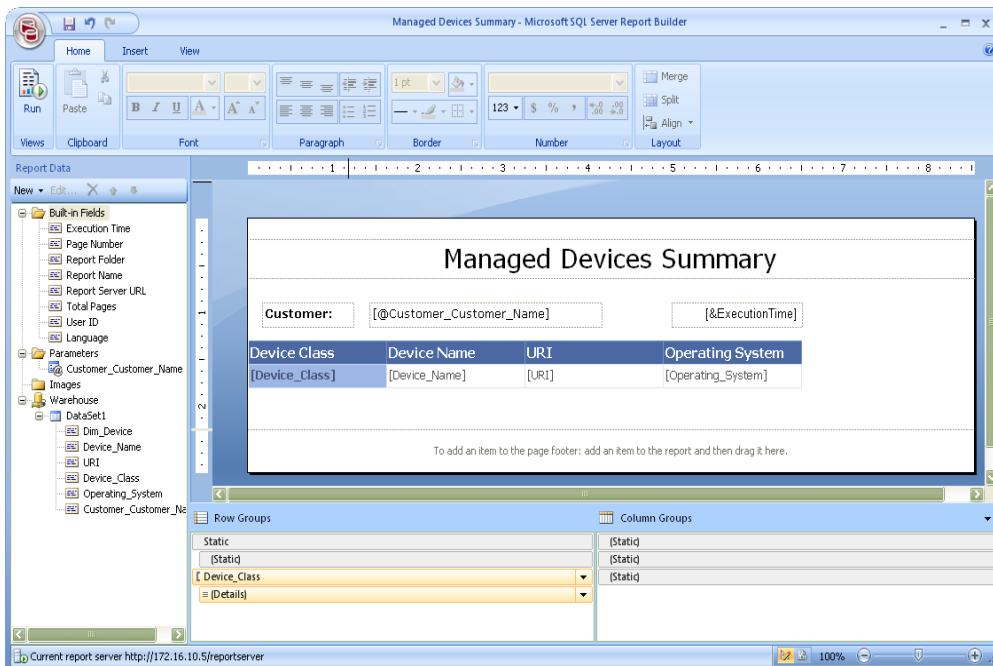
N-compass 3.1 Report Builder 2.0: Three Tutorials

fields in the Explorer pane on the left.)

We are going to move this field to just under the title.

16. Click and drag the ExecutionTime parameter up the screen until it is even with the Customer field.

Tip: Look for the blue line that shows alignment of elements in the design view.



Renaming the dataset

The dataset that we created during this tutorial was automatically named "DataSet1". We are going to rename it and update the table properties to map to the new dataset.

17. In the **Report Data** pane, right-click **DataSet1** and click **Dataset Properties**.

18. In the Dataset Properties dialog, rename "DataSet1" to "DeviceData".

Tip: The name must not have spaces.

19. Click **OK**.

Mapping the renamed dataset, DeviceData to the table

20. Click the table to display the row and column handles.

21. Right-click the top left corner of the table to display a menu.

22. Click **Tablix Properties**.

23. Select **DeviceData** from the **Dataset name** drop-down.

24. Click **OK**.

25. Save the report to your local file system to make it available to N-compass.

- In the top left corner of Report Builder, click the ribbon icon.

- In the menu that displays, click **Save As**.

- Save the file as **Managed Devices Summary.rdl** in a convenient and appropriately named location on your local file system.

Note: Do not click the save icon on the main menu in Report Builder, which saves the rdl directly to Reporting Services, making it unavailable to N-compass.

26. Preview the report. Refer to [Previewing the report on page 16](#).

Next step: Tutorial 2: Adding Charts

Tutorial 2: Adding Charts

This is the third in a series of tutorials to build a report called Managed Devices Summary. In order to follow this tutorial, you need to have completed tutorial 1.

Adding a funnel chart

Now we are going to add a funnel chart called Device Class Summary. Funnel charts are one of the shape chart choices. Shape charts display data values as progressively decreasing percentages of a whole which is visually interesting and immediately understandable. The Device Class Summary chart will show devices by device class.

If you are continuing from the first tutorial, skip to step 3.

1. Open Report Builder 2.0. Refer to [Opening Report Builder 2.0 on page 5](#).
2. In Report Builder 2.0, click the ribbon icon in the upper left corner and from your local file system, open Managed Devices Summary.rdl.

The first thing we need to do is to make room in our report design surface for the new charts.

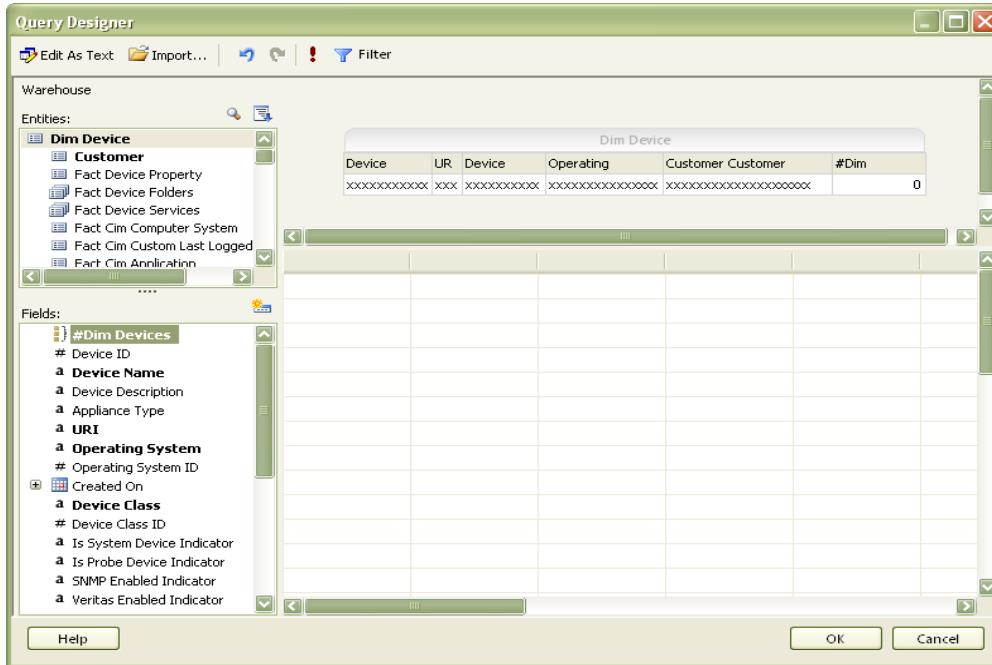
3. In the Design view, click anywhere in the table.
4. Click the left hand corner of the table to display drag-and-drop icon and the table handles.
5. Click the drag-and-drop icon and drag the table down the report. Report Builder will create space as you drag the table down the page.

Editing the dataset to add a numeric field

In order to provide a summary of devices, we need to add a numeric field to our dataset. We are going to add Dim_Devices, which contains the number of devices.

6. In the Explorer pane, right-click **DeviceData** and click **Query** on the menu that appears.
The Query Designer wizard appears.
7. Ensure that Dim Device is the primary entity and from the **Fields** list, double-click the numeric field **Dim Devices**.

N-compass 3.1 Report Builder 2.0: Three Tutorials



8. Click **OK**.

9. Click **OK**.

Dim Devices appears in DeviceData dataset.

10. In the Design View, click the **Insert** tab to display the Insert ribbon.

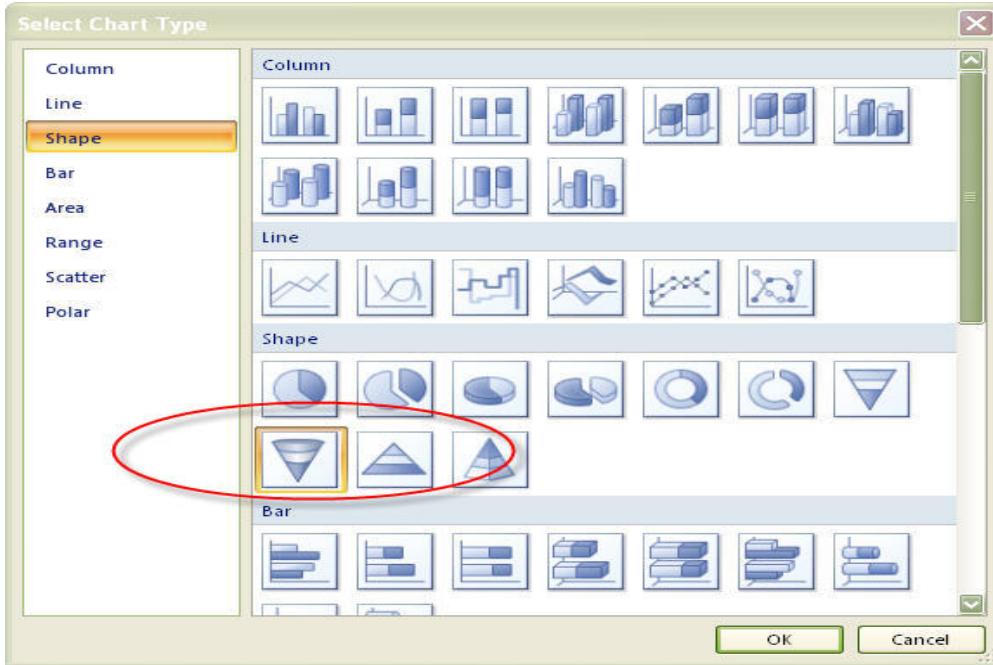
11. Click Chart>Insert Chart.

A little chart icon appears on the tip of the pointer.

12. Click into the design surface in the space below the customer and data and time details.

Select Chart Type appears.

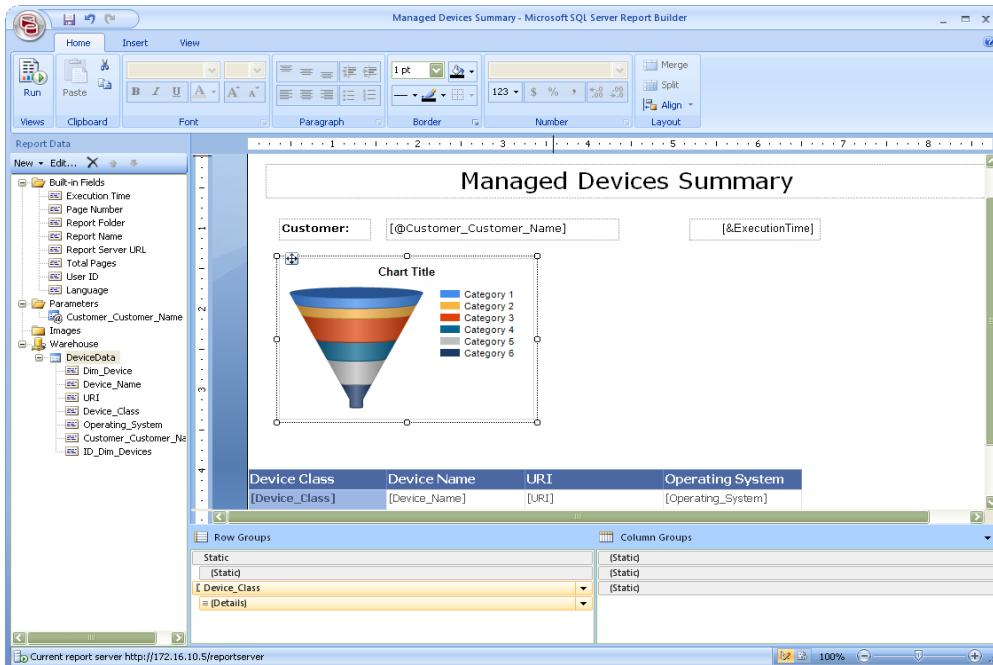
13. Click the shadowed funnel.



14. Click **OK**.

A funnel chart is inserted into the design view of the report.

15. Using the drag-and-drop icon, move the funnel up the page to the left. You may need to move the table down the page.

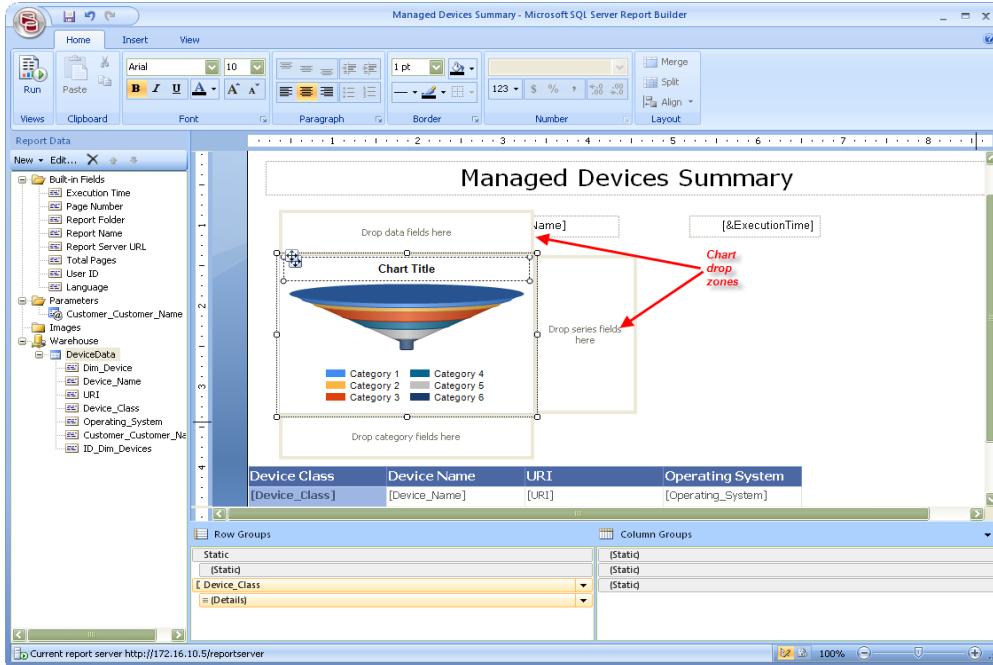


We'd like the legend under the funnel because we are going to add another chart beside it.

16. Click the legend and drag it under the funnel. You may have to increase the height of the funnel chart element by clicking and dragging the handle in the middle of the bottom border of the element. The table below may have to be moved.

N-compass 3.1 Report Builder 2.0: Three Tutorials

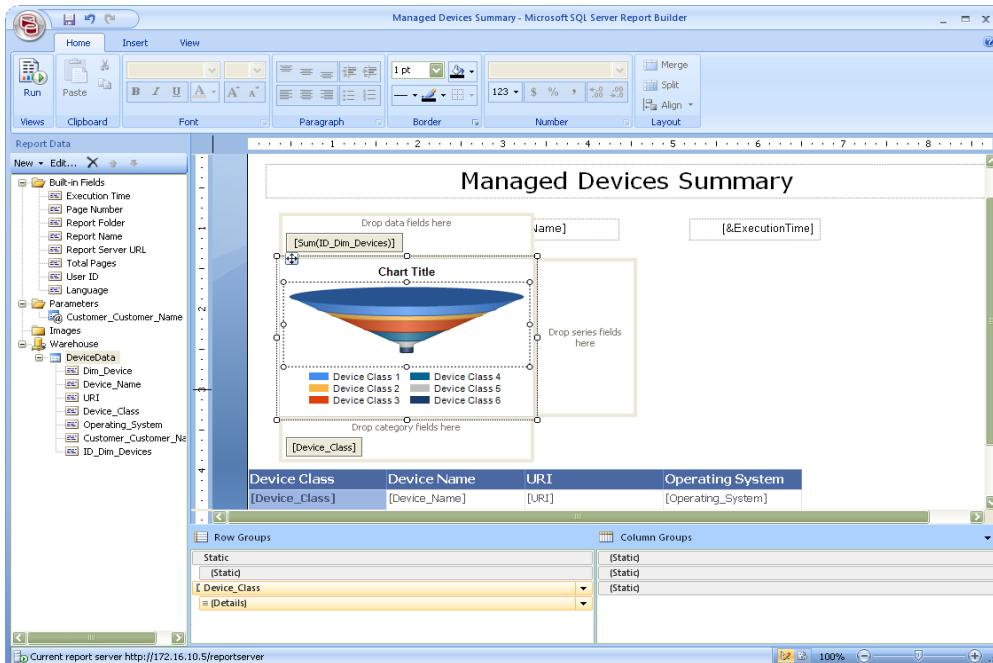
17. Double-click the funnel element to display the chart drop zones.



18. From the Report Data pane, click **ID_Dim_Devices** and drag it into the **Drop data fields here** drop zone.

Tip: Stretch the funnel by clicking and dragging the bottom middle handle down.

19. From the Report Data pane, click **Device_Class** and drag it into the **Drop category fields here** drop zone.

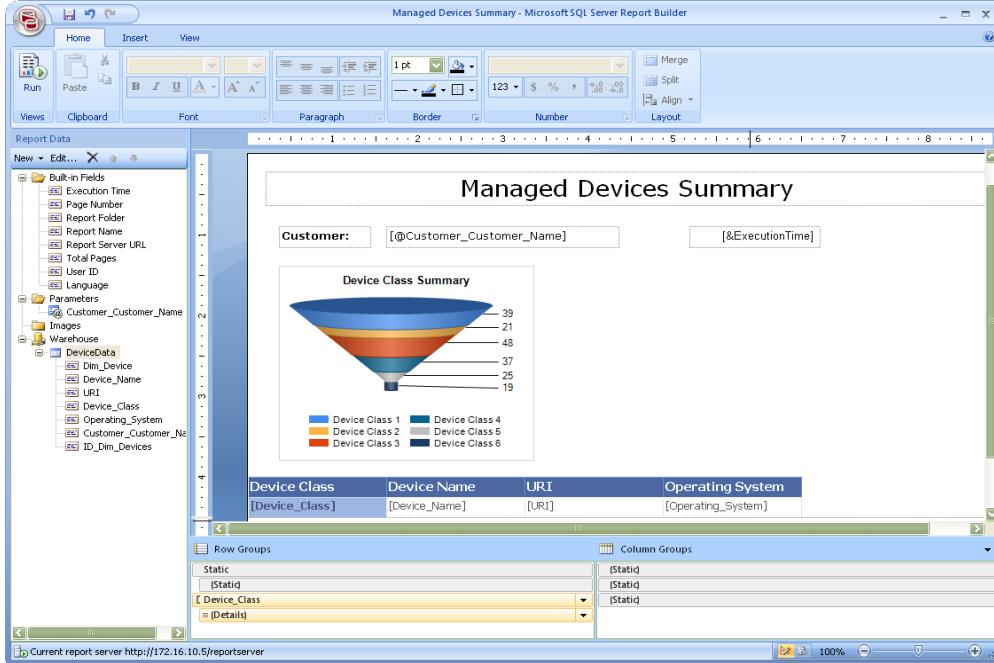


Labelling the chart

20. Right-click the funnel and select **Show Data Labels**. You may have to stretch the chart down to display the data on the chart.

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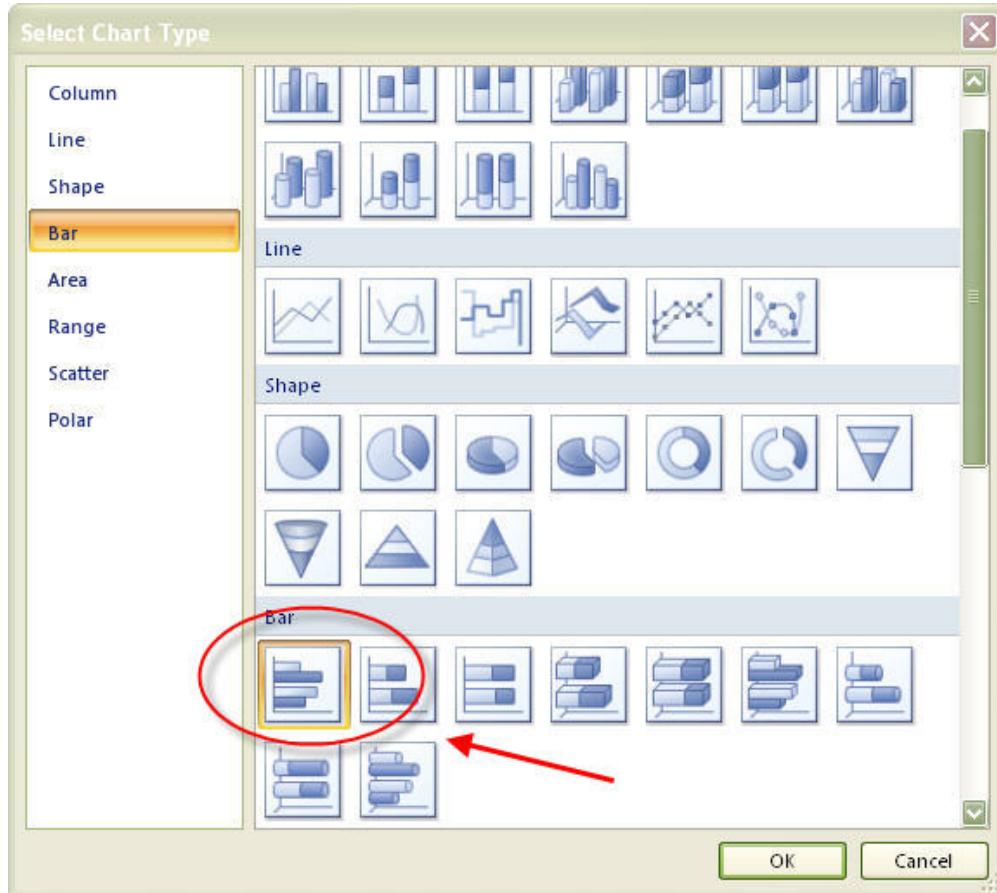
21. Click in **Chart Title** and name the chart "Device Class Summary".



Adding a bar chart

Now we are going to add a bar chart. The bar chart displays data horizontally. As part of our complete picture of devices for the customer, we'd like a bar chart that displays the number of devices within each operating system, Operating System Summary. A bar chart is a good choice to show categorical information with data that occur over time, although for our example, we are just using it to compare numbers graphically.

1. In the Design View, click the **Insert** tab to display the Insert ribbon.
2. Click **Chart>Insert Chart**.
A chart icon appears on the tip of the pointer.
3. Click in the design surface beside the funnel chart.
The Select Chart Type screen appears.
4. Click the first bar chart in the series.



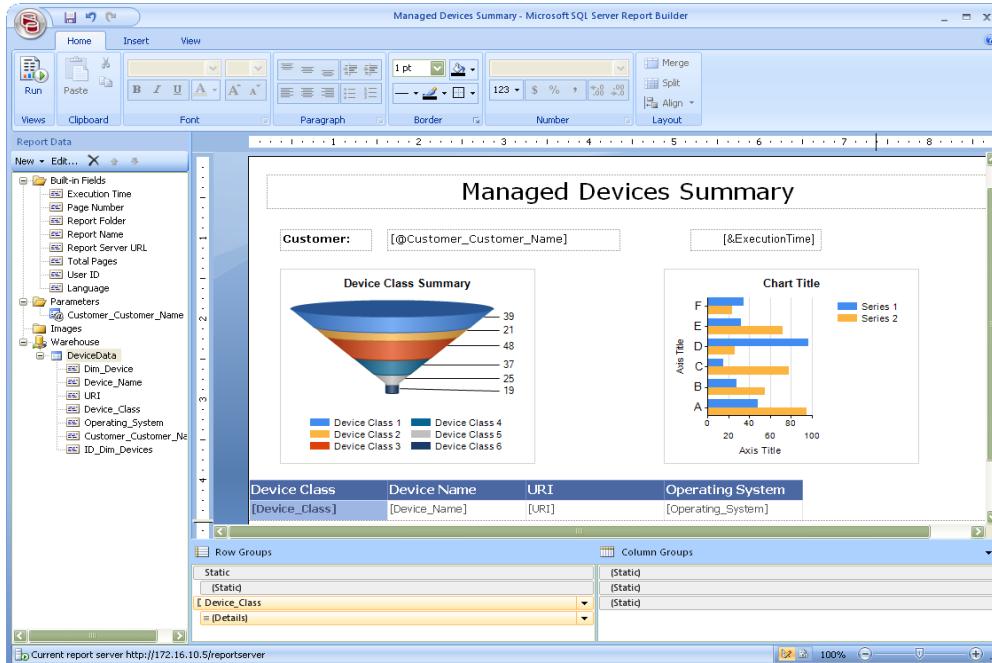
5. Click **OK**.

A bar chart is inserted into the design view of the report.

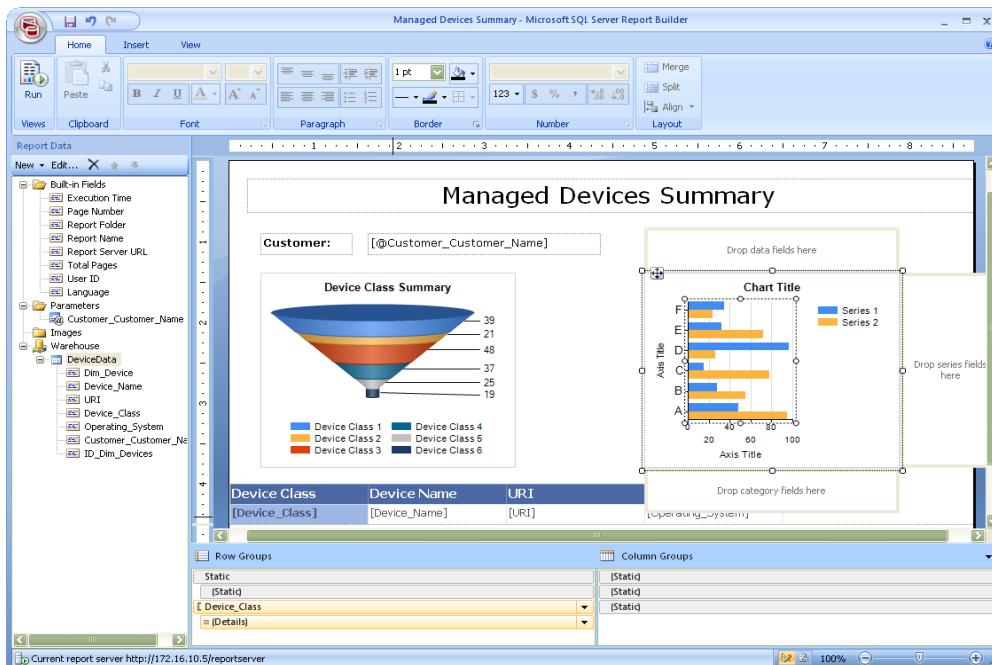
6. Drag the new chart until it aligns with the funnel chart. Drag the bottom of the new chart down until it aligns with the funnel chart.

Tip: Watch for the blue lines to appear as you drag the chart left and up and down, these are helpful indicators of vertical alignment. A blue line appears in the middle when the table is aligned with the center of the report page.

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- Double-click the chart to display the chart drop zones.

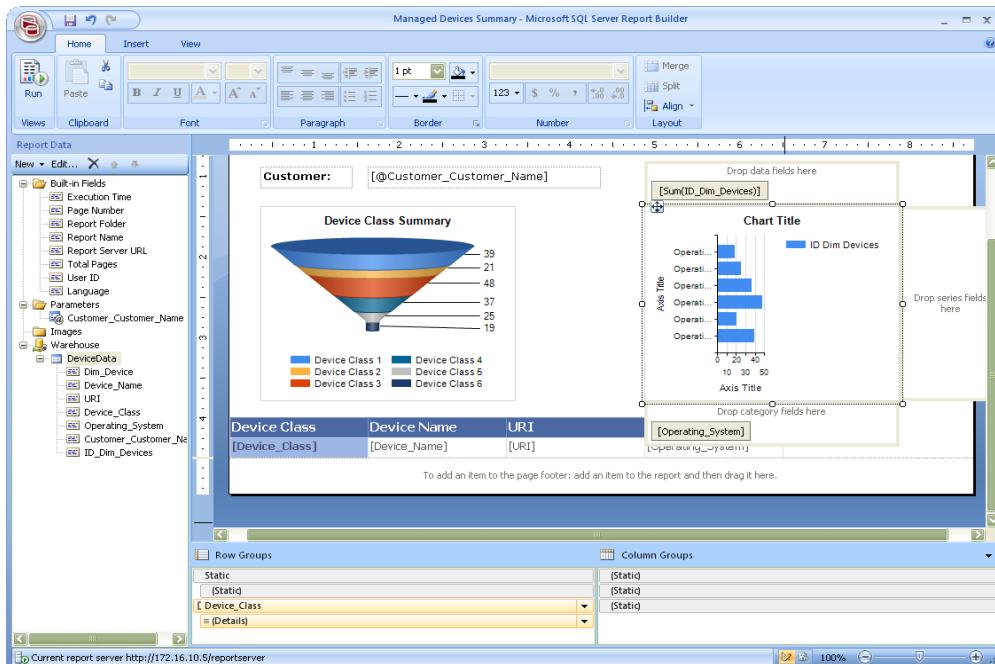


- From the **Report Data** pane, drag the **ID_Dim_Devices** field to the **Drop data fields here** zone.

Note: ID_Dim_Devices is a special field containing the number of devices.

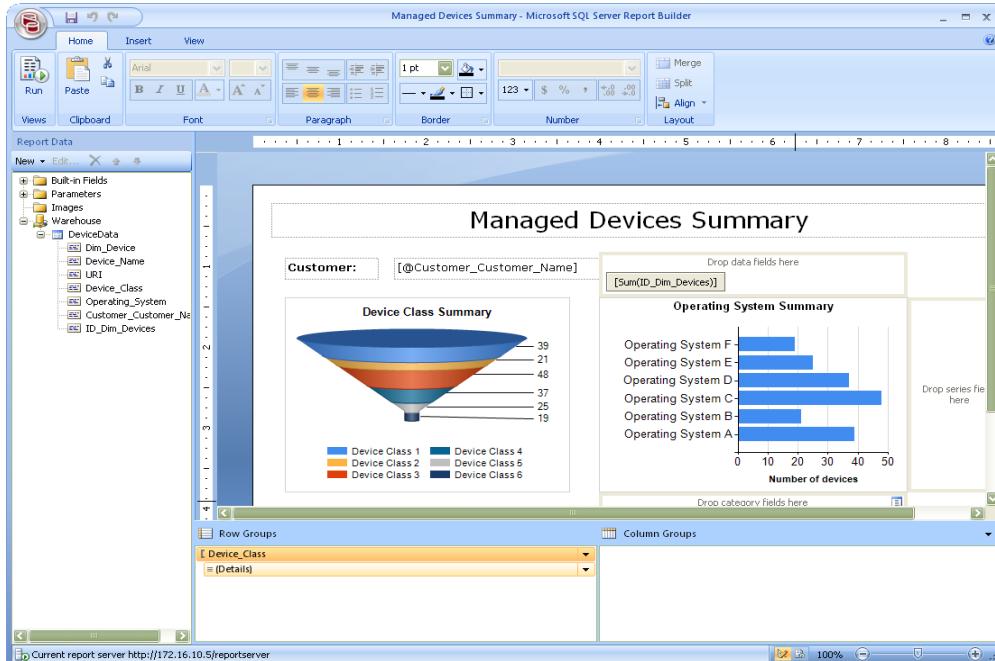
- From the **Report Data** pane, drag the **Operating_System** field to the **Drop category fields here** zone.

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10. Right-click the legend and click **Delete Legend**.
11. Select the y-axis title and press *Delete* on the keyboard.
12. Right-click the x-axis title to display a menu.
13. Click **Axis Title Properties**.
14. In the text box labeled **Title text** type: Number of devices
15. Click and drag the charts around to align them nicely.
16. Bold the font for the x-axis title, **Number of devices** using the properties menu.
Tip: Right-click any element to view and edit its properties.
17. Click **OK**.
18. Click in **Chart Title** and name the chart "Operating System Summary".

N-compass 3.1 Report Builder 2.0: Three Tutorials



19. Preview the report. Refer to [Tutorial 2: Adding Charts on page 24](#).

20. Save the report to your local file system to make it available to N-compass.

a. In the top left corner of Report Builder, click the ribbon icon.

b. In the menu that displays, click **Save As**.

c. Save the file as **Managed Devices Summary.rdl** in a convenient and appropriately named location on your local file system.

Note: Do not click the save icon on the main menu in Report Builder, which saves the rdl directly to Reporting Services, making it unavailable to N-compass.

Tutorial 3: Adding another dataset and a table

This is the third in a series of tutorials to build a report called Managed Devices Summary. In order to follow this tutorial, you need to have completed tutorials 1 and 2.

To complete our Managed Devices Summary report we would like to include one more table: Monitored Services. This table will contain the list of monitored services assigned to each device. To add this table, we need to define a second data set and make Fact Device Services the first selected (primary) entity. Fact Device Services contains the data for services assigned to a device.

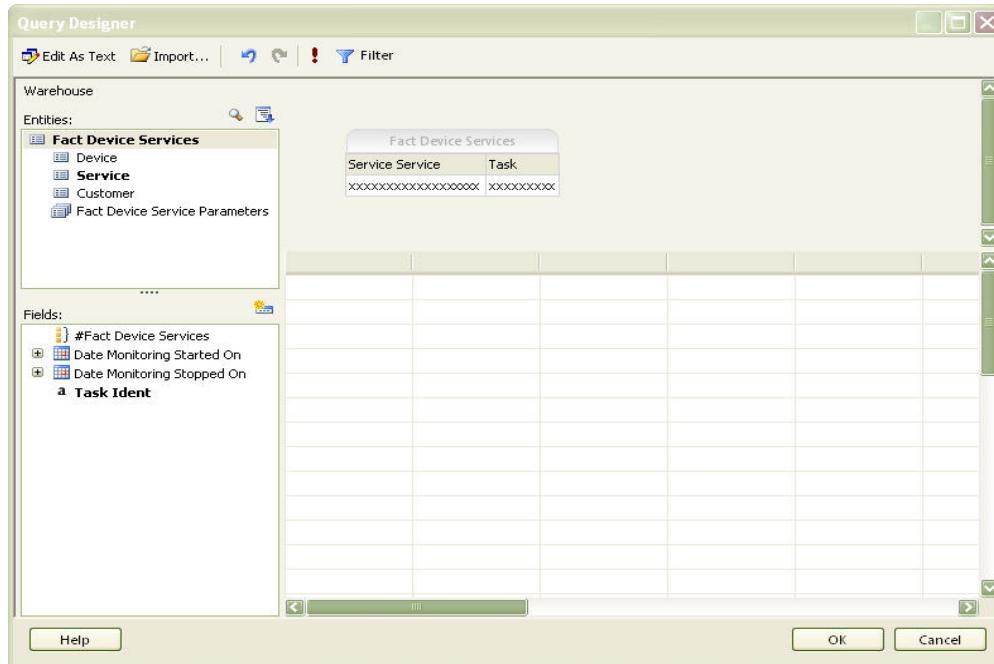
If you are continuing from the second tutorial, skip to step 3.

1. Open Report Builder 2.0. Refer to [Opening Report Builder 2.0 on page 5](#).
2. In Report Builder 2.0, click the ribbon icon in the upper left corner and from your local file system, open Managed Devices Summary.rdl.
3. In the Report Data pane click **New>Dataset**.
The Dataset Properties appears with the name for our second dataset already specified: DataSet1, and the source of the data for this dataset identified as Warehouse.
4. Rename **DataSet1** to "ServiceData".

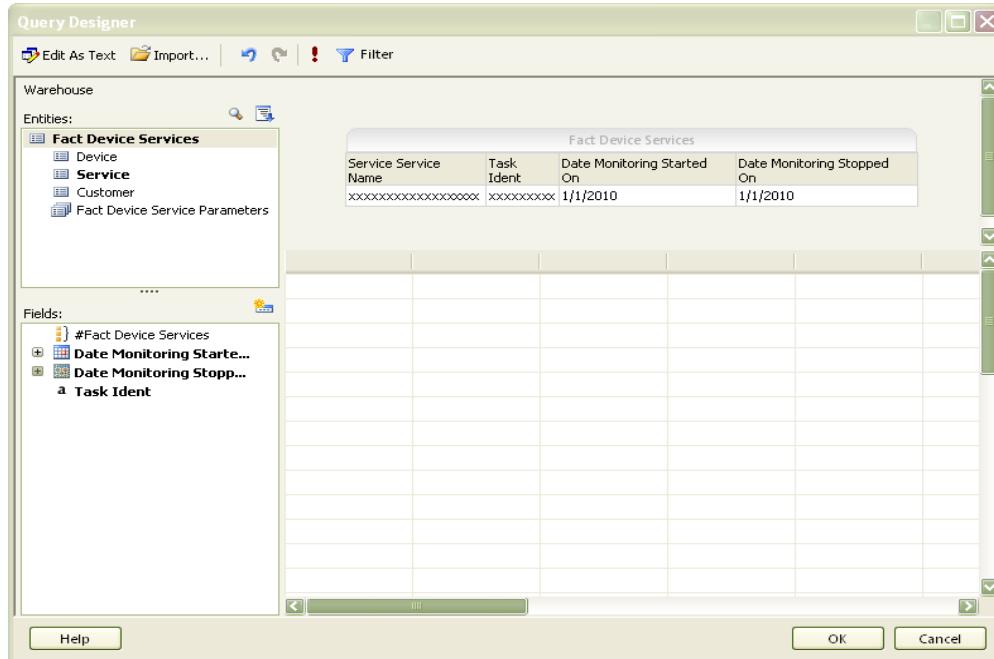
5. Click **Query Designer**.

The **Query Designer** wizard appears.

6. In **Entities**, double-click the **Fact Device Services** entity to select it and add it to the dataset. Its default fields are "Service Name" and "Task Ident".

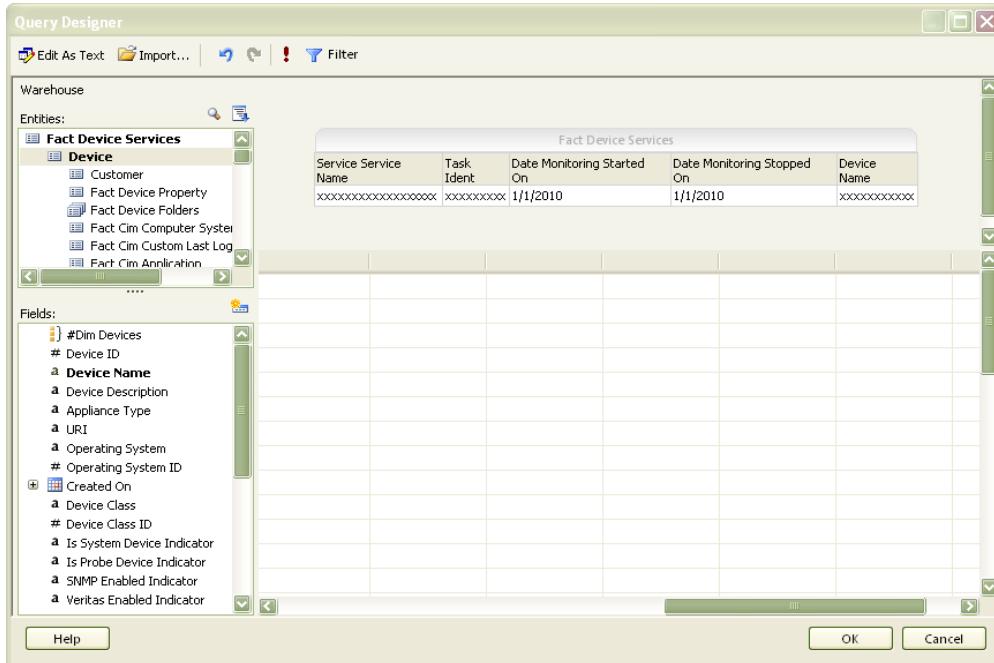


7. In **Fields**, double-click the date fields **Date Monitoring Started On** and **Date Monitoring Stopped On** to add them to the dataset.



8. In **Entities**, click the **Device** entity to display the fields associated to the device fact table.

9. In **Fields**, double-click **Device Name** to display the name of the device in the report.



Adding filters to the second data set

In order to filter the data for the table that will use this data set, we need to set a filter specifically on this data set. We will set a condition on this dataset to display only the currently assigned services to devices for a selected customer.

10. On the Query Designer menu bar, click **Filter**.

11. In **Entities**, ensure that **Fact Device Services** is the primary entity.

12. In **Fields**, click the date field **Date Monitoring Stopping** and drag it into the design pane.

13. Click in the text box and type: 6/6/2079

In the database, this date indicates that the service is currently monitored.

14. In **Entities**, click the **Customer** entity and in **Fields**, click **Customer Name** and drag it to the design pane. Right-click it and select **Prompt**.

Note: Even though we've selected the prompt for Customer Name in more than one dataset (remember we set a prompt filter on Customer Name in the dataset, DeviceData), Report Builder will only display the prompt to a user once.

15. Click **OK**.

The Query Designer appears.

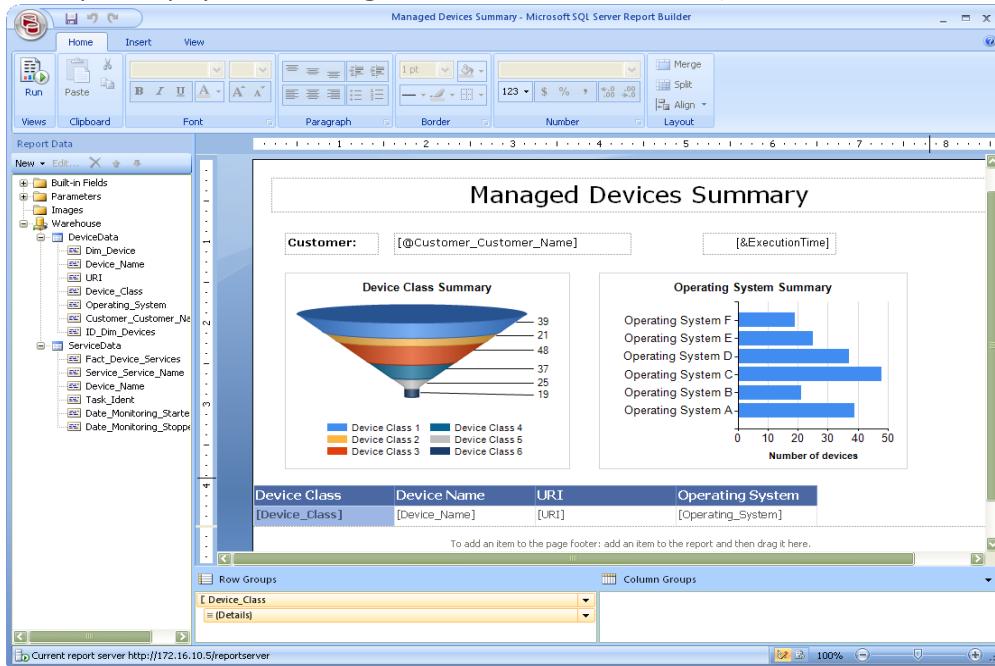
16. Click **OK**.

The Dataset Properties window appears.

17. Click **OK**.

N-compass 3.1 Report Builder 2.0: Three Tutorials

The report displays in the Design View with the new dataset, ServiceData visible in the Explorer pane.



Adding a new table to the report using the second dataset

Using the second dataset, would like to create a table that displays devices and the services that are running on them, as well as task identifiers and the date the monitoring started on. The filter conditions that we set on the dataset will ensure that we see only actively monitored devices.

18. Click and drag the dotted line at the bottom of the design surface (just under the existing table) to extend the design surface area. This creates room for the new table.

19. On the menu bar, click the **Insert** tab.

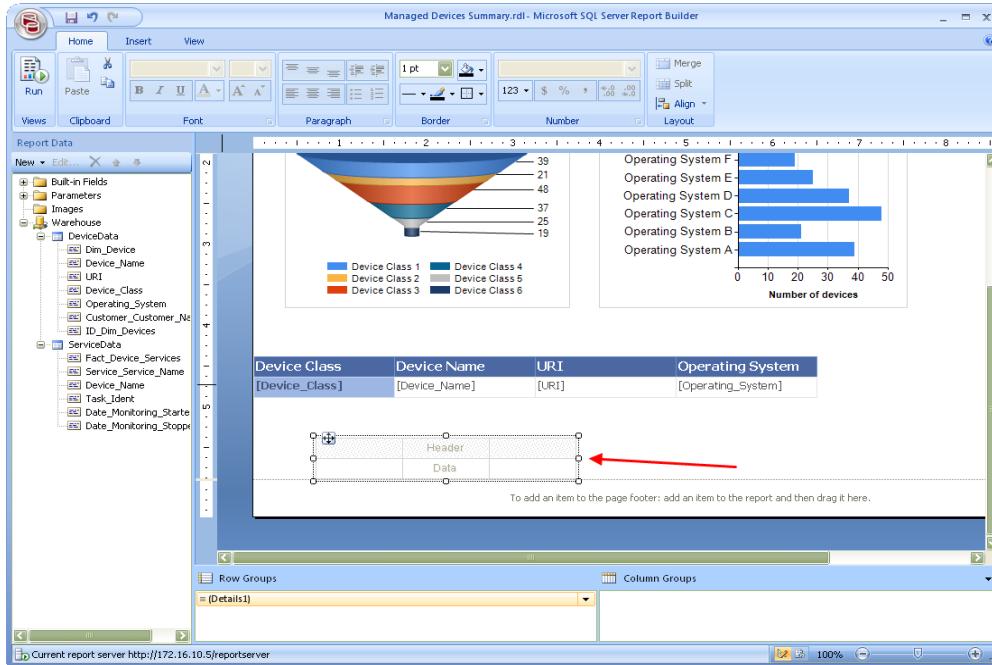
20. On the **Insert** ribbon, click **Table>Insert Table**.

A table icon appears at the tip of the mouse pointer.

21. Click in the area under the existing table.

A table appears.

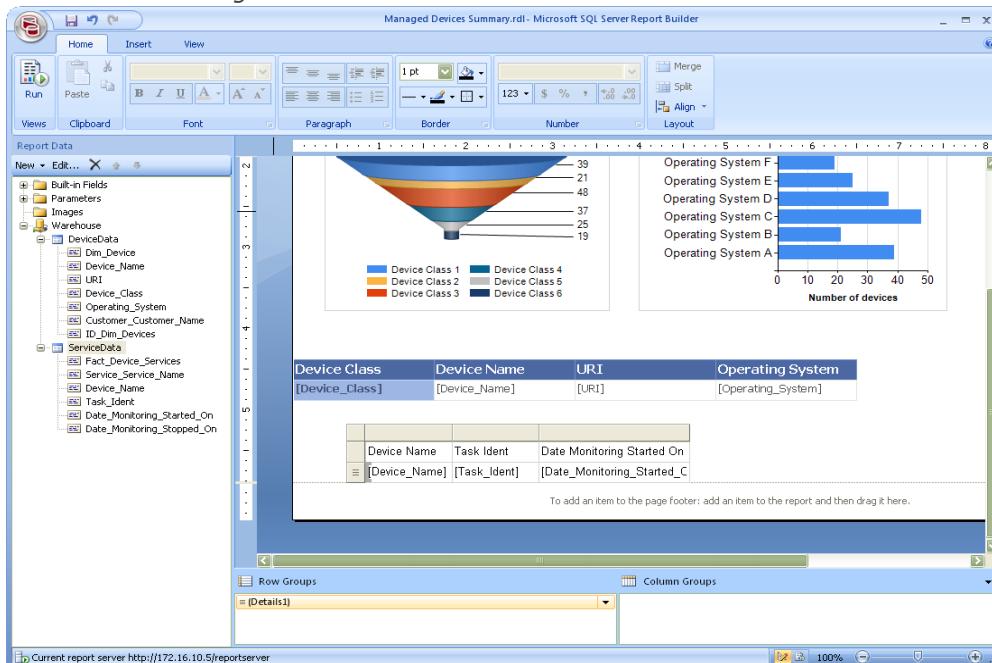
N-compass 3.1 Report Builder 2.0: Three Tutorials



22. From the ServiceData dataset, click and drag into the table in the following order, left to right:

- Device_Name
- Task_Ident
- Date_Monitoring_Started_On

The column headings and contents are added to the table.



Adding a row group to the table

We would like to group the devices and other details by services.

23. Select the new table by clicking it.

N-compass 3.1 Report Builder 2.0: Three Tutorials

24. In the Grouping pane under **Row Groups**, click the downward arrow to display a command menu.

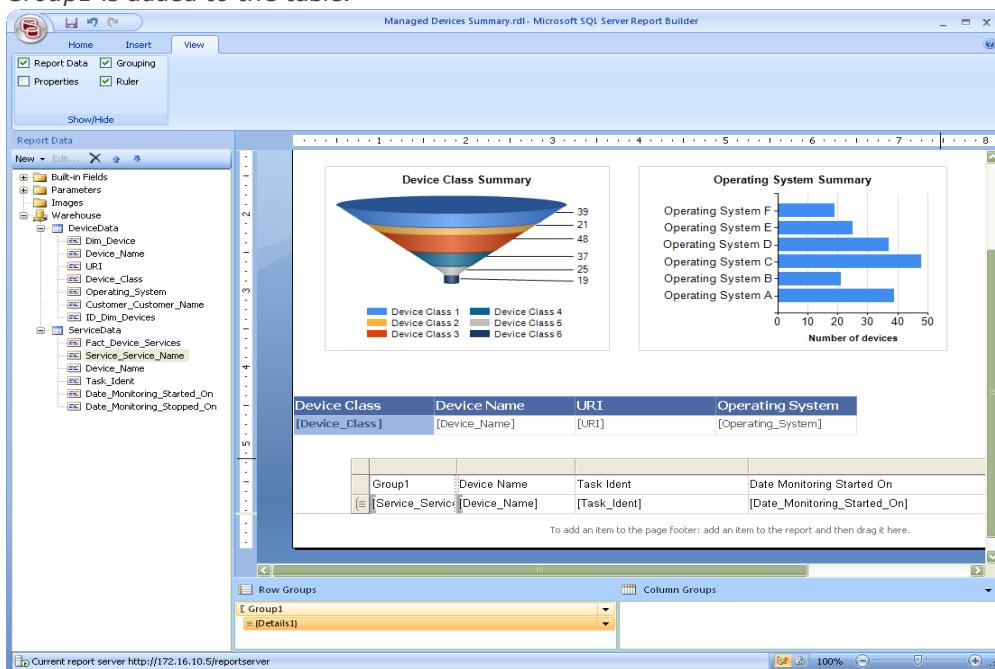
Tip: If you don't see the Grouping pane, click the View tab and select Grouping.

25. Click **Add Group>Parent Group**.

26. In the **Tablix group** dialog, select **Service_Service_Name** from the drop-down menu.

27. Click **OK**.

Group1 is added to the table.



28. If you would like to, preview the report. This gives you a pretty good idea of what you might want to do to format the table.

Formatting and labeling tables

29. Rename the column headings.

Rename:

- **Group1 to Service Name**
- **Task Ident to Service Identifier**

30. To format the header row for the service table, right-click the Service Name cell, press *Shift* and right-click the Date Monitoring Started On cell.

31. On the Home ribbon, select the font and fill that you would like to use for the header row.

32. Select the data cells and format them in the same way.

33. Click and drag the second table so that it matches the first.

34. To label the first table, click the **Insert** tab and click **Text Box**.

35. Click in the design surface above the first table to insert the text box.

36. Click in the text box and type: Managed Devices

37. On the Home ribbon, select the font, font size, font color and weight for the label.

38. When the text box for the Managed Devices table is the way you would like it, right-click it, copy and paste it on the design surface. Drag it to the second table and click in the text box and type: Monitored Services.
39. Save the report to your local file system to make it available to N-compass.
 - a. In the top left corner of Report Builder, click the ribbon icon.
 - b. In the menu that displays, click **Save As**.
 - c. Save the file as **Managed Devices Summary.rdl** in a convenient and appropriately named location on your local file system.

Note: Do not click the save icon on the main menu in Report Builder, which saves the rdl directly to Reporting Services, making it unavailable to N-compass.

Changing Customer Name to Customer ID

For the purposes of our tutorials, we have used the Customer Name as the parameter that we set the filter condition on for the prompt at generation time. This allowed us to easily retrieve a known name to generate a preview of the report in Report Builder.

To load this report into N-compass, we have to use Customer ID instead of Customer Name as the input parameter to be able to link the parameter with the existing Customer List UI control.

We need to change the filter conditions in both of our datasets.

1. Open Report Builder 2.0. Refer to [Opening Report Builder 2.0 on page 5](#).
2. In Report Builder 2.0, click the ribbon icon in the upper left corner and from your local file system, open **Managed Devices Summary.rdl**.
3. In the Explorer pane, right-click **DeviceData** and click **Dataset Properties**.
4. In the **Dataset Properties** dialog, click **Query Designer**.
5. In **Entities**, click the Customer entity.
6. In **Fields**, double-click the numeric field **Customer ID** to add it to the dataset.
7. Click **Filter**.
8. Right-click the customer name condition and click **Remove Condition**.
9. In **Entities**, double-click **Customer ID** to create a condition using it.
10. Right-click the **Customer ID** condition and select **Prompt**.
11. Click **OK**.
12. In the Explorer pane, right-click **ServiceData** and click **Dataset Properties**.
13. Repeat steps 4 to 11 for the ServiceData dataset.
14. In the Explorer pane, expand the **Parameters** folder.
15. Right-click **Customer_Customer_Name** and click **Delete**.
16. Save the report to your local file system to make it available to N-compass.
 - a. In the top left corner of Report Builder, click the ribbon icon.
 - b. In the menu that displays, click **Save As**.
 - c. Save the file as **Managed Devices Summary.rdl** in a convenient and appropriately named location on your local file system.

Note: Do not click the save icon on the main menu in Report Builder, which saves the rdl directly to Reporting Services, making it unavailable to N-compass.

Next step: Upload your report to N-compass!

Report Builder 1.0

To help you in your journey to custom report creation in Report Builder 1.0, we are going to start by creating a sample report called "Last Logged In User Summary". This report has a tabular region (data will be displayed in tables). Along the way you will learn how to define the report context, add or remove fields, preview the report, group and sort data, apply filters and format data, text and images within the report.

Keep in mind that we are creating the structure to display the information, so that as we select items to display in the report, actual information will not be displayed. The items (entities and associated fields) we select represent the information within the database.

Each tutorial builds more detail and structure into the same file so that you end up with a new sample report, "Last Logged In User Summary". The tutorials should be done in the following sequence:

1. [Report Builder 1.0 on page 39](#)
2. [Report Builder 1.0 on page 39](#)
3. [Report Builder 1.0 on page 39](#)
4. [Report Builder 1.0 on page 39](#)
5. [Report Builder 1.0 on page 39](#)
6. [Report Builder 1.0 on page 39](#)
7. [Customizing and Formatting the Report on page 49](#)

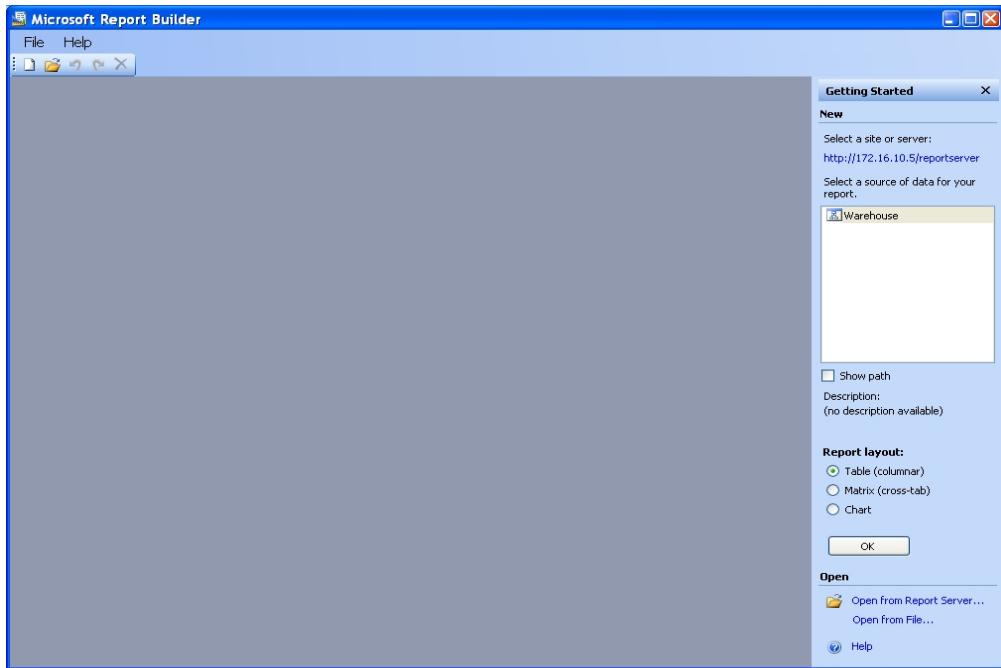
Selecting a Report Layout

Start this tutorial by signing in to the Administration Console. Please review and follow the online help to open Report Builder 1.0.

The first step, according to our list above is to select a report layout.

N-compass has predefined the data model, which is the source of data for your report. The data model contains entities and fields and their relationships.

N-compass 3.1 Report Builder 1.0



The report layout determines how the data from the data model will be displayed in the final report. We would like the data for our sample report, Last Logged in User Summary to display in a table.

Note: After you have selected a layout and begun working, you cannot switch to another layout.

1. Select a layout

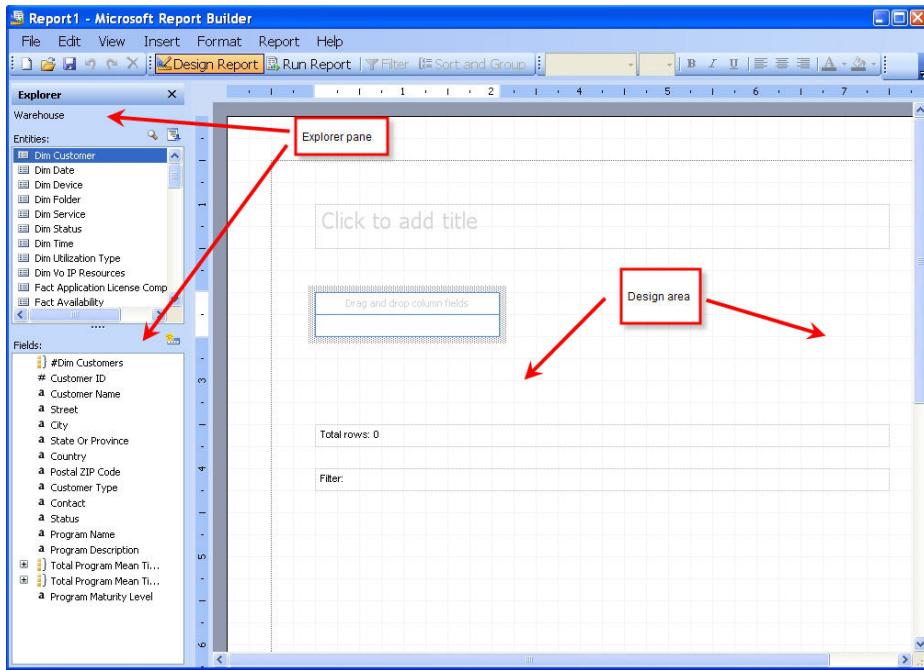
In the Getting Started pane, under Report Layout, you have a choice of three report layouts:

- Table (columnar),
- Matrix (cross-tab) or
- Chart

2. Select Table (since we want data to display in a table).

3. Click **OK**.

The screen refreshes to display the explorer pane and the contents of the data source, and the design area with an empty table layout.



Defining the report context

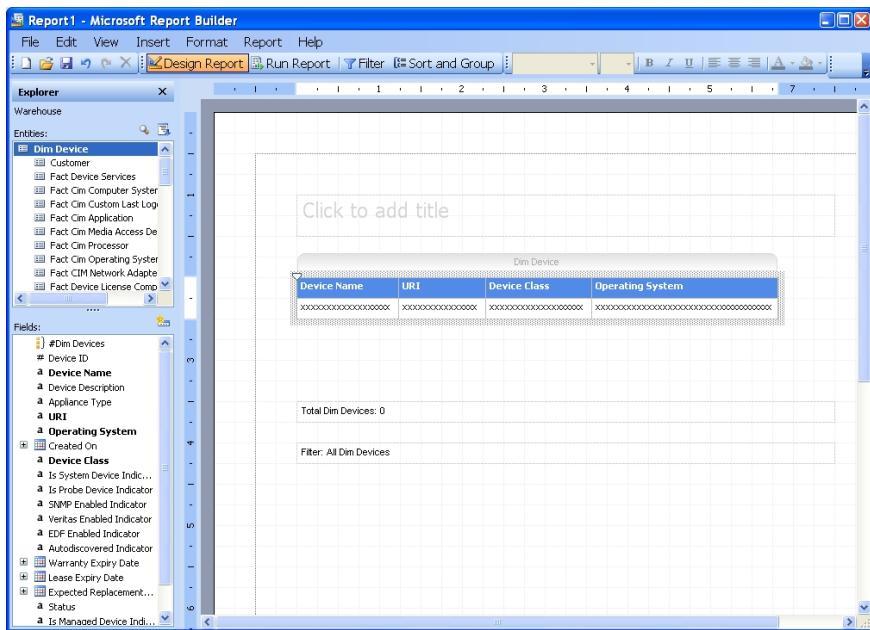
Now we are ready to define the context for the report by selecting a primary entity from the Entities list in the Explorer pane. The entities that are shown right now represent the entire contents of the data source. When we choose a primary entity, Report Builder has the information it needs to retrieve the data for our report.

For our example, we will use the entity Dim Device as our primary entity.

- In the Entities list in the Explorer pane, double click Dim Device.

This action selects Dim Device as the primary identity, and Report Builder displays only the other entities that are related to Dim Device. It also was a bit of a short cut to start to build our table. With the double-click, column headings from Dim Device appear in the report design area: Device Name, URI, Device Class and Operating System (the pre-defined default fields for Dim Device).

Please refer to [Uploading and Managing Reports in N-compass on page 61](#) for the list of available entities.



Adding and Removing Fields from the Report Layout

As we noticed, the default fields appeared as table headings when you selected the entity Dim Devices. For our example, we've decided we don't want to include Operating System information for devices in our report.

Removing a data field

1. In the design area, click Operating System.
2. Right-click to select Delete.

The column titled Operating System is removed.

Adding fields to the far right of the table

For our example, we would like to add the fields Username and Userdomain. These fields are not in the primary entity. They are found in a related entity, Fact Cim Custom Last Loggedin User, which is in the indented list below Dim Device.

1. In the Entities list below Dim Devices, locate Fact Cim Custom Last Loggedin User.
2. Click Fact Cim Custom Last Loggedin User.

In the Field list below, the fields that display are the ones available to Fact Cim Custom Last Loggedin User.

3. In the Field list, double-click **Username** to place it to the far right of the table in the Design area.
4. Repeat Step 3 for **Userdomain**.

Adding fields in a specific spot in the table

If, instead, we wanted to select where we placed a column heading, we can use the drag and drop feature of Report Builder. (If you've already added these to the table, practice deleting them by using the procedure "To remove a data field", above.)

1. In the Entities list below Dim Devices, locate Fact Cim Custom Last Loggedin User

In the Field list below, now the only fields that display are the ones available to Fact Cim Custom Last Loggedin User.

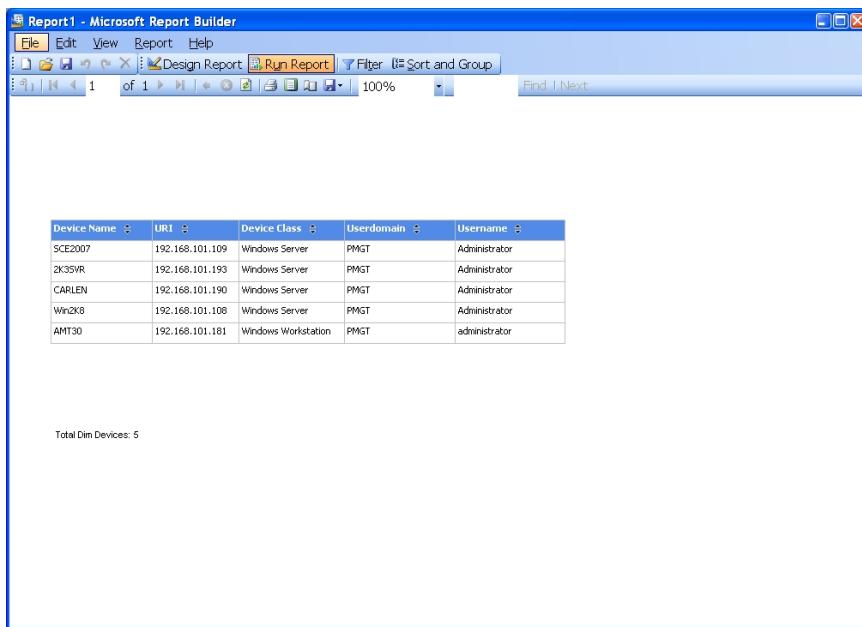
2. In the Field list, click Username.
3. Drag it to the table in the Design area and drop it where you would like it to be.
4. Repeat Steps 2 and 3 for Userdomain.

Previewing the Report in Report Builder

Now that we've defined the context and set up the fields to display in the report, let's preview it.

To preview the report

- In the menu bar, click Report>Run Report in the menu bar at the top.



This gives us a better idea of the report we are designing.

To return to the Design view

- On the menu bar, click View>Design Report.

The Design view reappears.

Applying Filters

For our sample report, we'd like to filter the data so that the report only contains the information we are really interested in. To do this, we must add filter conditions. A filter condition is a statement that tells Report Builder which criteria to use to determine if data should be displayed in the report. A filter condition is composed of three parts: the field or entity name, an operator, and the criterion.

You can use any available entity or field to create your filter; the entity or field does not have to be displayed in the body of the report.

N-compass 3.1 Report Builder 1.0

You can also add a prompt for users so that when they are running the report, they can control the content. This is a good idea if you don't want to edit the report file. For our example, we'd like to allow a user to select a single customer. We will set up the filters so that the user is prompted to select a customer. The report information is filtered based on the customer selected.

To add a filter

For the Last Logged-in User Summary report, we'd like to display only active (non-deleted) devices. (Please refer to the screenshot, below, for more details.)

1. On the menu bar, click Report>Filter.

The Filter Data screen appears.

2. In the Fields list of the Filter Data screen, double click Status.

In the design pane of the Filter Data screen, the following condition appears: Status equals <criteria drop-down>.

3. Select Active from the criteria value drop-down.

We have set up a filter so that report will only display non-deleted devices. We'd also like those active devices to be managed devices.

4. In the Fields list, double click Is Managed Device Indicator.

The logical operator "and" appears. Under it, a new condition: Is Managed Device indicator equals <drop-down list box> appears.

The report will display Active and Managed devices.

5. Select Managed Device from the criteria value drop-down.

The report will display active devices that are also managed devices.

6. Click OK.

Tip: To change a logical operator (And, Or) or a comparison operator (equals, not, is blank, and so on), hover over it to display a menu and click to select and option.

To add a user prompt

To get the user to choose a customer to report on at the time of report generation, you must add a filter as a parameter.

For our example, we'd like the user to select the customer for our Last Logged in User report.

1. On the menu bar, click Report>Filter.

The Filter Data screen appears.

2. In the Entities list of the Filter Data screen, double click Customer.

The logical operator "and" appears. Under it, a new condition: Customer equals <criteria drop-down> appears.

3. Leave the criteria value drop-down blank,

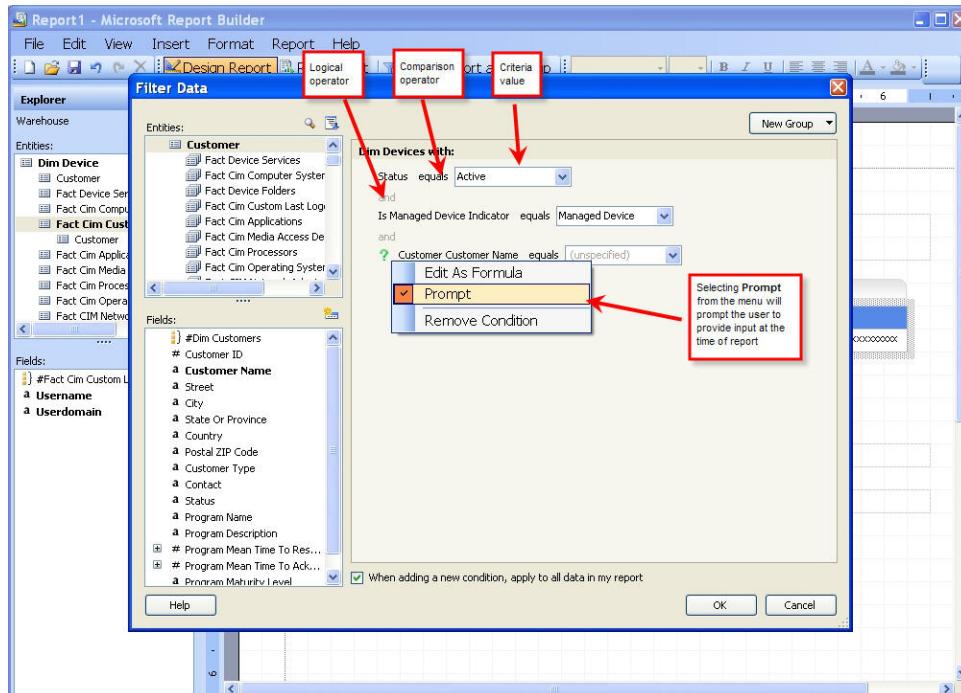
4. Right-click Customer.

A menu appears.

5. Select Prompt from the menu.

N-compass 3.1 Report Builder 1.0

A green question mark appears next to Customer. The user will be prompted to supply the customer they would like to report on during report generation.



About prompts in N-compass

The prompted filters used in a custom report have to match supported custom report parameter types in N-compass.

N-compass supports the following custom report parameter types:

- Customer List
- Date
- Service List
- Boolean Checkbox
- Time of Day
- Week Type
- Text Box
- Operating System List
- Device Class List
- SO Customer List

N-compass UI Parameter Types

The screenshot shows the 'Report Parameter Configuration' screen in the Report Builder. At the top, there's a toolbar with 'Custom Report Management' and other icons. Below it is a section titled 'Add Custom Report' with a file icon. The main area contains a table for 'Report Parameters' and a 'Report Description' input field.

Parameter Name	Parameter	Parameter DataType	User Prompt
CustomerID	Customer List	Integer	Customer ID
Save Report P	Date Service List Boolean Checkbox Time Of Day Week Type Text Box Operating System List Device Class List SO Customer List		

A dropdown menu is open over the 'Customer List' entry in the 'Parameter' column for the 'CustomerID' row. The menu contains the following options:

- Customer List
- Date
- Service List
- Boolean Checkbox
- Time Of Day
- Week Type
- Text Box
- Operating System List
- Device Class List
- SO Customer List

In order to use Customer List, Device Class list, Operating System List and Service List parameter types in N-compass, your corresponding prompted filter defined in custom report must the exact ID field names in the database: CustomerID, Device Class ID, Operating System ID and Service ID.

When you are creating a report in Report Builder, you need to match the parameters in the report with those in N-compass.

For example, in the Last Logged-in User Summary report, we need to replace the filter "Customer" name with "Customer ID".

To replace Customer with Customer ID

1. Open Report Builder and display the Design view.
2. On the menu bar, click Report>Filter.

The Filter Data screen appears.

3. Right-click Customer.

A menu appears.

4. Click Remove Condition.

The condition is deleted.

5. In the Fields list of the Filter Data screen, double-click Customer ID.

The logical operator "and" appears. Under it, a new condition: Customer ID equals <criteria drop-down> appears.

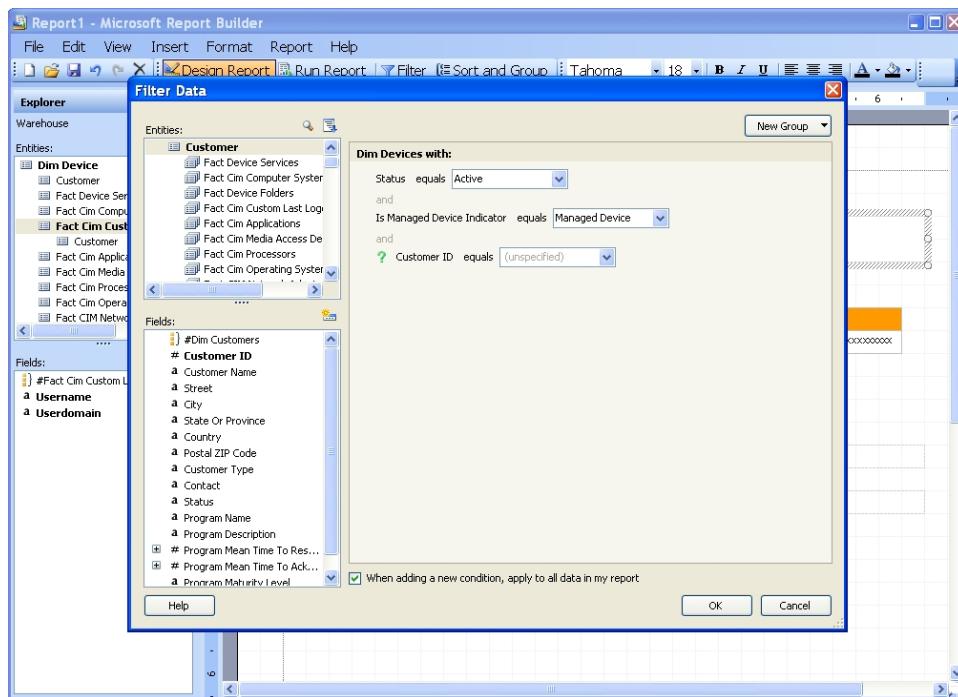
6. Leave the criteria value drop-down blank,

7. Right-click Customer ID.

A menu appears.

8. Select Prompt from the menu.

A green question mark appears next to Customer. The user will be prompted to supply the customer they would like to report on during report generation.



Grouping and Sorting Report Information

You can group information and sort how it will be displayed in the report. For example, in our report, we'd like to group on Device Class, and then sort the device classes to display alphabetically when the report is generated.

Groups appear as tabs along the top of the table. To see the group tabs, click inside the table in the design area. A tab appears along the top of the table. If you've been following along and creating Last Logged in Users Summary report, when you click in the table only one group tab appears along the top of the table. We are going to add another group to our report structure, Device Class.

Grouping

1. On the menu bar, click select View>Design Report.
2. In the Design view, click the Device Class column header.
3. Drag the Device Class field from the position it currently occupies to in front of the first column.

In the Design area, two tabs now appear across the top of the report table which represents the two groups in the report: Dim Device and Device Class.

Sorting

As next step, you can use the name of device classes and devices to sort within each group. While you are sorting, you can also define page breaks that appear between groups in the printed report.

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1. Select Report>Sort and Group.

The Sort window appears, displaying a list of the groups (Device Class, Dim Device) and sort criteria drop-downs.

2. Click Device Class in the left pane of the Sort window to select it.
3. In the Sort by drop-down, select Device Class.
4. Click OK.

We would like the Device Names within the Device Classes to be sorted in alphabetical order.

1. Select Report>Sort and Group.
2. The Sort window appears, displaying a list of the groups (Device Class, Dim Device) and sort criteria drop-downs.
3. Click Dim Device in the left pane of the Sort window to select it.
4. In the Sort by drop-down, select Device Class

To view the report information, sorted and grouped in the report:

1. Click View>Run Report.
- The report screen displays, with a Customer prompt at the top.*
2. Select a customer from the drop-down list.
 3. Click View Report.
 4. The report displays with Devices grouped by Device Class, within device class devices are sorted alphabetically by device name.

Grouping and Sorting

The screenshot shows the Microsoft Report Builder interface. On the left, there's an 'Explorer' pane listing database entities like 'Dim Device', 'Customer', etc., under 'Warehouse'. Below it is a 'Fields' pane with fields such as '#Fact Cim Custom Last Log...', 'Username', and 'Userdomain'. The main design area contains a table with columns: 'Device Class', 'Device Name', 'URI', 'Userdomain', and 'Username'. A red box highlights the 'Group tabs' button above the table. Another red arrow points from the 'Sort' dialog box to the table header. The 'Sort' dialog is open, showing 'Select group:' with 'Device Class' selected, and 'Sort by:' with 'Device Name' set to 'Ascending'. There are also sections for 'Then by:' and 'Page breaks between groups and:'.

Customizing and Formatting the Report

You can further customize the report by adding the title, text and images. If you haven't already done so, let's add our title to the report.

1. In the design view, locate the predefined text box for the title.
2. Click to add title.
The text box becomes editable.
3. Type Last Logged in User Summary directly into the text box.

To add text to the report

You can add text to the report by adding a textbox. For our example, we'd like to add a text box at the top of the report to provide a description of the report.

1. On the menu bar, click Insert>Textbox.
A text box appears in the upper left corner of the Design area.
2. Click it to drag it and position it under the title and above the table.
3. Click in the box to add text: This report provides the details of the last logged in user.
4. Click the corners to resize it, if necessary.

To add an image to the report

You may want to include an image of your company logo on this report.

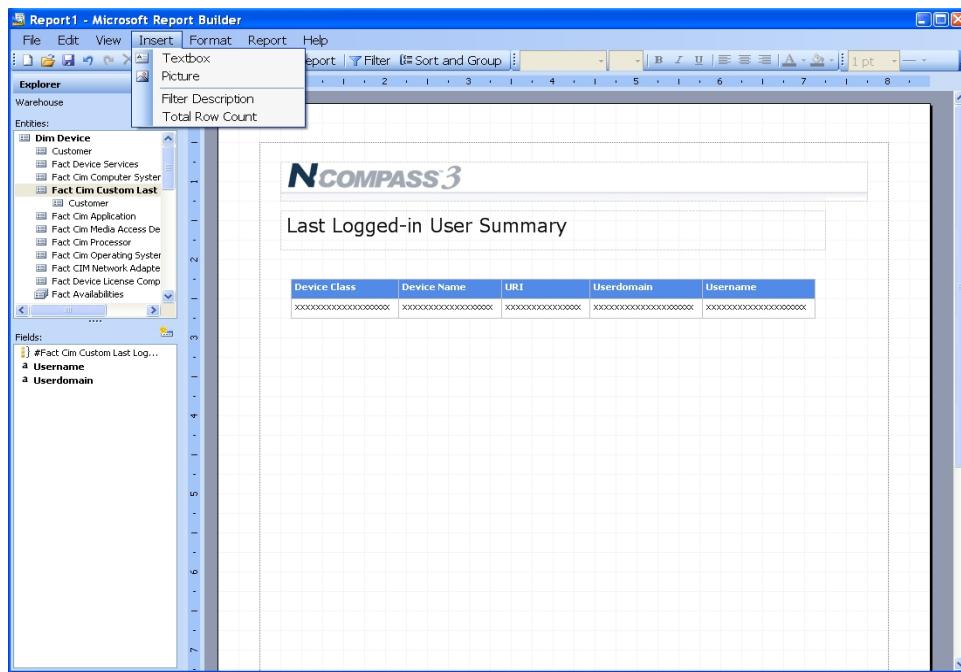
1. On the menu bar, click Insert>Picture.
The dialog to download an image from your hard drive opens.

N-compass 3.1 Report Builder 1.0

2. Navigate to the location of your logo image.
3. Click Open.

The logo appears in the upper left corner of the Design area.

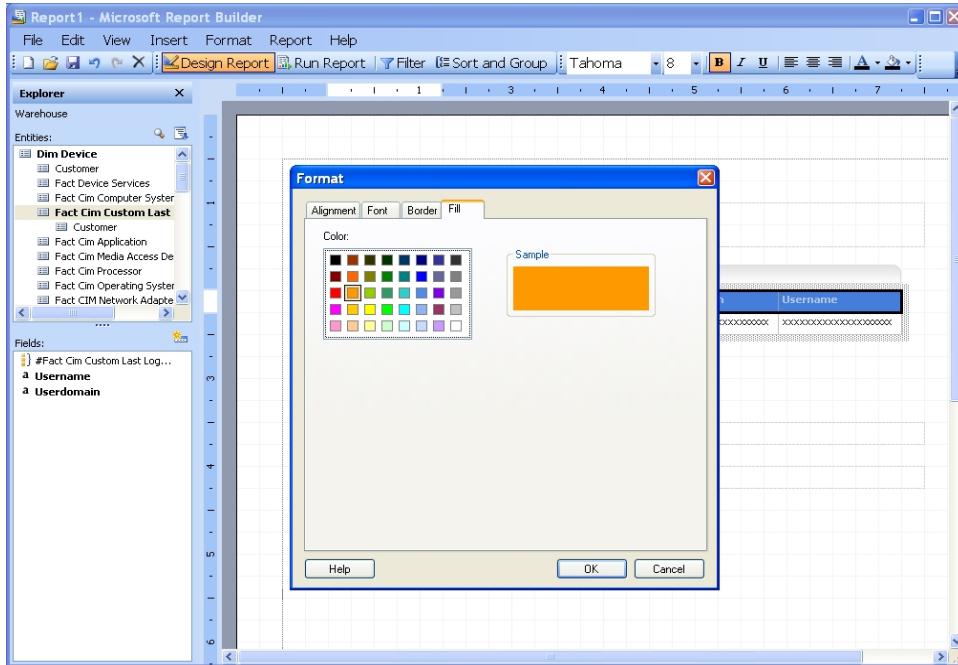
4. Move or resize the image, as required.



You can format the report to give it a custom appearance. In the Design view, you can format the text boxes, the images, the fields in the report layout, and the data.

For the Last Logged in User Summary report, we would like to change the table column heading color.

1. View the report in the Design view (click Report>Design Report).
2. Select all the column headings by holding Shift down while clicking each column heading.
3. On the menu bar, click Format>Fill.
4. Select a color, for example, one that matches your logo.
5. Click OK.



Saving the report

Now that we've created a report, we need to save it. You can save a report to a local file system or deploy it directly to the report server. A report is saved in report definition language, creating an RDL file.

To save the report to a local file system

1. In the Design view, on the menu bar click File>Save to File

The Save As dialog opens.

2. Navigate to where you would like to save the file and click Save.

Reports saved to a local file system can be loaded into N-compass server, and accessed through the Report Console.

To deploy the report directly to the report server

1. In the Design view, on the menu bar click File>Save.

The Save As Report dialog opens.

2. Specify a Name for the report
3. Click Save.

This report can be accessed through the report server UI (http://<Report_Server_URI>/reports).

Opening a Report in Report Builder 1.0

You can open report definition files (RDL) in Report Builder to edit or generate them.

Note: Only RDL files generated by Report Builder can be loaded into Report Builder. If an RDL file has been generated by Report Builder, but later modified by Visual Studio, it cannot be loaded into Report Builder.

To load the report from a local file system

1. Sign in to the Administration Console.

The Administration Console appears.

2. Click Custom Report Management.

The Custom Report Management screen appears.

3. Click Report Builder

The Application Run – Security Warning dialog box appears

4. Click Run

Report Builder downloads and opens.

5. On the menu bar, click **File>Open from File.**

To load the report from the report server,

1. Sign in to the Administration Console.

The Administration Console appears.

2. Click Custom Report Management.

The Custom Report Management screen appears.

3. Click Report Builder

The Application Run – Security Warning dialog box appears

4. Click Run

Report Builder downloads and opens.

5. On the menu bar, click **File>Open.**

Report Builder 1.0: Next steps

1. Take a closer look at the data available to you in the data warehouse. Go to [Appendix B: Data Warehouse Schema on page 69](#)and familiarize yourself with the tables and fields and their relationships. It will give you a much better idea of the kinds of reports you might like to build for inclusion in N-compass or for ad hoc data mining entities.
2. Download the rest of the sample reports we have created for you. N-able has created sample custom reports based on user input. We have made these available through the Custom Reports section of the Partner Center (Log in to the new Partner Center, click the Community tab and locate Custom Reports in the lower right hand corner). Use these to continue exploring custom report creation with Report Builder.
3. Check out Report Builder online help. After our brief tour, it's time to learn more about what this tool can do for you. The online help is a terrific resource. It explains the basic concepts behind Report Builder and provides lots of how-to information to bring you up to speed with report creation.

Creating Reports in Visual Studio

Microsoft Visual Studio is the main integrated development environment (IDE) from Microsoft. For those of you with some SQL programming skills we provide procedures and tips for creating reports using Visual Studio 2005. We also provide some SQL queries and stored procedures.

Begin the process of custom report creation by setting up the custom reports creation environment by launching Visual Studio, create a new project, add the N-able template, and connect to an existing data source.

Requirements

Before you can create a custom report, you need to have the following on your N-compass server:

- Microsoft Visual Studio 2005, which is available in Microsoft SQL Server 2005 and must be installed on the server.
- N-able sample report template (N-able_Report_Template_8.5 x 11.rdl), available through the Partner Center.

In addition, you need access to a server (local or remote) that has N-compass 3.1 and all applicable patches installed on it.

To launch Visual Studio

1. Copy the N-able report template from the Velocity Partner Center to your local machine.
2. Launch Visual Studio 2005.

To create a new project

1. Click File > New > Project
2. Under Project Types, select Business Intelligence Projects > Report Project
3. Under Templates, select Report Project.
4. Click OK.

To add the N-able template

1. On the main menu, select View > Solution Explorer.
2. In the Solution Explorer window, expand the folder for the project.
3. Right-click Reports>Add>Add Existing Item
4. Navigate to the location of the template file on your hard drive:
N-able_Report_Template_8.5x11.rdl
5. Click Open to add the template to the report.

To connect to an existing data source

1. On the main menu, select View > Solution Explorer.
2. In the Solution Explorer window, expand the folder for the project.
3. Right-click Shared Data Sources.
4. Select Add New Data Source.

The Data Link Properties window opens.

5. On the Connection tab, for **1. Select or enter a server name**, do one of the following:
 - Select a server name from the drop-down list of remote servers.
 - Enter a period into the field to use the local server.
6. On the Connection tab, for **2. Enter information to log on to the server**, select one of the following:

N-compass 3.1 Creating Reports in Visual Studio

- Use Windows NT Integrated security; or
 - Use a specific user name and password and specify the SQL user credentials.
7. On the Connection tab, for **3.** do one of the following:
- Select the database on the server and use the drop-down list to select a database.
 - Attach a database file as a database name, and specify the name or browse for one to place in the Using the filename window.
8. Click OK.
9. Repeat the process for each required data source:
- warehouse
 - config
 - ODS (optional)

You are ready to create reports in Visual Studio.

Data and Report Layouts in Visual Studio

The main components of the report are data and report layout. Data is stored in the database. Using predefined datasets, stored procedures and queries, you can retrieve data to be displayed in the report. The report layout defines how the data will be displayed. For Visual Studio help, please refer to Microsoft Visual Studio 2005 documentation.

Data

Data used within reports comes from SQL queries which retrieve data from one or more databases. You can access data in one of three ways:

- By using predefined data sets which are included in the template
- By linking to stored procedures in the database
- By writing your own queries

Predefined Datasets

A dataset includes a pointer to a data source, the query, and information about the data, such as collation and case sensitivity. A dataset also includes a list of fields to be used by the report. Reports can include multiple datasets.

N-compass provides you with the following predefined datasets in the N-able template. The following predefined datasets specify the following:

- the data source,
- the query used to retrieve data,
- query parameters,
- filters, and
- the collection of fields that represents the result set.

Predefined data sets available through the N-able Template

Dataset	Description
DateFormat	Formats the date according to the system setting.
GetStartDate	Determines the start of the date range for the report, modifies the start date if it is a scheduled (subscription) report.
CustomerNames	Returns a customer name when provided a CustomerID.
DeviceNames	Returns a device name when provided a DeviceID.
FolderNames	Returns a folder name based on a FolderID.
ServiceNames	Returns a service name when provided a ServiceID.
GetEndDate	Determines the end of the date range for the report, modifies the end date if it is a scheduled (subscription) report.
GetBrandingImage	Returns the user selected branding image from the Config table.

Stored Procedures

A stored procedure is a query or set of queries that is named and saved inside the database. Like queries, a stored procedure can be used to modify or retrieve data.

Using stored procedures is preferable to hard coding SQL within the report. This allows you to easily change the code without affecting the report.

For more information on creating stored procedures, please refer to Microsoft SQL Server 2000 documentation.

When creating stored procedures, we recommend the following format:

CRPT_<Customer>_<Report Name>.dbo

For example:

CRPT_PRIMETIME_AlertByCategory.dbo

The following example shows you how to link to the DeviceClassesByCustomer stored procedure in the data warehouse.

To link in an existing stored procedure

1. Click View > Solution Explorer.
2. In the Solution Explorer window, double-click the N-able report template to open it.
3. In the Data view, from the Dataset drop-down, select <New Dataset... > to open the Dataset dialog.
4. In the Dataset dialog, on the query tab, enter the following information:

Query Detail	Specify	Description
Name:	DeviceClassesByCustomer	Name of the stored procedure
Datasource:	warehouse	Name of the shared data source
Command type:	StoredProcedure	Type of command (Text, StoredProcedure, Table-Direct)

Query string:	DeviceClassesByCustomer	Name of the stored procedure
Timeout:	<timeout in seconds>	Number of seconds that the report server waits for a response from the database. The default value is 30 seconds. Timeout must contain a value greater than zero or be left empty. If it is empty, the query does not time out.

- Click OK.

If the connection to the database is valid, the Dataset will be created.

- Test the stored procedure by clicking the Run button and providing the appropriate input data.

Queries

Queries are used to modify or retrieve data within a database.

To create a simple query

- Click View > Solution Explorer.
- In the Solution Explorer window, double-click the N-able report template to open it.
- In the Data view, from the Dataset drop-down, select <New Dataset...> to open the Dataset menu.
- In the Dataset menu, on the query tab, enter the following information:

Query Detail	Specify	Description
Name:	Name of the query	Name should describe the data that the query returns
Datasource:	Location of the data	Name of the shared data source
Command type:	Text	<ul style="list-style-type: none"> · Select Text to write a query using the query language of the data source. · Select StoredProcedure to execute a stored procedure by name. · Select Table to return all the fields in a relational database table.
Query string:	<query name>	Name of the query. You can leave this blank and build the query in the Data view

Timeout:	<timeout in seconds>	Number of seconds that the report server waits for a response from the database. The default value is 30 seconds. Timeout must contain a value greater than zero or be left empty. If it is empty, the query does not time out.
----------	----------------------	---

5. Select OK.

If the connection to the database is valid, the dataset will be created.

6. If you do not declare SQL variables (@Values) they will automatically be added as input parameters after you click OK.
7. We recommend that you review the mapping of these parameters by doing the following:
 - a. In the Data view, from the Dataset drop-down, select the name of the saved dataset.
 - b. Click  to open the Dataset dialog box.
 - c. On the Parameters tab, review parameter mapping and edit as necessary.
 - d. Click OK.
8. Click Run to test the procedure.

Setting up the Report Layout in Visual Studio

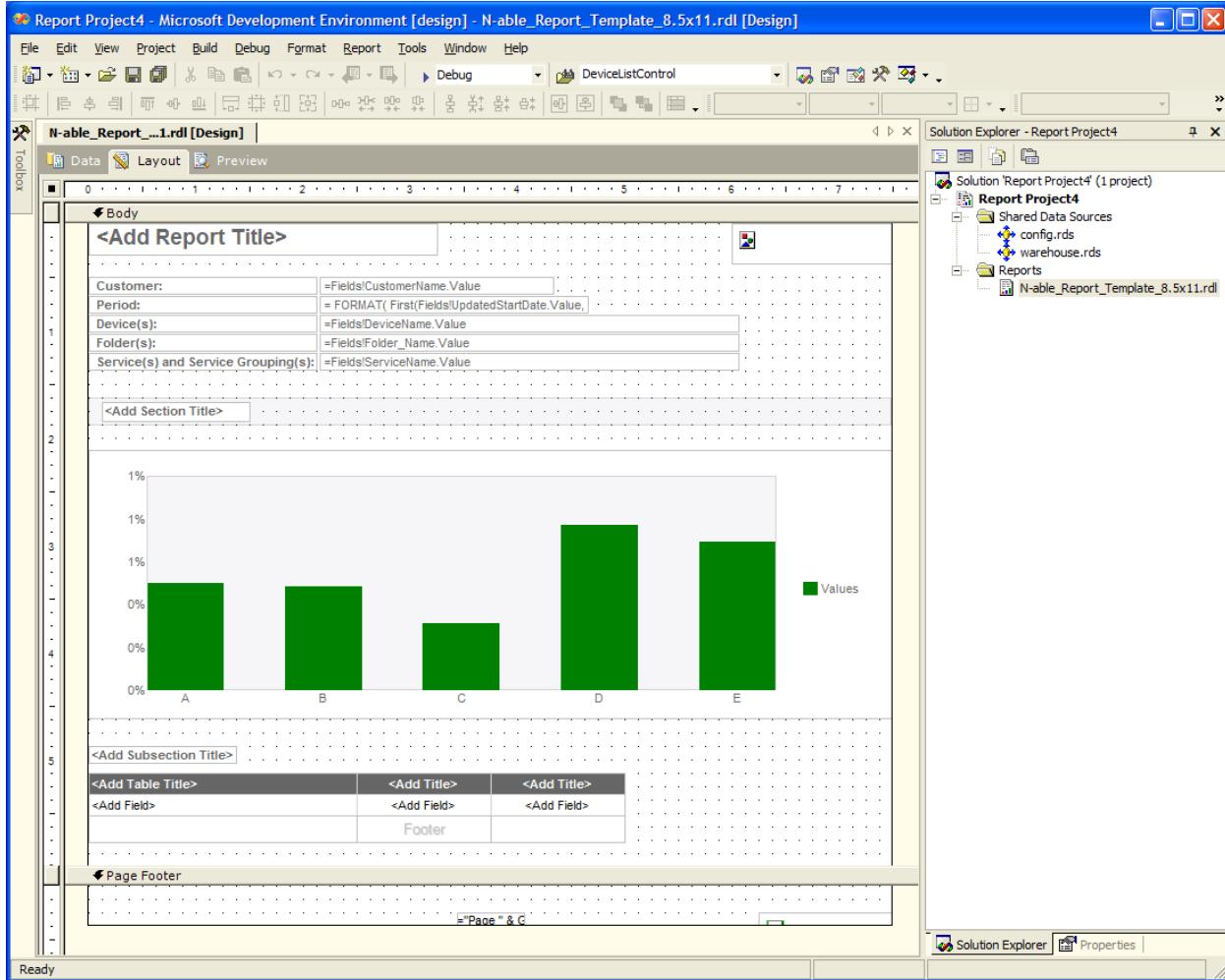
A report layout specifies how the body, header, and footer of the report will look. All three areas of the report can be formatted with a number of different objects.

Use the N-able template to help you set up your initial report layout. The N-able sample report template contains the elements and objects of a good basic report. You can customize this template to suit your requirements by adding or editing elements (header, footer, body) and objects (tables, textboxes, charts, subreports, images, matrixes and a few others).

When you run a report, the report layout information is combined with data from the data source in order to render the report.

N-compass 3.1 Creating Reports in Visual Studio

N-able Sample Report Template



To edit the report layout

1. Click View > Solution Explorer.
2. In the Solution Explorer window, double-click the N-able report template to open it.
3. Click the Layout tab of the template.

To add new objects

1. On the main menu, select View>Toolbox.
2. Drag and drop objects from the Toolbox into the N-able template layout.

To add elements

1. To add a header or footer, in the main menu, click Report> Page Header, or Report> Page Footer.
2. To add embedded images to the report, click Report> Embedded Images.

To edit objects

1. Right-click the object in the N-able template to display a menu.
2. Select Properties to display the properties dialog box.

To edit header, footer or body

1. Right-click on the element to display a menu.

2. Select Properties to display the properties dialog box.

Tip: Click View > Properties Window to display the properties of any element or object in a separate window. To view the Properties dialog box, select the Properties Pages icon in the Properties view menu.

Adding additional input parameters

You can add additional input parameters as necessary and the user will be prompted to provide a value for each parameter when the report is run.

Customer and services are not cascading parameters. Therefore, devices and folders cannot be filtered by customer or services. This is a known limitation of N-compass.

Every report requires an input parameter called Subscription. Subscription is used to determine the date range for the report. It is filled automatically by N-compass when a report or a scheduled report is generated.

Note: Do not delete the parameter named Subscription from the N-able template. When creating your own custom report from scratch, ensure that you include a parameter named Subscription.

When a stored procedure is added, the necessary input parameters will be automatically added for that stored procedure.

To add input parameters

1. Click View > Solution Explorer.
2. In the Solution Explorer window, double-click the N-able report template to open it.
3. To add input parameters, select Report > Report Parameters to display the Report Parameters dialog box.
4. Click Add and specify the properties for the new parameter.
5. Click OK.

Linking the Layout to Datasets

Data regions (tables, lists, charts and matrices) allow you to link datasets to the report layout. Each data region links to one dataset. If a report uses only one dataset, all data regions link to that dataset by default. If the report has multiple datasets, you can link data regions to different datasets.

For more information on working with datasets and data regions, please refer to Microsoft SQL server documentation.

You can link a data region to a dataset by

- Editing the properties of the data region or
- Dragging and dropping a field into a data region.

To link a data region to a dataset using data region properties

1. On the main menu, click View > Solution Explorer.
2. In the Solution Explorer window, double-click the N-able report template to open it.
3. In Layout view of the template select the data region in the report.
4. Right-click to display a menu and select Properties to display the Properties dialog box for the item.
5. On the General tab, select a dataset from the Dataset name drop-down.
6. Click OK.

Tip: Click View > Properties Window to display the properties of any element or object in a separate window. To view the Properties dialog box, select the Properties Pages icon in the Properties view menu.

To link a data region to a dataset using fields

1. On the main menu, click View > Solution Explorer.
2. In the Solution Explorer window, double-click the N-able report template to open it.
3. On the main menu, View > Fields
4. In the Fields window, select a dataset and drag a field to the data region.

Uploading and Managing Reports in N-compass

After you've created a custom report, you are ready to upload it to N-compass to make it available to your customers. It will be displayed under Custom Reports in the Report Console.

You will be given the options to configure the field type for each report parameter and provide a description of the report during the upload.

1. Sign in to the N-compass Administration Console.
2. Click **Custom Report Management**.
3. Click **Add Custom Report**.

The Upload Custom Report screen appears.

4. Click **Browse** to navigate to the rdl file you want to upload.
5. Select a file and click **Open**.
6. Click **Upload Report**.

The screen with the parameters for the report appears.

On this screen, you can select the field type used to display parameter data during report generation.

Report Parameters			
Parameter Name	Parameter	Parameter DataType	User Prompt
StartDate	Date	DateTime	Start Date:
EndDate	Date	DateTime	End Date:
Subscription	Text Box	String	Subscription
CustomerID	Customer List	String	CustomerID
IsFolder	Boolean Checkbox	Boolean	IsFolder
Folders	Folder List	String	Folders
Devices	Device List	String	Devices
Services	Service List	String	Services

7. Specify a **Report Description**. This description will appear in the Reports Console. Include all the details you would like to give a user about this report.
8. Under the **Parameter** heading, select a Reports Console field type appropriate for each parameter. The parameter will be displayed in this format during report generation.

For example, Customer List will display the customers in a drop-down list.

N-compass 3.1 Uploading and Managing Reports in N-compass

Note: For Subscription, you must select the Text Box field type.

9. Click **Save Report Parameters**.

The custom report is uploaded and the Custom Report Management screen appears. The report can now be generated through the N-compass Reports Console.

To delete a custom report

1. Sign in to the N-compass Administration Console.

2. Click **Custom Report Management**.

The Custom Report Management screen appears.

3. Select the checkbox next to the **Report Name** of the custom report you want to delete.

4. Click **Delete**.

The report is removed from the Reports Console.

Appendix A: Report Properties

Professional reports have a consistent appearance. It makes it easier to view the data and make comparisons. In this section, we have provided the specific parameters that you need to use in order to give the custom reports the same look and feel as the predefined N-compass reports.

The parameters for two sizes of report are provided: 8.5 x 11 and 11 x 8.5. These report sizes use common objects with very similar properties. The differences between the reports are generally in the properties for the horizontal size and location.

- Tip: When creating a new report, define the report properties and then click the background to set the body properties.

General Properties

General Properties

Property	8.5 x 11	11 x 8.5
----------	----------	----------

Grid 0.125in, Snap to grid"

Page Footers Print on first & last page"

Layout Properties

Property	8.5 x 11	11 x 8.5" Values
----------	----------	------------------

Columns: 1

Spacing: 0cm

Page width: 8.5in 11in

Page height: 11in 8.5in

Margins 0.5in, 0.5in, 0.5in, 0.5in

Body Properties

Property	8.5 x 11	11 x 8.5" Values
----------	----------	------------------

Background Color: Transparent

BorderColor: Black, 1pt

BorderStyle: None

Columns: 1

Size: 7.5in, [any length] 10.0in, [any length]

Report Title

Report Title Properties

Property **8.5 x 11 or 11 x 8.5**

Background Color: Transparent
Color: #666666
Font: Normal, Arial, 14pt, Bold
Border: Black, 1pt
BorderStyle: None
Padding: 5pt, 1pt, 1pt, 1pt

 TextAlign: Left
 Location: 0cm, 0cm
 Size: 8.57143cm, 0.75cm

Parameter Display Boxes

The parameter display box consists of two textboxes beside each other.

Textbox 1 Properties

Property **8.5 x 11 / 11 x 8.5**

Background Color: #f6f6f8
BorderColor: #d5d4d9
BorderStyle: Solid
BordeWidth: 1pt
Padding: 2pt, 1pt, 1pt, 1pt
Location: 0cm, <any value>
Size: 2.85714cm, 0.4cm

Textbox 2 Properties

Property **8.5 x 11 or 11 x 8.5**

Background Color: Transparent
Color: #666666
Font: Normal, Arial, 8pt, Bold
Border: Black, 1pt
BorderStyle: None

N-compass 3.1 Appendix A: Report Properties

Padding: 2pt, 1pt, 1pt, 1pt
TextAlign: Left
VerticalAlign: Middle
Location: 2.85714cm, <any value>
Size: 10.79365cm, 0.4cm

Customer Branding

- Note: This feature requires a stored procedure.

Customer Branding Properties

Property	8.5 x 11 Value	11 x 8.5
Border:	Black, 1pt	
BorderStyle:	None	
Padding:	0pt, 0pt, 0pt, 0pt	
Source:	External	
Value:	= First(Fields!ImageLocation.Value, "GetBrandingImage")	
Sizing:	FitProportional	
Location:	15.24cm, 0cm	21.6cm, 0cm
Size:	3.81cm, 0.9525cm	

Subsection Titles

The subsection title box consists of a textbox on top of a rectangle.

Subsection Title: Rectangle Properties

Property	8.5 x 11	11 x 8.5
Background Color:	#f6f6f8	
BorderColor:	#d5d4d9	
BorderStyle:	Solid	
BorderWidth:	1pt	
Location:	Left justified and vertically centered behind textbox.	
Size:	8.57143cm, 0.75cm	25.4cm, 0.625cm

Note:

Textbox

Subsection Title: Textbox Properties

Property	8.5 x 11 Value	11 x 8.5" Value
Background Color:	Transparent	
Color:	#666666	
Font:	Normal, Arial, 8pt, Bold	

N-compass 3.1 Appendix A: Report Properties

Border:	Black, 1pt
BorderStyle:	None
Padding:	5pt, 1pt, 1pt, 1pt
TextAlign:	Left
VerticalAlign	Middle
Size:	8.6cm, 0.75cm 25.4cm, 0.625cm

Tables

Tables consist of a header, body, and footer. Place your column titles in the header bar to have them repeated at the top of each page.

To enable this feature, select the entire table and select Properties > General > Repeat header rows on each page. The same can be done for footers as well.

- Note: Make sure that your table does not extend past the report body width. This will cause problems with your formatting.
- Note: Select the entire table and set these properties separately.

Table Properties

Property	8.5 x 11	11 x 8.5
Background Color:	Transparent"	
Color:	#666666	
Font:	Normal, Arial, 8pt, Normal	
Border:	#d5d4d9, 1pt	
BorderStyle:	None	
Padding:	0pt, 0pt, 0pt, 0pt	
TextAlign:	Left	
Location:	0cm, 0cm	
Size:	7.5in, [any length]	10.0in, [any length]

Table Header Properties

Property	8.5 x 11	11 x 8.5
Background Color:	#666666	"
Color:	White	"
Font:	Normal, Arial, 8pt, Normal	"
Border:	#d5d4d9, 1pt	"

N-compass 3.1 Appendix A: Report Properties

BorderStyle:	Solid	
	"	
Padding:	2pt, 2pt, 2pt, 2pt	
	"	
TextAlign:	Left	
	"	
Location:	0cm, 0cm	
	"	
Height:	0.19688in	
	"	
Size:	7.5in, [any length]	10.0in, [any length]

Table Body Properties

Property	8.5 x 11	11 x 8.5
Background Color:	Transparent	
	"	
Color:	Black	
	"	
Font:	Normal, Arial, 8pt, Normal	
	"	
Border:	#d5d4d9, 1pt	
	"	
BorderStyle:	Solid	
	"	
Padding:	2pt, 2pt, 2pt, 2pt	
	"	
TextAlign:	Left	
	"	
Size:	7.5in, [any length]	10.0in, [any length]

Table Footer Properties

Property	8.5 x 11	11 x 8.5
Background Color:	Transparent	"
Color:	Black	
Font:	Normal, Arial, 8pt, Normal	
Border:	#d5d4d9, 1pt	
BorderStyle:	Solid	
Padding:	2pt, 2pt, 2pt, 2pt	
TextAlign:	Left	
Size:	7.5in, [any length]	10.0in, [any length]

Charts

Pie Chart Properties

Property **8.5 x 11** **11 x 8.5**

Background Color: White

Color: Black

Font: Normal, Arial, 10pt, Normal

Border: #d5d4d9, 1pt

BorderStyle: None

Padding: 0pt, 0pt, 0pt, 0pt

Palette Pastel

Type Pie

Subtype Plain

Layout 0.5in, 0.5in

TextAlign: General

Size: [any size] [any size]

Appendix B: Data Warehouse Schema

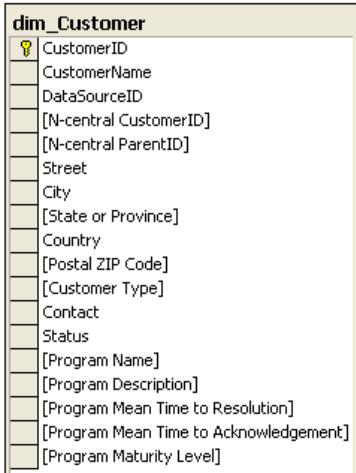
The data warehouse schema consists of dimension and fact tables. A dimension is a structure that categorizes data in order to enable users to answer business questions. Fact tables contain the measurements or metrics or facts of business processes.

We have provided you with the dimension and fact tables for N-compass to use in the creation of custom reports.

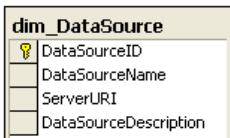
Dimension Fact Tables

Fact Table	Granularity	Description
dim_Customer	one row per customer	list of customers
dim_Datasource	one row per datasource	list of datasources
dim_Date	one row per date	simple representation of dates
dim_Device	one row per device	list of devices
dim_Folder	one row per folder	list of folders
dim_Service	one row per service/service item	list of services
dim_Status	one row per status	list of statuses
dim_Time	one row per minute	simple representation of times
dim_Utilization Type	one row per utilization type	used to join utilization tables
dim_VoIP Resources	one row per VoIP resource type	used to join VoIP tables
dim_Interface	one row per interface	list of traffic interfaces

dim_Customer



dim_DataSource



dim_Date

dim_Date	
Y	DateID
	[Date]
	[Full Date Description]
	[Day of Week]
	[Calendar Month]
	[Calendar Year]
	[Calendar Quarter]
	[Day Number in Calendar]
	[Day Number in Calendar]
	[Weekend Indicator]
	[Week Number in Year]

dim_Device

dim_Device	
Y	DeviceID
	DataSourceID
	[N-central DeviceID]
	[N-central CustomerID]
	DeviceName
	DeviceDescription
	[Appliance Type]
	URI
	[Operating System]
	CreatedOn
	[Device Class]
	[IsSystem Device Indicator]
	[IsProbe Device Indicator]
	[SNMP-Enabled Indicator]
	[Veritas-Enabled Indicator]
	[EDF-Enabled Indicator]
	[Autodiscovered Indicator]
	[Warranty Expiry Date]
	[Lease Expiry Date]
	[Expected Replacement Date]
	Status
	[Is Managed Device Indicator]
	DeletedOn
	CustomerID
	DeviceClassID
	OperatingSystemID
	[Is Ignored Device Indicator]
	Cost
	[Asset Tag]
	Location
	[Purchase Date]

dim_Folder

dim_Folder	
FolderID	[Folder Name]
	[N-able FolderID]
	[N-able Parent FolderID]
	[N-able UserID]
	[N-able CustomerID]
	DataSourceID
	[Is Public Folder]
	[Is System Folder]
	Deleted

dim_Service

dim_Service	
ServiceID	DataSourceID
	[N-central ServiceID]
	[N-central ServiceItemID]
	ServiceName
	ServiceDescription
	[Maximum Number Of Instances]
	[Time to Stale]
	[Minimum Poll Rate]
	[Maximum Poll Rate]
	[Is Service Group]
	[Is Availability Service]
	[Service Group SLA]

dim_Status

dim_Status	
StatusID	[Status Name]
	[Status Description]

dim_Time

dim_Time	
TimeID	[Time]
	[Hour]
	[Minute]
	[AM/PM Indicator]
	[9 to 5 Indicator]
	[Hourly Quarter]

dim_Utilization Type

dim_Utilization Type	
UtilizationTypeID	Name

dim_VoIP Resources

dim_VoIP Resources	
ResourceID	[Resource ID]
	[Resource Name]
	[Resource Description]

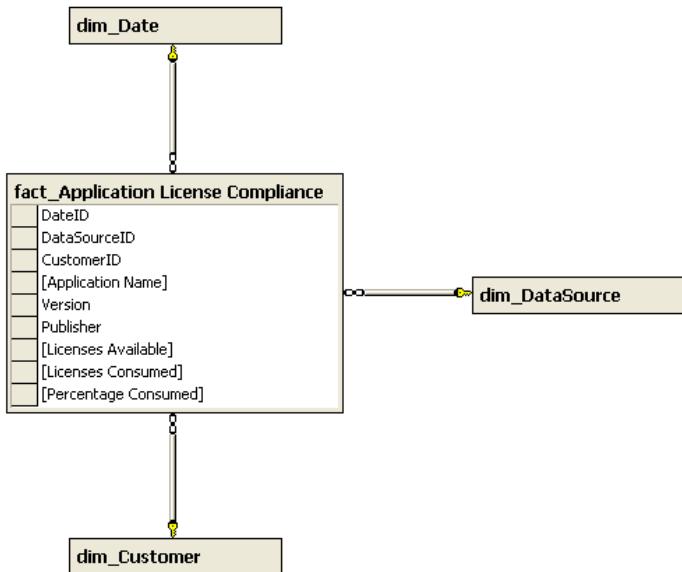
Fact Tables

Fact Table	Granularity	Description
fact_Application License Compliance	1 row per hour, span each scan hourly	Details which applications are not in compliance.
fact_Availability	1 row per state transition per task	Details the availability of a device for all of the availability services or service groupings.
fact_BackupServices	1 row per scan	Details about all monitored Backup Exec services. Includes backup, config, and restore options.
fact_Bandwidth	1 row per hour, span each scan hourly	Details about traffic services on ethernet devices, such as switches or routers.
fact_Device License Compliance	1 row per hour, span each scan hourly	Details which devices have applications that are not in compliance.
fact_Device License Compliance Details	1 row for each application out of compliance on a device	Contains the details of the application causing the devices to be out of compliance.
fact_Device Management History	1 row per device discovered	Lists the start and, if applicable, end date of management of a device.
fact_Device Service Parameters	1 row per task parameter	Describes the parameters for tasks.
fact_Incident	1 row for each incident (device/service)	Details notifications sent per incident from the central server.
fact_Notification	1 row per notification detected by the central server	All notifications sent by the central server.
fact_Remote Control Usage	1 row per remote control attempt	Describes the details of a remote control connection.
fact_SEM_Patch Level Count	1 row per scan	Counts the total number of missing patches per scan.
fact_Utilization	1 row per hour, span each scan hourly	Shows utilization of CPU, disk, physical memory, and virtual memory on devices.
fact_EventLog	1 row per unique event per hour	Detected events for all monitored devices.
fact_SEM Anti-virus Activity	1 row per status for each scan hour	Status of all anti-virus activity services for all monitored devices.
fact_SEM Anti-virus Definition	1 row per status for each scan hour	Status of the anti-virus definition services, for all monitored devices.
fact_SEM Firewall Incidents	1 row per status for each scan hour	All firewall incidents detected for all monitored devices.
fact_SEM Patch Level	1 row per status for each scan hour	Patch level status for all monitored devices.
fact_SEM Patch Level Daily Status	1 row per task per day	Final daily patch level status.
fact_VoIP Call Activity	1 row per hour, span each scan hourly	Call activity statistics for all monitored CCM devices.

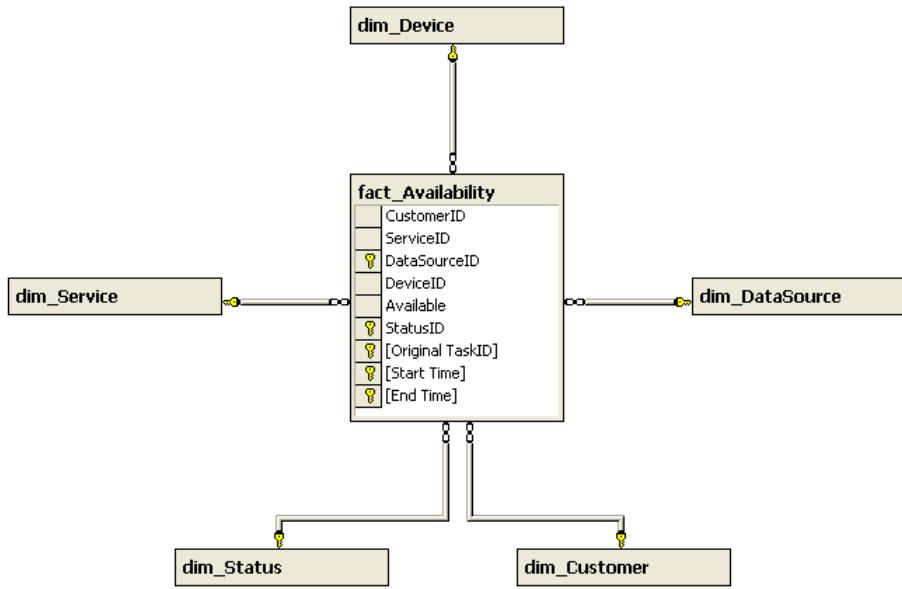
N-compass 3.1 Appendix B: Data Warehouse Schema

fact_VoIP Device Registration	1 row per hour, span each scan hourly	Device registrations for all CCM devices.
fact_VoIP Incidents	1 row per hour, span each scan hourly	All incidents detected for all monitored CCM devices.
fact_VoIP Information	1 row per hour, span each scan hourly	VoIP device information for all CCM devices.
fact_VoIP Resource Utilization	1 row per hour, span each scan hourly	VoIP resource utilization for all monitored CCM devices.
fact_CIM_NetworkAdapter	1 row per network adapter	Detected network adapters for all discovered devices.
fact_Cost of Downtime	1 row per day	Tracks the assigned cost of downtime for all service groupings over time.
fact_Device Folder	1 row per device/folder combination	Tracks which devices associated to which folder over time.
fact_Device Services	1 row per device/service combination	Tracks which service is being monitored on devices over time.

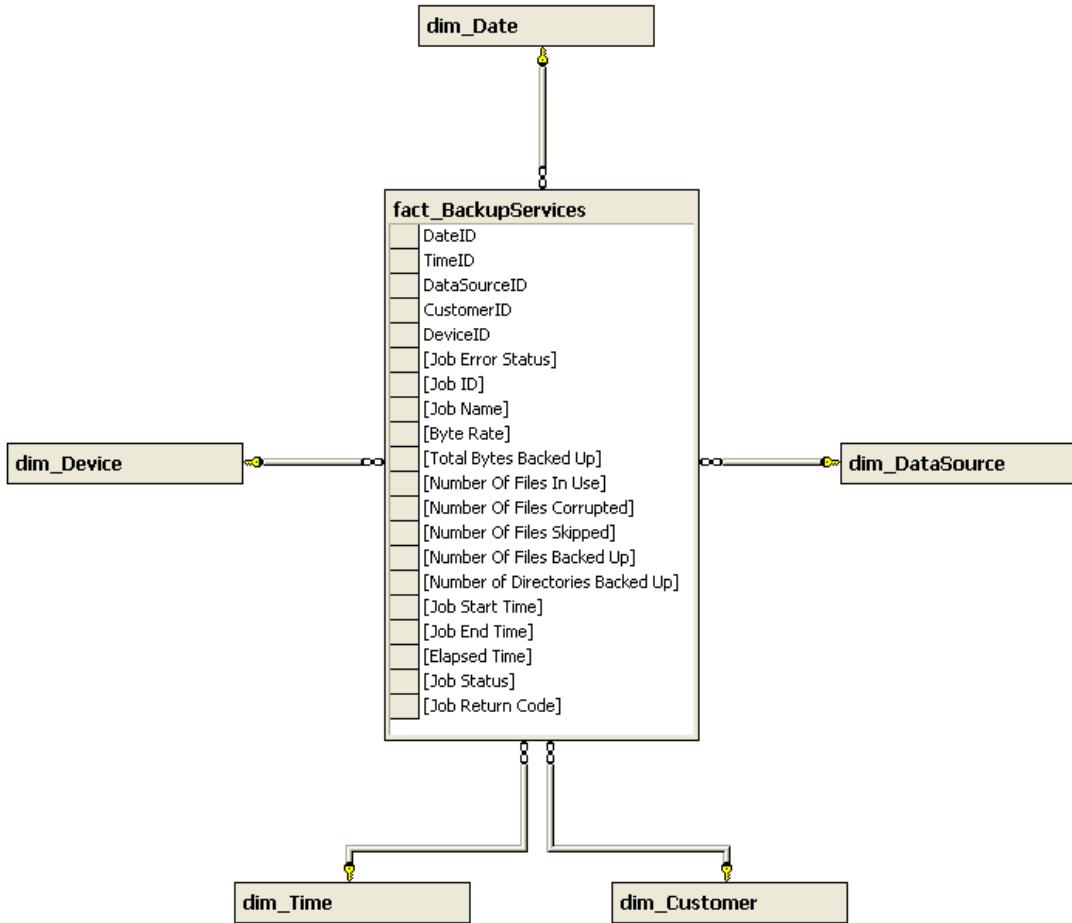
fact_Application License Compliance



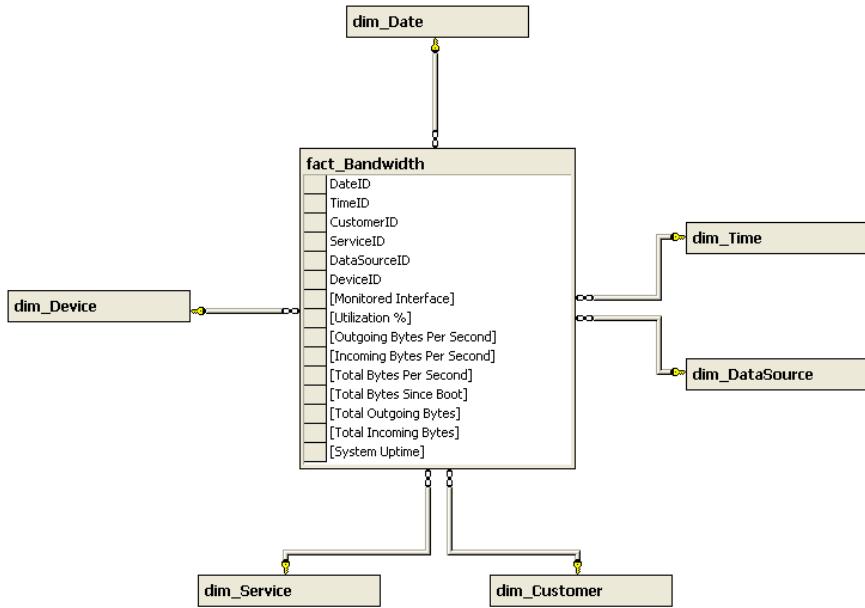
fact_Availability



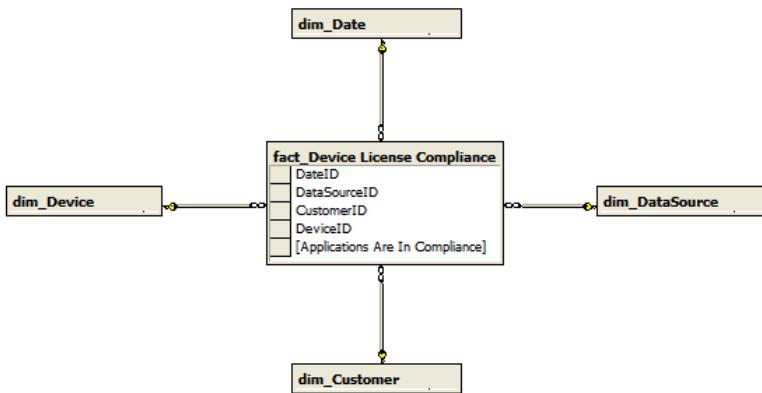
fact_BackupServices



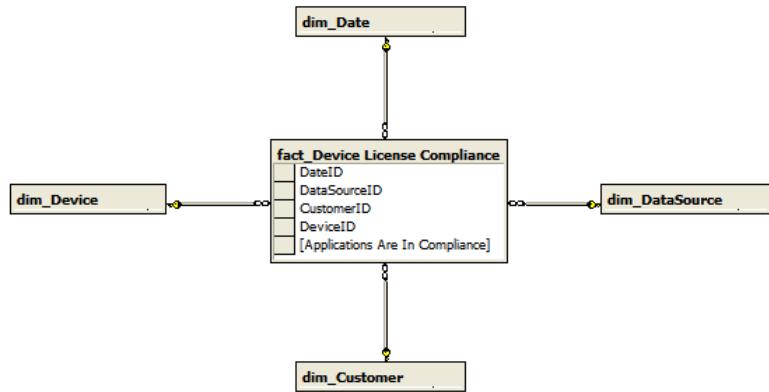
fact_Bandwidth



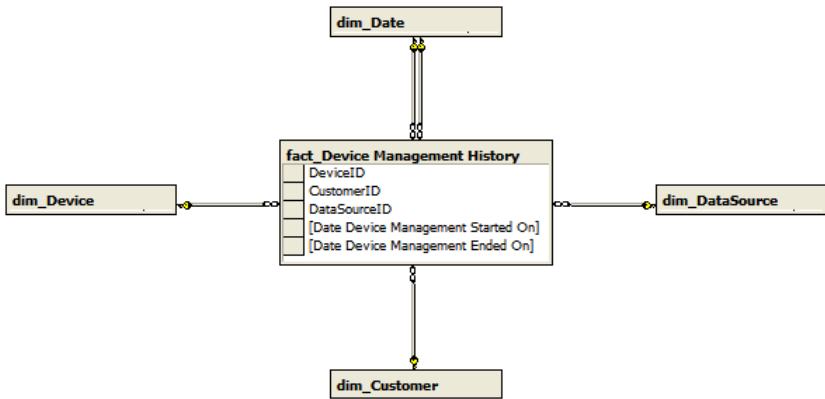
fact_Device License Compliance



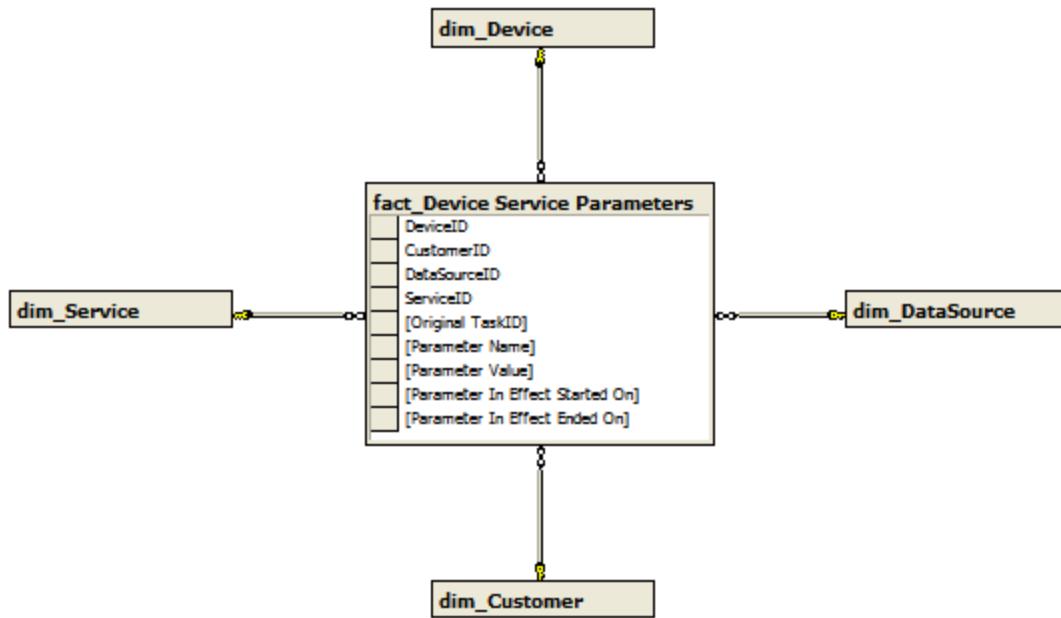
fact_Device License Compliance Details



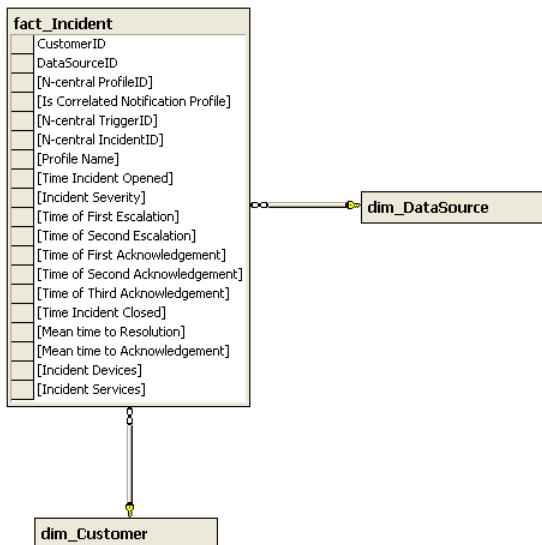
fact_Device Management History



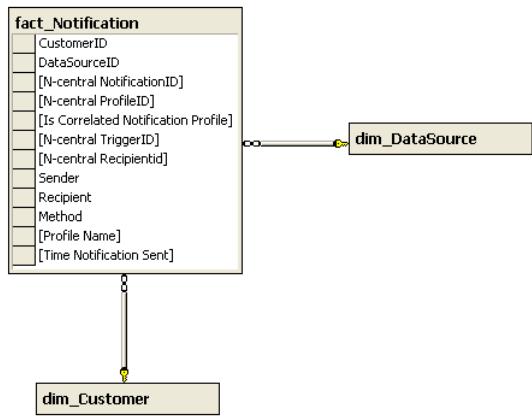
fact_Device Service Parameters



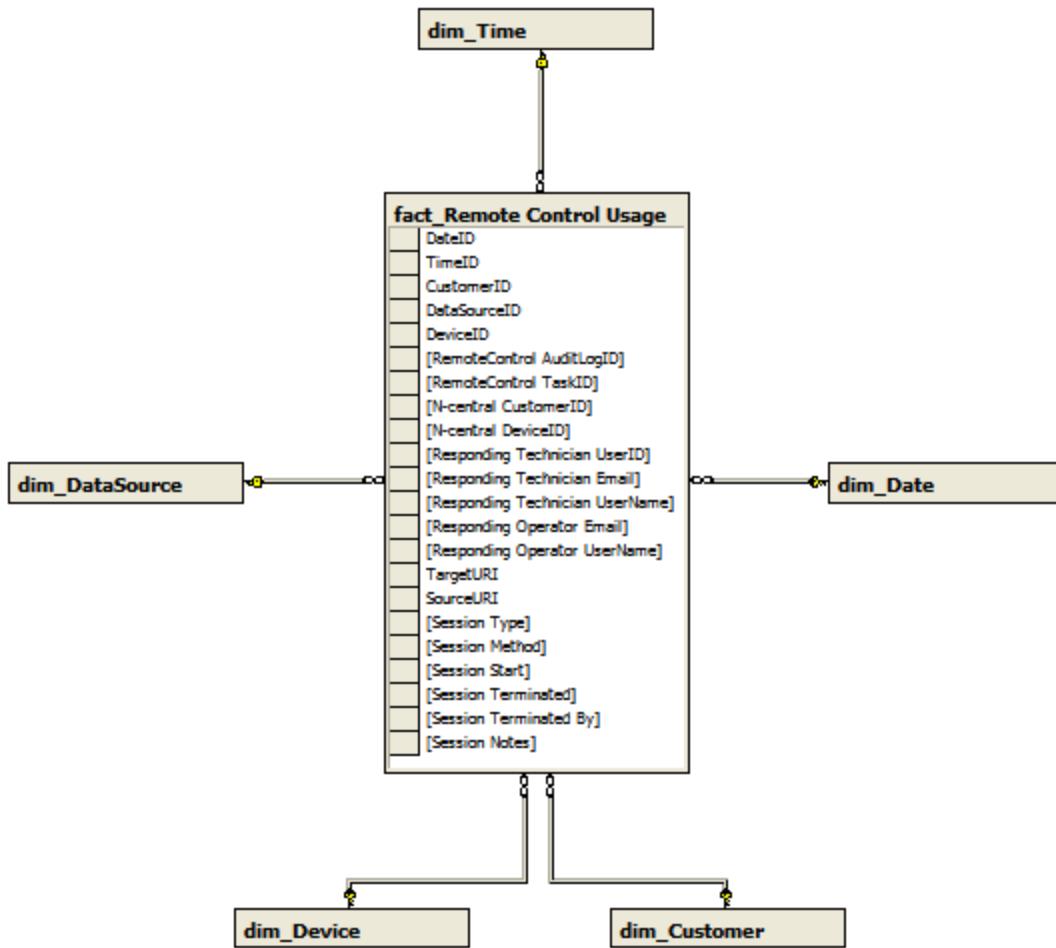
fact_Incident



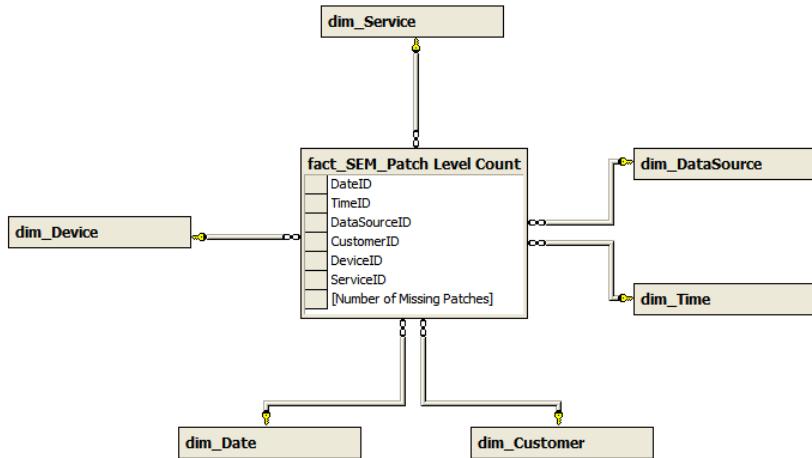
fact_Notification



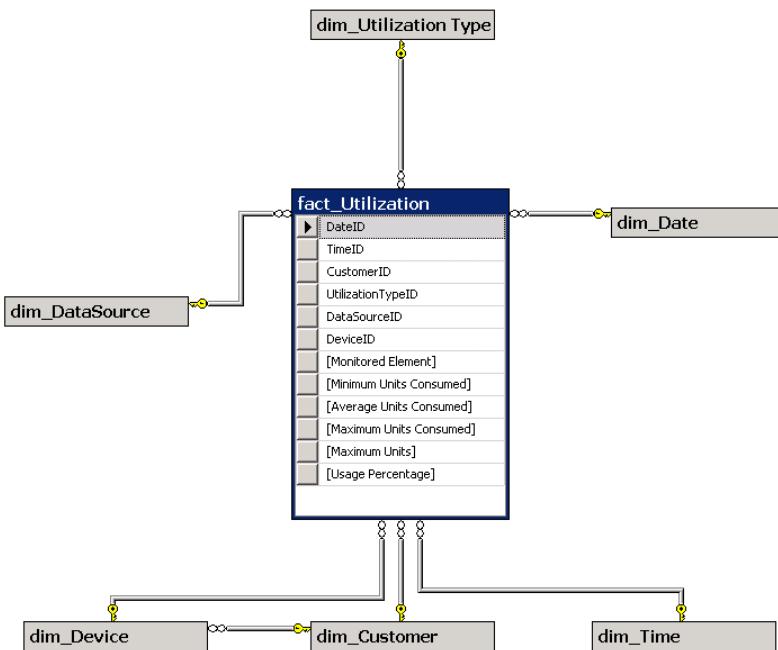
fact_Remote Control Usage



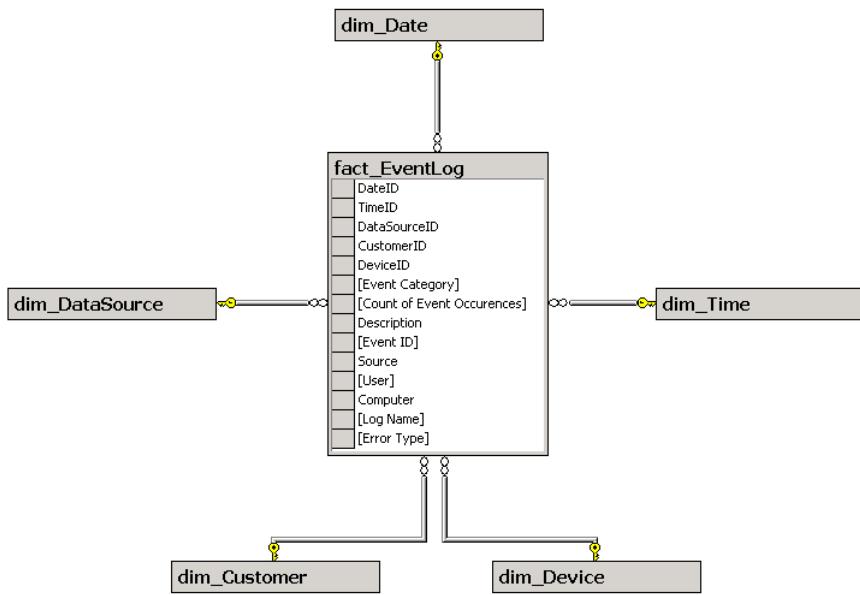
fact_SEM_Patch Level Count



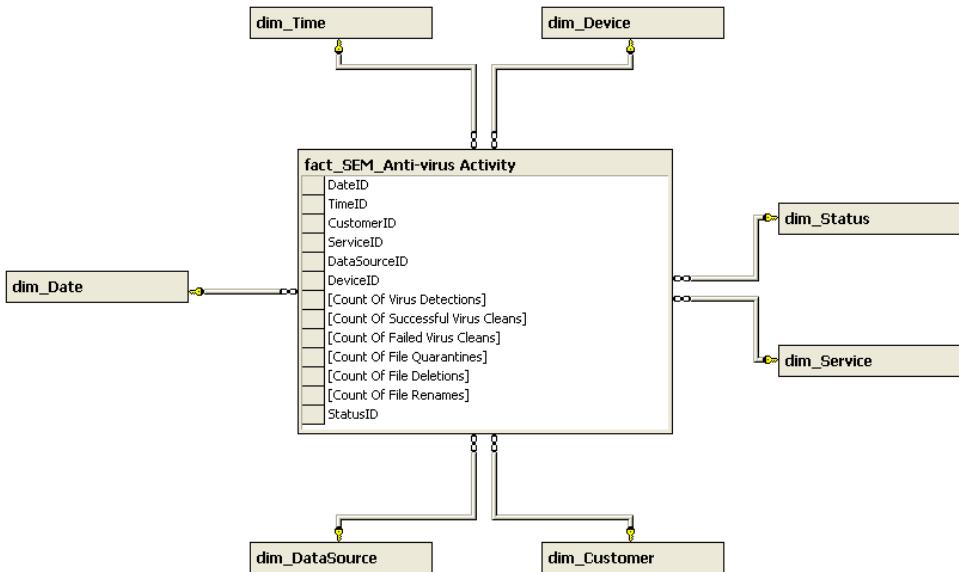
fact_Utilization



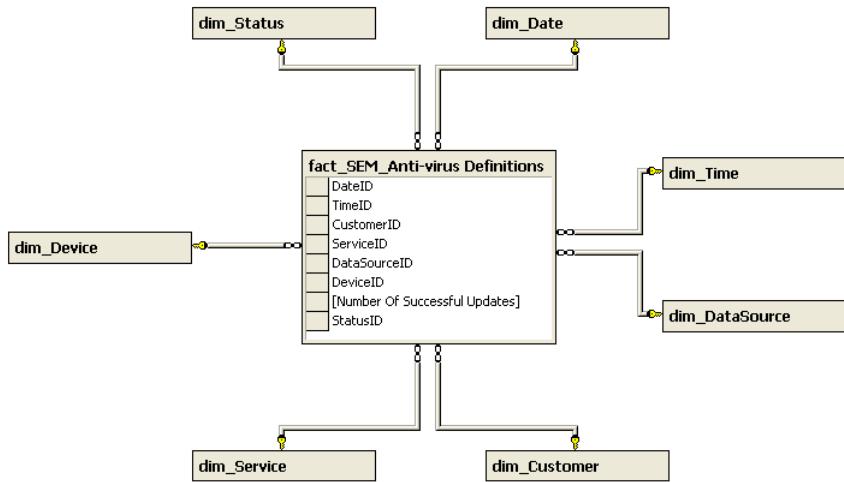
fact_EventLog



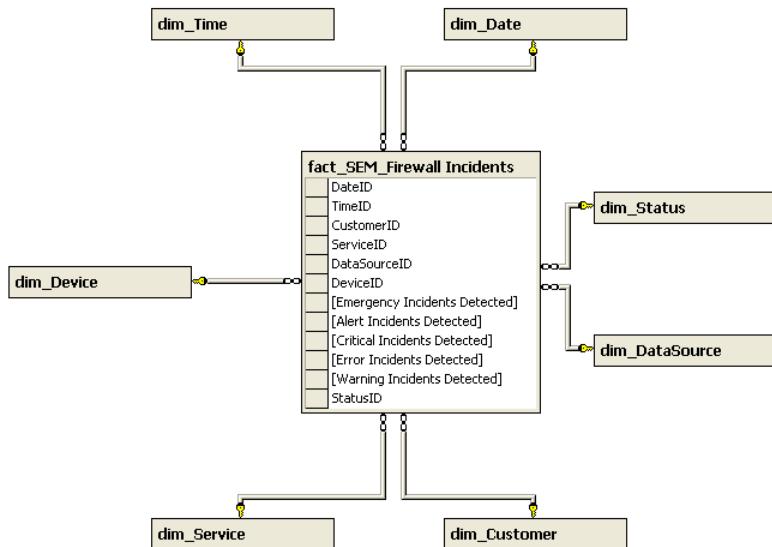
fact_SEM Anti-virus Activity



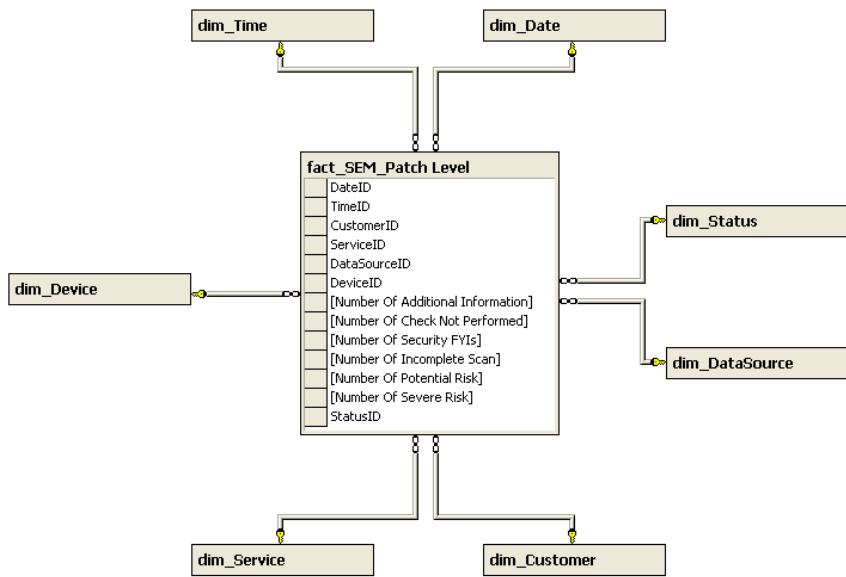
fact_SEM Anti-virus Definition



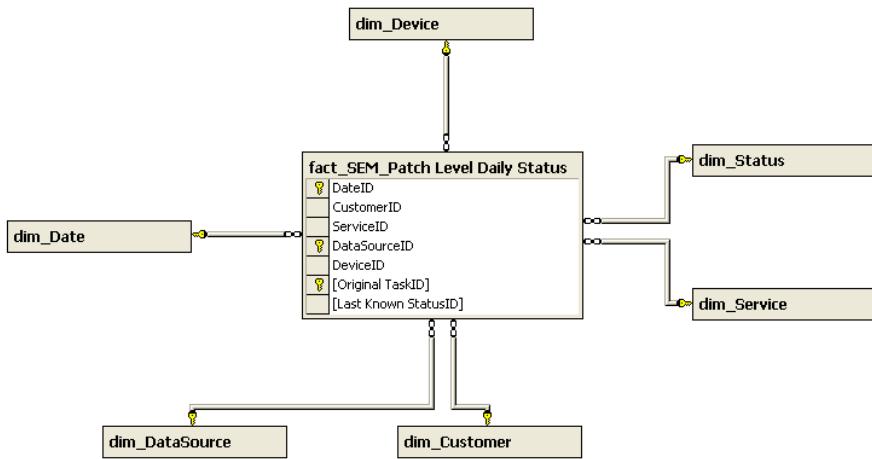
fact_SEM_Firewall Incidents



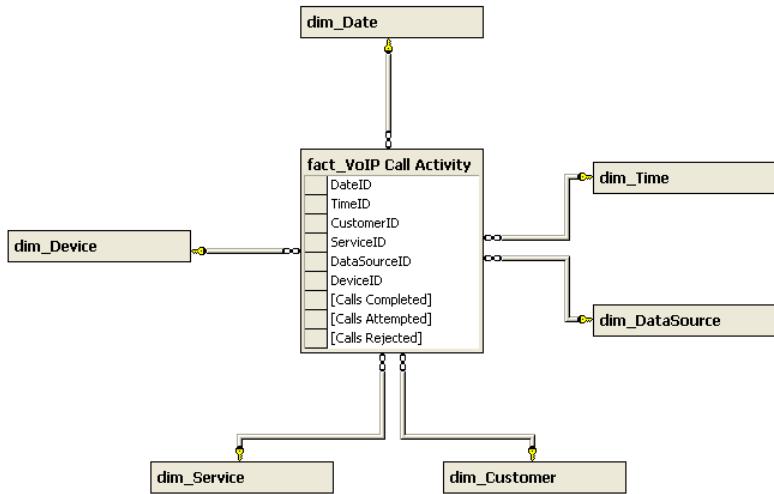
fact_SEM_Patch Level



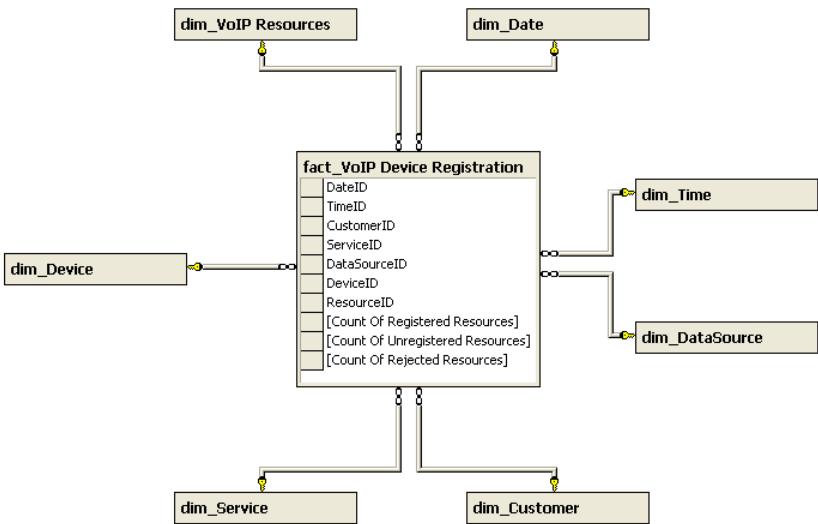
fact_SEM_Patch Level Daily Status



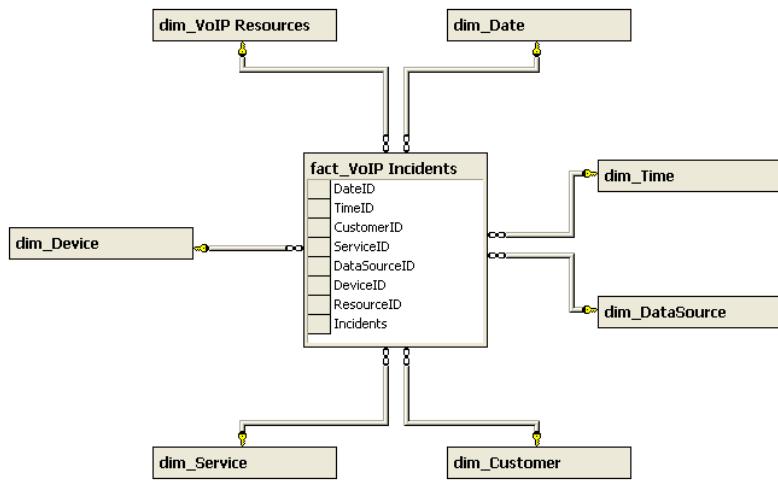
fact_VoIP Call Activity



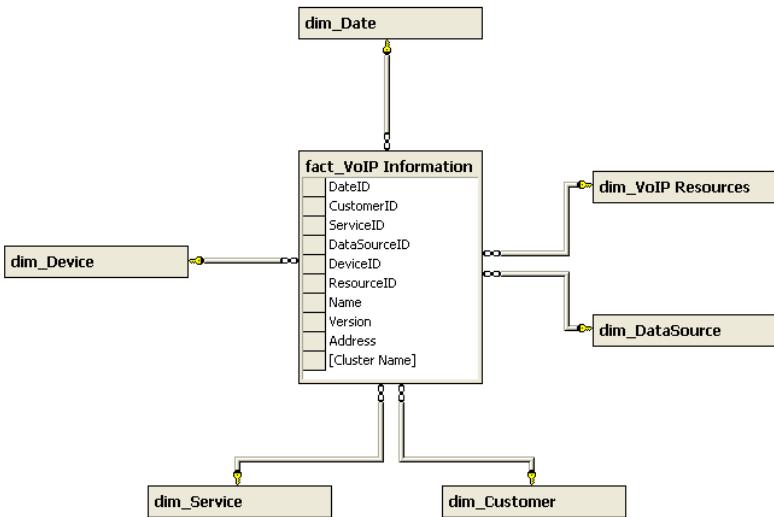
fact_VoIP Device Registration



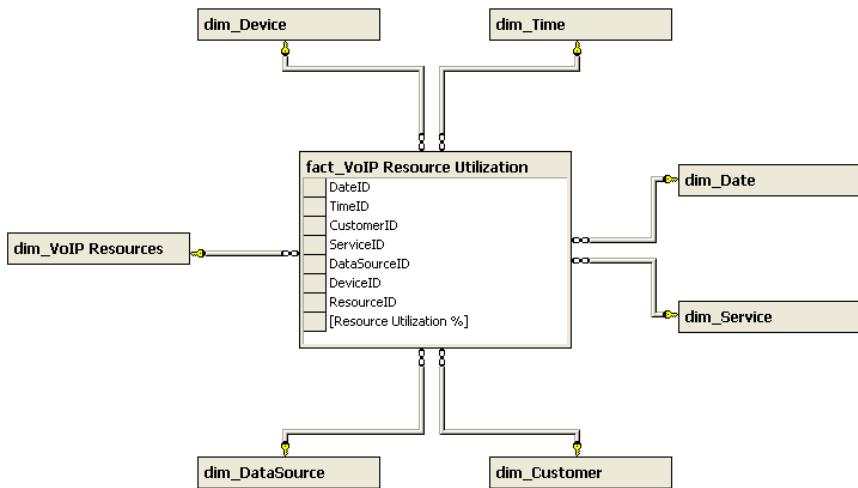
fact_VoIP Incidents



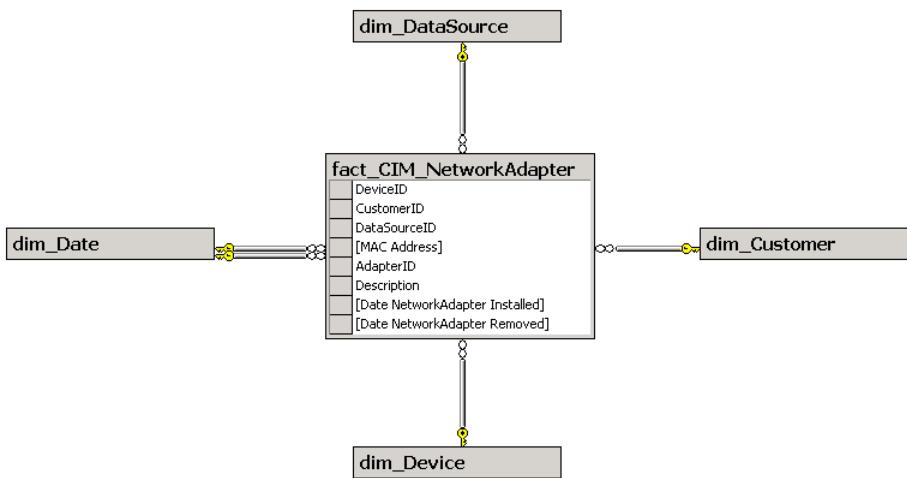
fact_VoIP Information



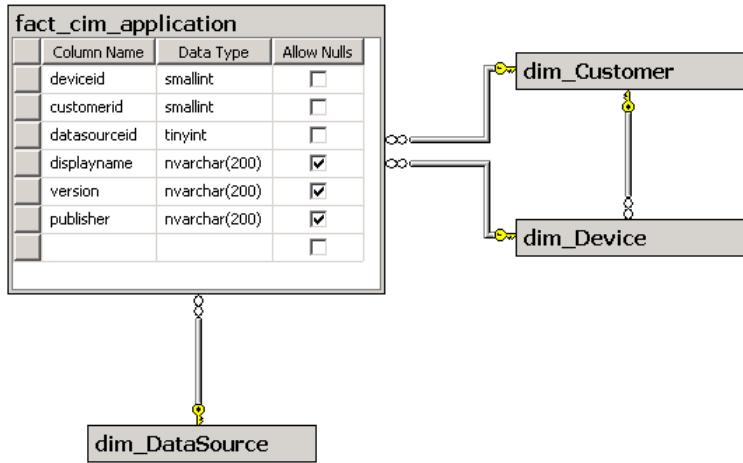
fact_VoIP Resource Utilization



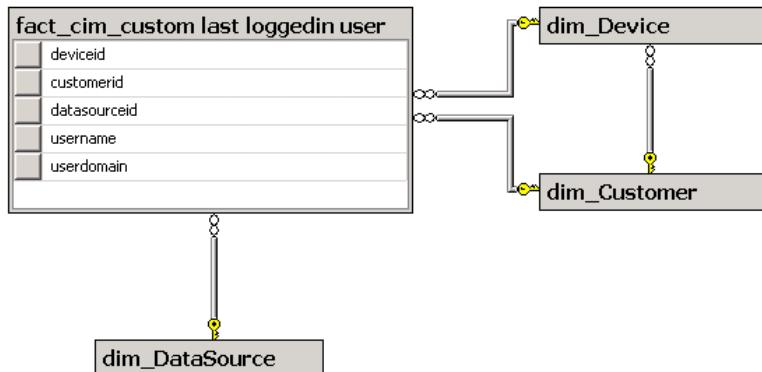
fact_CIM_NetworkAdapter



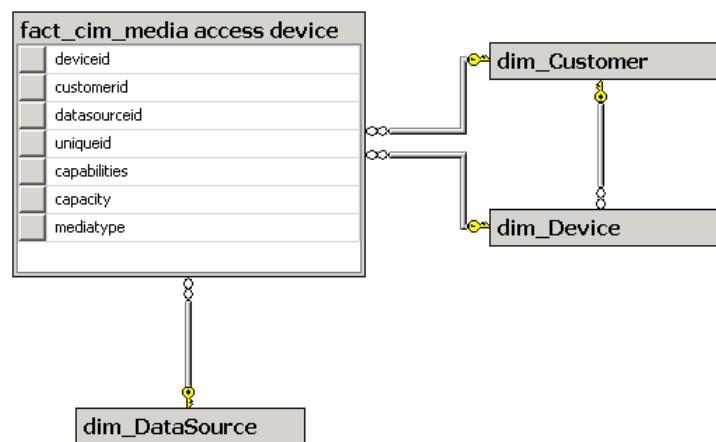
fact_cim_application



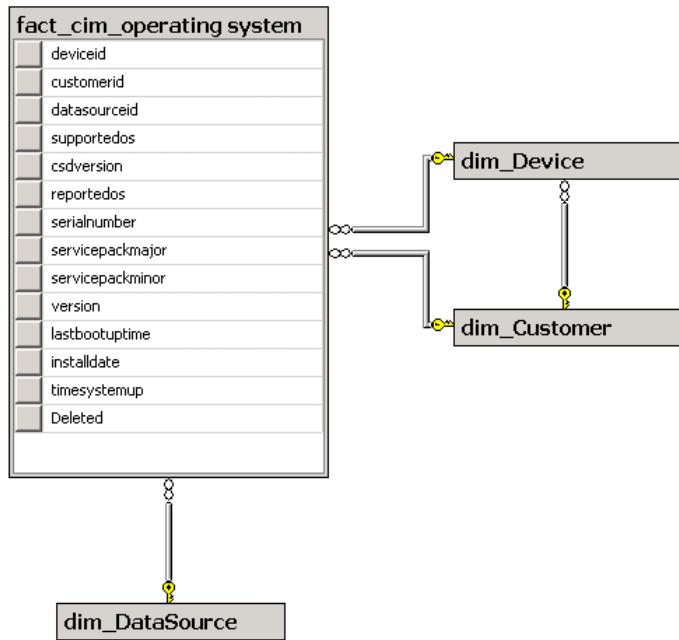
fact_cim_custom_last_loggedin user



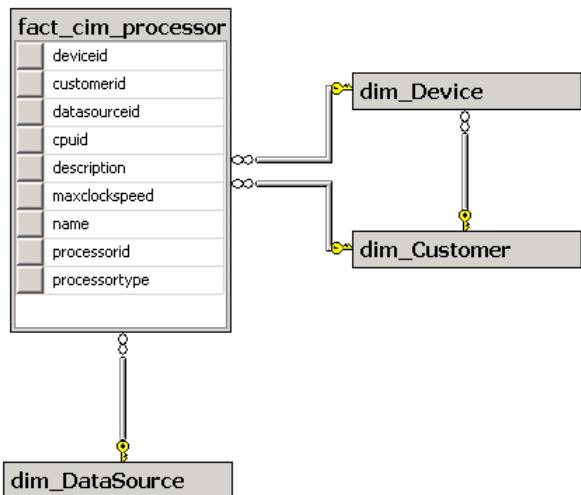
fact_cim_media access device



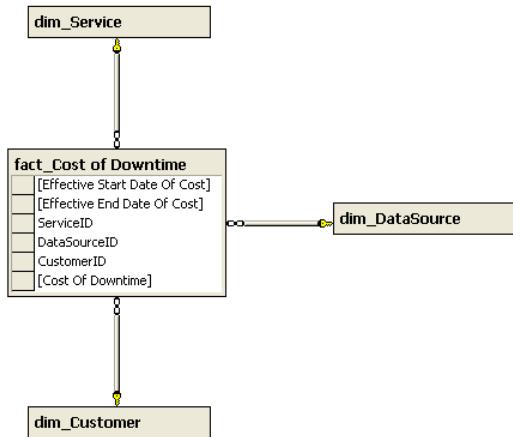
fact_cim_operating system



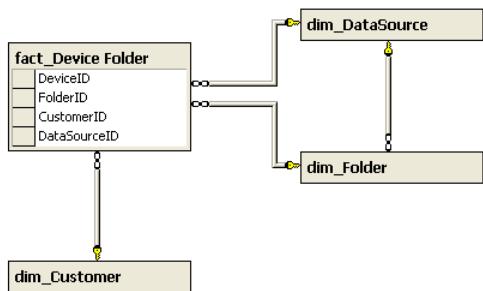
fact_cim_processor



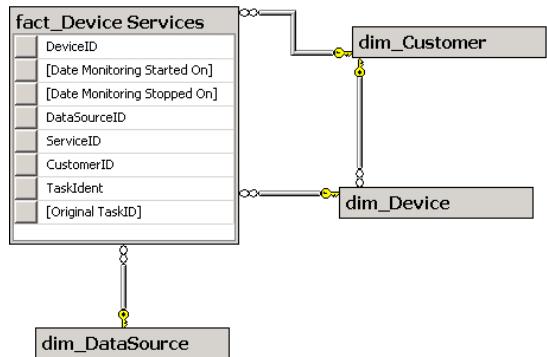
fact_Cost of Downtime



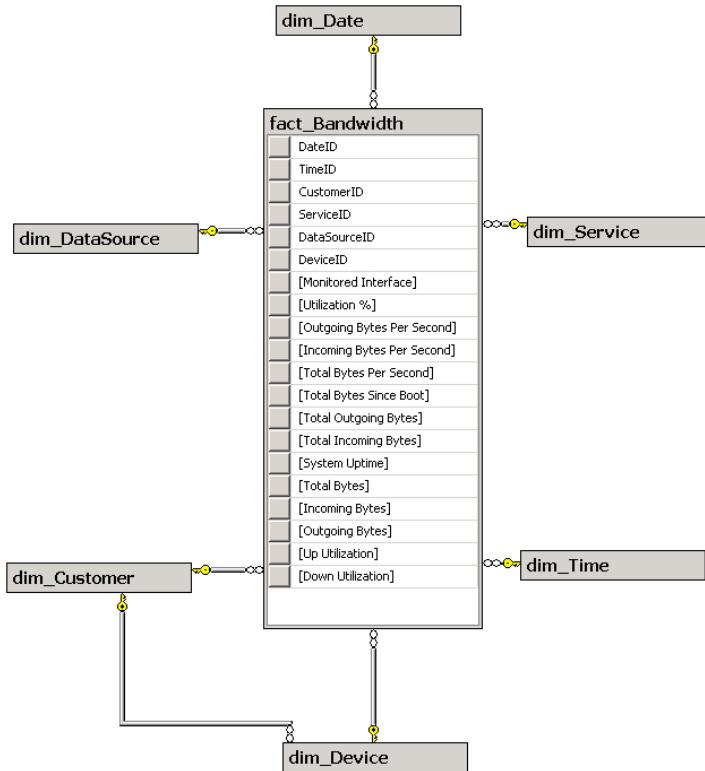
fact_Device Folder



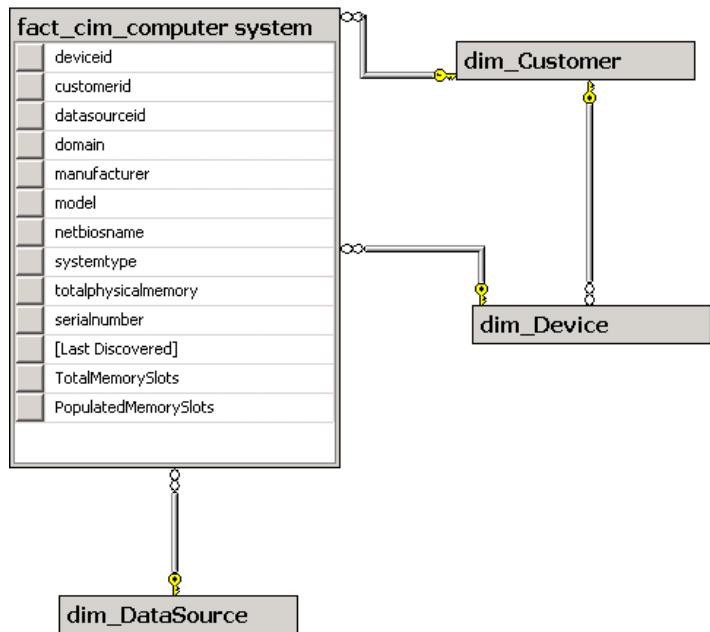
fact_Device Services



fact_Bandwidth



fact_CIM_Computer System



Appendix C: Data Warehouse Tables

dim_Customer

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
CustomerID	smallint	
CustomerName	nvarchar	260
DataSourceID	tinyint	
N-central CustomerID	int	
N-central ParentID	int	
Street	nvarchar	100
City	nvarchar	100
State or Province	nvarchar	50
Country	nvarchar	50
Postal ZIP Code	nvarchar	100
Customer Type	nvarchar	40
Contact	nvarchar	100
Status	nvarchar	20
Program Name	nvarchar	250
Program Description	nvarchar	1000
Program Mean Time to Resolution	float	
Program Mean Time to Acknowledgement	float	
Program Maturity Level	nvarchar	50
ParentID	smallint	
ParentName	nvarchar	260

dim_DataSource

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DataSourceID	tinyint	
DataSourceName	nvarchar	100
ServerURI	nvarchar	100
DataSourceDescription	nvarchar	250

dim_Date

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
Date	datetime	
Full Date Description	nvarchar	50
Day of Week	nvarchar	20
Calendar Month	nvarchar	20
Calendar Year	smallint	
Calendar Quarter	tinyint	
Day Number in Calendar Month	smallint	
Day Number in Calendar Year	smallint	
Weekend Indicator	nvarchar	20
Week Number in Year	tinyint	
Month Number in Year	tinyint	

dim_Device

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
DataSourceID	tinyint	
N-central DeviceID	int	
N-central CustomerID	int	
DeviceName	nvarchar	100
DeviceDescription	nvarchar	250
Appliance Type	nvarchar	250
URI	nvarchar	200
Operating System	nvarchar	100
CreatedOn	datetime	
Device Class	nvarchar	50
IsSystem Device Indicator	nvarchar	20
IsProbe Device Indicator	nvarchar	20
SNMP-Enabled Indicator	nvarchar	20

N-compass 3.1 Appendix C: Data Warehouse Tables

Veritas-Enabled Indicator	nvarchar	20
EDF-Enabled Indicator	nvarchar	20
Autodiscovered Indicator	nvarchar	20
Warranty Expiry Date	datetime	
Lease Expiry Date	datetime	
Expected Replacement Date	datetime	
Status	nvarchar	20
Is Managed Device Indicator	nvarchar	20
DeletedOn	datetime	
CustomerID	smallint	
DeviceClassID	smallint	
OperatingSystemID	smallint	
Is Ignored Device Indicator	nvarchar	30
Cost	float	
Asset Tag	nvarchar	200
Location	nvarchar	200
Purchase Date	datetime	

dim_Folder

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
FolderID	int	
Folder Name	nvarchar	250
N-able FolderID	int	
N-able Parent FolderID	int	
N-able UserID	int	
N-able CustomerID	int	
DataSourceID	tinyint	
Is Public Folder	bit	
Is System Folder	bit	
Deleted	bit	
CustomerID	smallint	

dim_Interface

N-compass 3.1 Appendix C: Data Warehouse Tables

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
InterfaceID	int	
DataSourceID	tinyint	
DeviceID	int	
N-central DeviceID	int	
Monitored Interface	nvarchar	4000

dim_Service

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
ServiceID	int	
DataSourceID	tinyint	
N-central ServiceID	int	
N-central ServiceItemID	int	
ServiceName	nvarchar	100
ServiceDescription	nvarchar	2000
Maximum Number Of Instances	int	
Time to Stale	nvarchar	50
Minimum Poll Rate	int	
Maximum Poll Rate	int	
Is Service Group	nvarchar	50
Is Availability Service	nvarchar	50
Service Group SLA	float	
Incident Based	nvarchar	20
StatusID	tinyint	
Status Name	nvarchar	20
Status Description	nvarchar	50

dim_Time

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
TimeID	smallint	
Time	nvarchar	12
Hour	tinyint	
Minute	tinyint	

N-compass 3.1 Appendix C: Data Warehouse Tables

AM/PM Indicator	char	2
9 to 5 Indicator	nvarchar	10
Hourly Quarter	nvarchar	5

dim_Utilization Type

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
UtilizationTypeID	tinyint	
Name	nvarchar	50

dim_VoIP Resources

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
ResourceID	tinyint	
Resource Name	nvarchar	100
Resource Description	nvarchar	300

fact_Application License Compliance

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
DataSourceID	tinyint	
CustomerID	smallint	
Application Name	nvarchar	500
Version	nvarchar	50
Publisher	nvarchar	100
Licenses Available	real	
Licenses Consumed	real	
Percentage Consumed	float	

fact_Availability

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
CustomerID	smallint	
ServiceID	int	

N-compass 3.1 Appendix C: Data Warehouse Tables

DataSourceID	tinyint
DeviceID	int
Available	tinyint
StatusID	tinyint
Original TaskID	int
Start Time	datetime
End Time	datetime

fact_BackupServices

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
DataSourceID	tinyint	
CustomerID	smallint	
DeviceID	int	
Job Error Status	varchar	400
Job ID	nvarchar	250
Job name	nvarchar	250
Byte rate	bigint	
Total bytes Processed	bigint	
Number of files in use	int	
Number of files corrupted	int	
Number of files skipped	int	
Number of files Processed	int	
Number of directories Processed	int	
Job StartTime	datetime	
Job EndTime	datetime	
ElapsedTime	datetime	
Job Status	int	
Job Return Code	int	
Job Type	nvarchar	20

fact_Bandwidth

N-compass 3.1 Appendix C: Data Warehouse Tables

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
Monitored Interface	nvarchar	250
Utilization %	real	
Outgoing Bytes Per Second	float	
Incoming Bytes Per Second	float	
Total Bytes Per Second	float	
Total Bytes Since Boot	float	
Total Outgoing Bytes	float	
Total Incoming Bytes	float	
System Uptime	float	
Total Bytes	float	
Incoming Bytes	float	
Outgoing Bytes	float	
Up Utilization	float	
Down Utilization	float	

fact_cim_application

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
displayname	nvarchar	200
version	nvarchar	200
publisher	nvarchar	200

fact_cim_computer system

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
-------------	-----------	------------

N-compass 3.1 Appendix C: Data Warehouse Tables

deviceid	int	
customerid	smallint	
datasourceid	tinyint	
domain	nvarchar	200
manufacturer	nvarchar	200
model	nvarchar	200
netbiosname	nvarchar	200
systemtype	nvarchar	200
totalphysicalmemory	bigint	
serialnumber	nvarchar	200
Last Discovered	datetime	
TotalMemorySlots	int	
PopulatedMemorySlots	int	

fact_cim_custom last loggedin user

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
username	nvarchar	200
userdomain	nvarchar	200

fact_cim_Folder For Share

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
sharename	nvarchar	200
path	nvarchar	200

fact_cim_Logical Device

COLUMN_NAME	DATA_TYPE	MAX_LENGTH

N-compass 3.1 Appendix C: Data Warehouse Tables

deviceid	int
customerid	smallint
datasourceid	tinyint
volumename	nvarchar 200
providername	nvarchar 200
maxcapacity	nvarchar 200

fact_cim_Mapped Drive

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
drivename	nvarchar 200	
remotepath	nvarchar 200	

fact_cim_media access device

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
uniqueid	nvarchar 200	
capabilities	nvarchar 100	
capacity	bigint	
mediatype	nvarchar 200	

fact_cim_Network Adapter Configuration

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
macaddress	nvarchar 200	
description	nvarchar 200	

N-compass 3.1 Appendix C: Data Warehouse Tables

ipaddress	nvarchar	200
hostname	nvarchar	200

fact_CIM_NetworkAdapter

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
CustomerID	smallint	
DataSourceID	tinyint	
MAC Address	nvarchar	100
AdapterID	int	
Description	nvarchar	500
Date NetworkAdapter Installed	int	
Date NetworkAdapter Removed	int	

fact_cim_operating system

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
supportedos	nvarchar	200
csdversion	nvarchar	100
reportedos	nvarchar	200
serialnumber	nvarchar	200
servicepackmajor	nvarchar	50
servicepackminor	nvarchar	50
version	nvarchar	500
lastbootuptime	datetime	
installdate	datetime	
timesystemup	int	

fact_cim_Page File

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
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N-compass 3.1 Appendix C: Data Warehouse Tables

deviceid	int	
customerid	smallint	
datasourceid	tinyint	
filename	nvarchar	200
filesize	nvarchar	200

fact_cim_Patch

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
description	nvarchar	4000

fact_cim_processor

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
cpuid	nvarchar	100
description	nvarchar	200
maxclockspeed	nvarchar	50
name	nvarchar	200
processorid	nvarchar	100
processortype	int	

fact_cim_Service

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
serviceid	int	
servicename	nvarchar	200

N-compass 3.1 Appendix C: Data Warehouse Tables

executablename	nvarchar	200
startuptype	nvarchar	200

fact_cim_Video Controller

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
deviceid	int	
customerid	smallint	
datasourceid	tinyint	
videocontrollerid	nvarchar	200
adapterramp	bigint	
name	nvarchar	200
description	nvarchar	2000

fact_Cost of Downtime

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
Effective Start Date Of Cost	datetime	
Effective End Date Of Cost	datetime	
ServiceID	int	
DataSourceID	tinyint	
CustomerID	smallint	
Cost Of Downtime	float	

fact_Device Folder

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
FolderID	int	
CustomerID	smallint	
DataSourceID	tinyint	

fact_Device License Compliance

COLUMN_NAME	DATA_TYPE	MAX_LENGTH

N-compass 3.1 Appendix C: Data Warehouse Tables

DateID	int
DataSourceID	tinyint
CustomerID	smallint
DeviceID	int
Applications Are In Compliance	bit
TimeID	smallint

fact_Device License Compliance Details

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
CustomerID	smallint	
DataSourceID	tinyint	
Application Name	nvarchar	500
Date Not In Compliance	datetime	
Date In Compliance	datetime	

fact_Device Management History

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
CustomerID	smallint	
DataSourceID	tinyint	
Date Device Management Started On	int	
Date Device Management Ended On	int	

fact_Device Note

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
CustomerID	smallint	
devicenoteid	int	
N-central Device ID	int	
DataSourceID	tinyint	
e-mail	nvarchar	300

N-compass 3.1 Appendix C: Data Warehouse Tables

insertiontime	datetime	
note	varchar	8000
Status	nvarchar	20

fact_Device Property

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
CustomerID	smallint	
DataSourceID	tinyint	
label	varchar	300
value	varchar	8000
devicepropertyid	int	
N-central DeviceID	int	
Status	nvarchar	20

fact_Device Service Parameters

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
CustomerID	smallint	
DataSourceID	tinyint	
ServiceID	int	
Original TaskID	int	
Parameter Name	varchar	500
Parameter Value	varchar	8000
Parameter In Effect Started On	datetime	
Parameter In Effect Ended On	datetime	

fact_Device Services

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DeviceID	int	
Date Monitoring Started On	datetime	
Date Monitoring Stopped On	datetime	

N-compass 3.1 Appendix C: Data Warehouse Tables

DataSourceID	tinyint
ServiceID	int
CustomerID	smallint
TaskIdent	nvarchar 500
Original TaskID	int

fact_EventLog

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
DataSourceID	tinyint	
CustomerID	smallint	
DeviceID	int	
Event Category	nvarchar 50	
Count of Event Occurrences	int	
Description	nvarchar 1000	
Event ID	int	
Source	nvarchar 100	
User	nvarchar 100	
Computer	nvarchar 50	
Log Name	nvarchar 50	
Error Type	nvarchar 50	

Fact_EventLog_Categories

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DatasourceID	int	
CustomerID	smallint	
DeviceID	int	
Event Category	nvarchar 50	

fact_Incident

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
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N-compass 3.1 Appendix C: Data Warehouse Tables

CustomerID	smallint	
DataSourceID	tinyint	
N-central ProfileID	int	
Is Correlated Notification Profile	bit	
N-central TriggerID	int	
N-central IncidentID	int	
Profile Name	nvarchar	250
Time Incident Opened	datetime	
Incident Severity	nvarchar	15
Time of First Escalation	datetime	
Time of Second Escalation	datetime	
Time of First Acknowledgement	datetime	
Time of Second Acknowledgement	datetime	
Time of Third Acknowledgement	datetime	
Time Incident Closed	datetime	
Mean time to Resolution	datetime	
Mean time to Acknowledgement	datetime	
Incident Devices	nvarchar	155
Incident Services	nvarchar	155

fact_Notification

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
CustomerID	smallint	
DataSourceID	tinyint	
N-central NotificationID	int	
N-central ProfileID	int	
Is Correlated Notification Profile	bit	
N-central TriggerID	int	
N-central Recipientid	int	
Sender	nvarchar	100
Recipient	nvarchar	100
Method	nvarchar	100
Profile Name	nvarchar	250

N-compass 3.1 Appendix C: Data Warehouse Tables

Time Notification Sent datetime

fact_Remote Control Usage

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
DataSourceID	tinyint	
DeviceID	int	
RemoteControl AuditLogID	int	
RemoteControl TaskID	int	
N-central CustomerID	int	
N-central DeviceID	int	
Responding Technician UserID	int	
Responding Technician Email	nvarchar	200
Responding Technician UserName	nvarchar	200
Responding Operator Email	nvarchar	200
Responding Operator UserName	nvarchar	200
TargetURI	nvarchar	200
SourceURI	nvarchar	200
Session Type	nvarchar	50
Session Method	nvarchar	50
Session Start	datetime	
Session Terminated	datetime	
Session Terminated By	nvarchar	200
Session Notes	nvarchar	2000

fact_SEM_Anti-virus Activity

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	

N-compass 3.1 Appendix C: Data Warehouse Tables

DataSourceID	tinyint
DeviceID	int
Count Of Virus Detections	int
Count Of Successful Virus Cleans	int
Count Of Failed Virus Cleans	int
Count Of File Quarantines	int
Count Of File Deletions	int
Count Of File Renames	int
StatusID	tinyint

fact_SEM_Anti-virus Definitions

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
Number Of Successful Updates	smallint	
StatusID	tinyint	

fact_SEM_Firewall Incidents

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
Emergency Incidents Detected	int	
Alert Incidents Detected	int	
Critical Incidents Detected	int	
Error Incidents Detected	int	

N-compass 3.1 Appendix C: Data Warehouse Tables

Warning Incidents Detected	int
StatusID	tinyint

fact_SEM_Patch Level

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
Number Of Additional Information	int	
Number Of Check Not Performed	int	
Number Of Security FYIs	int	
Number Of Incomplete Scan	int	
Number Of Potential Risk	int	
Number Of Severe Risk	int	
StatusID	tinyint	

fact_SEM_Patch Level Count

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
DataSourceID	tinyint	
CustomerID	smallint	
DeviceID	int	
ServiceID	int	
Number of Missing Patches	int	

fact_SEM_Patch Level Daily Status

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	

N-compass 3.1 Appendix C: Data Warehouse Tables

CustomerID	smallint
ServiceID	int
DataSourceID	tinyint
DeviceID	int
Original TaskID	int
Last Known StatusID	tinyint

fact_Utilization

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
UtilizationTypeID	tinyint	
DataSourceID	tinyint	
DeviceID	int	
Monitored Element	nvarchar	50
Minimum Units Consumed	float	
Average Units Consumed	float	
Maximum Units Consumed	float	
Maximum Units	float	
Usage Percentage	float	

fact_VoIP Call Activity

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
Calls Completed	int	
Calls Attempted	int	
Calls Rejected	int	

fact_VoIP Device Registration

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
ResourceID	tinyint	
Count Of Registered Resources	float	
Count Of Unregistered Resources	float	
Count Of Rejected Resources	float	

fact_VoIP Incidents

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
ResourceID	tinyint	
Incidents	int	

fact_VoIP Information

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	

N-compass 3.1 Appendix C: Data Warehouse Tables

ResourceID		tinyint
Name	nvarchar	250
Version	nvarchar	250
Address	nvarchar	250
Cluster Name	nvarchar	250

fact_VoIP Resource Utilization

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
CustomerID	smallint	
ServiceID	int	
DataSourceID	tinyint	
DeviceID	int	
ResourceID	tinyint	
Resource Utilization %	real	

Test_fact_BackupServices

COLUMN_NAME	DATA_TYPE	MAX_LENGTH
DateID	int	
TimeID	smallint	
DataSourceID	tinyint	
CustomerID	smallint	
DeviceID	int	
Job Error Status	varchar	400
Job ID	nvarchar	250
Job name	nvarchar	250
Byte rate	bigint	
Total bytes Processed	bigint	
Number of files in use	int	
Number of files corrupted	int	
Number of files skipped	int	
Number of files Processed	int	
Number of directories Processed	int	

N-compass 3.1 Appendix C: Data Warehouse Tables

Job StartTime	datetime
Job EndTime	datetime
Elapsed Time	datetime
Job Status	int
Job Return Code	int
Job Type	nvarchar 20

Appendix D: References

We also recommend the following:

- Microsoft SQL Server 2008 Reporting Services by Brian Larson, ISBN-10: 0071548084, ISBN-13: 9780071548083
- Microsoft SQL Server 2005 Reporting Services by Brian Larson, ISBN-10: 0072262397, ISBN-13: 9780072262391

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