Using Network Performance Insight
Before using this information and the product it supports, read the information in “Notices” on page 25.
## Contents

**Using Network Performance Insight.** v
- Intended audience v
- Organization v
- Network Performance Insight overview v
- Service Management Connect vii
- Network Performance Insight technical training vii
- Support information vii
- Conventions used in this publication vii
  - Typeface conventions viii

**Chapter 1. Introduction** 1
- Getting started with Network Performance Insight 1
  - Logging in to the Dashboard Application Services Hub portal 1

**Chapter 2. Network Performance Insight system configuration** 3
- Configuring domain names from Console Integrations 3
- Configuring flow interfaces from Console Integrations 4
- Configuring retention profiles from Console Integration 5
- Configuring thresholds from Console Integrations 6

**Chapter 3. Overview of traffic visualization** 9
- Features of Network Performance Insight visualization dashboards 9
- Introduction to visualization dashboards 10
  - Available Dashboards 10

**Chapter 4. Traffic Overview dashboard** 13
- Monitoring Traffic Overview dashboard 13
  - Traffic Overview at Interface and Network level 14

**Chapter 5. Traffic Details dashboard** 17
- Monitoring Traffic Details dashboard 17
  - Traffic Details dashboard views overview 19

**Notices** 25
- Trademarks 25
- Terms and conditions for product documentation 28

© Copyright IBM Corp. 2015
Using Network Performance Insight

This information helps you to understand the visualizations that are available in Network Performance Insight and also configure some of the settings to your needs.

Intended audience

The audience who are network administrators or operations specialist responsible for installing the Network Performance Insight product suite on an enterprise network.

To install Network Performance Insight successfully, you must have a thorough understanding of the following subjects:

- Network Performance Insight 1.1.0 system
- Basic principles of network protocols and network management
- NetFlow concepts
- Administration of the Linux
- Jazz for Service Management

Organization

Read this summary to help you find the information that you need.

- Chapter 1, “Introduction,” on page 1
- Chapter 2, “Network Performance Insight system configuration,” on page 3
- Chapter 3, “Overview of traffic visualization,” on page 9
- Chapter 4, “Traffic Overview dashboard,” on page 13
- Chapter 5, “Traffic Details dashboard,” on page 17

Network Performance Insight overview

IBM® Network Performance Insight is a flow-based network traffic performance monitoring system.

Network Performance Insight provides comprehensive, flexible, and scalable traffic data management with visualization and reporting to support complex, multi-vendor, multi-technology networks. It offers a range of dashboard views with robust security features that are designed to meet the needs of executive management and converging network and IT operations teams.

Network Performance Insight offers near real-time and interactive view on the traffic data that helps in reduced network repair times and optimized network performance.

Network Performance Insight provides IBM Netcool® Operations Insight with network performance monitoring capabilities to address modern network management challenges around application-oriented, software-defined-networks in the enterprise data centers and intranet.
The following diagram shows how data is flowing through the various components in Network Performance Insight:

![Diagram showing data flow through Network Performance Insight components]

The flow records that are sent by the configured flow exporters are collected by Collector, segregated, and sent to Inventory or Analytics component based on the information that they contain.

Analytics component performs flow session categorization and aggregation. These results are then stored in Network Performance Insight database.

Additionally, you can control the flow interface to enable collection and perform administrative tasks on the web-based user interface on Jazz for Service Management portal. The dashboards provide up-to-date actionable information to increase insight into network problems and streamline root cause analysis.

The database can be queried to display the results on the Dashboard Application Services Hub portal in the form of specialized report tables, graphs, and charts that are ready for immediate use. The database is designed for high performance.

You can integrate Network Performance Insight with Tivoli Netcool/OMNibus to take advantage of its fault management capabilities.

Network Performance Insight documentation consists of the following:
- Release summary
- Installing Network Performance Insight
- Configuring Network Performance Insight
- Integrating with Tivoli Netcool/OMNibus component of Netcool Operations Insight.
- Using Network Performance Insight
- Troubleshooting Network Performance Insight
- References
- Technical notes
Service Management Connect

Connect, learn, and share with Service Management professionals: product support technical experts who provide their perspectives and expertise.

Access Network and Service Assurance community at https://www.ibm.com/developerworks/servicemanagement/nsa/index.html. Use Service Management Connect in the following ways:

- Become involved with transparent development, an ongoing, open engagement between other users and IBM developers of Tivoli products. You can access early designs, sprint demonstrations, product roadmaps, and prerelease code.
- Connect one-on-one with the experts to collaborate and network about Tivoli and the Network and Service Assurance community.
- Read blogs to benefit from the expertise and experience of others.
- Use wikis and forums to collaborate with the broader user community.

Network Performance Insight technical training

For Tivoli technical training information, see the following Network Performance Insight Training website at https://tnpmsupport.persistentsys.com/updated_trainings.

Support information

If you have a problem with your IBM Software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

Online


IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM Software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to http://www.ibm.com/software/support/isa.

Troubleshooting Guide

For more information about resolving problems, see the problem determination information for this product.

Conventions used in this publication

Several conventions are used in this publication for special terms, actions, commands, and paths that are dependent on your operating system.
Typeface conventions

This publication uses the following typeface conventions:

**Bold**
- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolon lists, containers, menu choices, menu names, tabs, property sheets), labels (such as Tip, and Operating system considerations)
- Keywords and parameters in text

**Italic**
- Citations (examples: titles of publications, diskettes, and CDs)
- Words defined in text (example: a nonswitched line is called a point-to-point line)
- Emphasis of words and letters (words as words example: "Use the word that to introduce a restrictive clause."); letters as letters example: "The LUN address must start with the letter L.")
- New terms in text (except in a definition list): a view is a frame in a workspace that contains data.
- Variables and values you must provide: ... where myname represents....

**Monospace**
- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

**Bold monospace**
- Command names, and names of macros and utilities that you can type as commands
- Environment variable names in text
- Keywords
- Parameter names in text: API structure parameters, command parameters and arguments, and configuration parameters
- Process names
- Registry variable names in text
- Script names
Chapter 1. Introduction

This information provides instructions and general information on how to use IBM Network Performance Insight software to view and configure the performance analysis reports for a network.

Network Performance Insight is a Dashboard Application Services Hub - based network monitoring tool that gives you a complete traffic data analysis of NetFlow, NetStream, CFlow, J-Flow, and IPFIX flows.

In today’s telecom networks, the rate at which data is generated is increased at an alarming rate, which is driven by an increasingly information-based economy. The volume of data to be consumed and analyzed is increased significantly, underlining the importance of effective visualizations, for an easier analysis and resolution of network issues.

The traffic visualization dashboards are rendered on Dashboard Application Services Hub of Jazz for Service Management.

Getting started with Network Performance Insight

Get started with Network Performance Insight that is federated with Dashboard Application Services Hub. It also offers an overview of the tasks you are most likely to perform when working with flow data traffic reports.

About this task

You can use the Network Performance Insight that is federated on Dashboard Application Services Hub system for the following tasks:

- Configure the system settings.
- View the interactive traffic data visualization dashboards for monitoring the flow data.
- Monitor the thresholds on Active Event List and Event Viewer, when the Network Performance Insight system is integrated with IBM Tivoli Netcool/OMNibus Web GUI on Dashboard Application Services Hub.

For more information about Monitor the thresholds on Active Event List and Event Viewer, see Integrating with Tivoli Netcool/OMNibus.

Traffic data dashboards in Network Performance Insight:

Logging in to the Dashboard Application Services Hub portal

Depending upon your organization’s deployment, you can access the reporting interface through Dashboard Application Services Hub.

Procedure

Access the reporting interface from Dashboard Application Services Hub as follows:
1. Open a web browser and enter the following URL for the Jazz™ for Service Management UI and reporting server:
https://host.domain:port/DASH_context_root
   For example: https://<myserver.ibm.com>:16311/ibm/console
   Where:
   • host.domain is the fully qualified host name or IP address of the Jazz for Service Management UI and reporting server.
     When single sign-on (SSO) is enabled, ensure that you use the fully qualified host name in the URL of the Jazz for Service Management reporting and UI server. SSO requires that the browser pass LTPA cookies to the Jazz for Service Management application server, and these cookies contain the fully qualified host name.
   • port is the secure HTTP port number that was specified during installation. The default value is 16311.
   • /DASH_context_root is the context root for the console that was specified during installation. The default value is /ibm/console.

2. On the Dashboard Application Services Hub login page, enter the user ID and password. Click Log in. The Dashboard Application Services Hub Welcome page opens.

3. **Note:** Console Integration icon is available only after you complete the step Configuring Network Performance Insight console integration on Jazz for Service Management in Integrating IBM Tivoli Netcool/OMNibus.

   In the navigation bar, click **Console Integration** icon ( ) and select the dashboard of your choice.
Chapter 2. Network Performance Insight system configuration

Use this information to configure your Network Performance Insight system that is integrated with Dashboard Application Services Hub from the graphical user interface.

A set of administrative tasks to configure how Network Performance Insight works. You can view the current settings, modify the settings, add new, or delete an existing configuration item. These configuration settings are added to the database and can be retrieved from the database. Each configuration setting is associated with a separate widget on Dashboard Application Services Hub UI.

You must do some general system configuration and tuning. During implementation, you must configure the application options to meet your requirements.

The Network Performance Insight dashboard is pre-configured with working sets of default configurations that can create right after installation. A broad range of functions in Network Performance Insight can be administratively configured.

You can configure the following items from system configuration:

• Domain names
• Interfaces
• Retention Profiles
• Thresholds

Note: Each tab contains various graphical utilities. By using these utilities, you can do the administrative tasks.

Configuring domain names from Console Integrations

Domain name is an identification of a unique computer system on the Internet that is universally agreed by web servers and online administrations and offers all related destination information. To access an organization’s web-based facilities, website users must identify the exact domain name. A complete domain name consists of one or more subdomain names and one top-level domain name that is separated by dots (.). For example, <myserver.ibm.com> is a complete domain name.

About this task

You can configure and resolve the domain names from here.

Note: Database tables store specific types of data and can be categorized into the configuration, event, aggregation, and flow data in database tables. The database table for configuration displays the data for Domain Names.

For more information, see Data storage section in Network Performance Insight overview IBM.

To configure or resolve:
Procedure

1. Log in to Jazz for Service Management server.

2. In the navigation, click **Console Integrations** (Console integrations icon) and select **Domain Names** under **System Configuration**.

3. Select a row from the table and click the Edit ( ) and enter the Domain Name.

4. Select an entry from the table and click icon to delete an entry that is not needed.
   This option helps you to delete an entry that has a typographical error.
   a. Delete any entry that is no longer needed.
   b. Delete a wrong entry and create a new entry.

   **Note:** Domain names that start or end with '.' or '-' are not accepted.

5. Click OK to save the settings.

6. Click icon to refresh the list of domains.

7. Click icon and type a Domain Name in the Filter by Domain Name field.
   You can view the details of the particular domain.

8. In the lower-right corner, the numbers that are displayed are the number of items to be displayed on each page. Select a number to change the number of items in the table.

9. Click the arrow to go to a particular page.

10. In the Go to Page, enter a page number that you want to navigate to and click Go.

**What to do next**

You can repeat the same process to enable and configure Domain Names as needed.

**Configuring flow interfaces from Console Integrations**

Flow Interfaces display the total outbound and inbound traffic that happens through an Interface. Ingress traffic is collected on traffic that is goes into an interface and Egress traffic is collected on traffic that goes out of an interface.

**About this task**

Flow Interfaces display all the interfaces that are configured to send the network traffic data to the Network Performance Insight system. By default, all these interfaces are in an enabled state. When an interface is enabled, the data processing starts for that enabled interface.

**Note:** Database tables store specific types of data and can be categorized into the configuration, event, aggregation, and flow data in database tables.
For more information, see *Data storage* section in *Network Performance Insight overview*.

To configure the flow interfaces:

**Procedure**

1. Log in to Jazz for Service Management server.

2. In the navigation, click **Console Integrations** and select **Flow Interfaces** under **System Configuration**.

3. Select a row from the table and click the **Edit** button to enable or disable the selected interface.

4. Click to refresh the list of interfaces.

5. Click and type an Interface in the **Filter by Interface** field. You can view the details of the particular interface.

6. In the **Actions** column:
   a. Click **Enable** or **Disable** to enable or disable an Interface.
   b. Click **Traffic Details** to view the Traffic Details for an Interface.

7. In the lower-right corner, the numbers that are displayed are the number of interfaces to be displayed on each page. Select a number to change the number of items in the table.

8. Click the arrow to go to a particular page.

9. In the Go to Page, enter a page number that you want to navigate to and click **Go**.

**What to do next**

You must repeat the same process to enable or disable all interfaces as needed.

*Note:* Currently, you cannot select multiple interfaces to configure to enable or disable for traffic data collection at a time.

---

**Configuring retention profiles from Console Integration**

Describes how to configure the retention profiles for traffic overview.

**About this task**

Retention Profiles helps you to retain the data for a specific duration. You can retrieve this retained data when required.

For more information, see *Retention period* section in *Network Performance Insight overview IBM*.

To configure the retention profiles:

**Procedure**

1. Log in to Jazz for Service Management server.
2. In the navigation, click Console Integrations and select Retention Profiles under System Configuration.

You can see Retention Profiles table.

3. Select a row from the table and click the Edit button to configure a retention profile period for an Interface. Enter the following details:

   **Name** The Name field is already selected.
   **Period** Type the period for which you want to retain the data.
   **Unit** Select the unit in Days, Weeks, or Months

   **Note:** Retention period should be configured with trade off between storage size and number of days to keep the data. The graphs will not show any data after the time period that you have selected for a particular interface.

   For more information, see Data storage section in Network Performance Insight overview IBM.

4. Click Refresh to refresh the list of domains.
5. Click OK to save the settings.
6. In the lower-right corner, the numbers that are displayed are the number of items to be displayed on each page. Select a number to change the number of items in the table.
7. In the Go to Page, enter a page number that you want to navigate to and click Go.

What to do next

You must repeat the same process to configure retention profiles as needed.

### Configuring thresholds from Console Integrations

A threshold is a metric value that is compared against a value to determine whether an interface has violated a specific constraint. Using thresholds as the measure against which data is evaluated lets you report on only those resources with pertinent data.

#### About this task

These thresholds are considered static thresholds because you set the value for them by using the configuration dialog box. You also define how you want the threshold to act.

**Note:** The database tables store the Threshold configuration settings data. For more information, see Data storage in Network Performance Insight overview.

#### Procedure

1. Log in to Jazz for Service Management server.

2. In the navigation, click Console Integrations and select Thresholds under System Configuration.
You can see Flow Thresholds table.

3. Select a row from the table and click the Edit button to configure a Threshold for an Interface. Enter the following details:
   a. Select the Enabled check box to enable a Threshold on the Interface.
   b. Select the Limit Type list to Over, Under, or Band.
      - **Over** Detect violations when they exceed threshold values.
      - **Under** Detect violations when they fall short of threshold values.
      - **Band** Detect violations when they go outside a range (or band) between two threshold values.
   c. Enter the Upper Limit for the traffic flow for triggering the Threshold.
   d. Enter the Lower Limit for the traffic flow for triggering the Threshold.
   e. Enter the number of events for triggering the Threshold.

   **Note:** When the threshold violation limit is crossed, it displays the severity as Critical in the Threshold Violation table on Traffic Overview dashboard. For more information, see Threshold levels in Network Performance Insight overview.

4. Click and type an Interface in the Filter by Domain Name field. You can view the details of that particular entity.

5. In the Actions column:
   a. Click Edit to edit or configure the selected Threshold. Repeat step 3
   b. Click Enable or Disable to enable or disable the Threshold for an entity
   c. Click Traffic Details to view the Traffic Details for an entity.

6. Click OK to save the settings.

7. In the lower-right corner, the numbers displayed are the number of interfaces to be displayed on each page. Select a number to change the number of items in the table. Click the arrow to go to a particular page.

8. In the Go to Page, enter a page number that you want to navigate to and click Go.

**Results**

Any interface that is violating the new threshold value is reported in the Active Event List.

**What to do next**

You must repeat the same process to enable and configure Thresholds for all Interfaces as needed.

**Note:** Currently, you cannot select multiple interfaces to configure the thresholds values at a time.
Chapter 3. Overview of traffic visualization

Traffic overview provides visualization of the network performance data that is gathered and stored by other Network Performance Insight components.

Traffic overview delivers real-time, end-to-end, and scalable network traffic visualization with customizable features that meet business requirements. It also facilitates user to quickly drill down to individual interfaces for more detailed flow data.

A new interface gets automatically added after receiving the netflow data from the exporter. When the exporter is connected and it points to NPI, list of interfaces that belong to that router are discovered when the netflow data is received from the exporter.

Features of Network Performance Insight visualization dashboards

Visualization dashboards that are available in IBM Network Performance Insight help network administrators to configure and monitor routers and switches for any anomalies in network traffic. The main focus is to contain congestion and abuse.

Network Performance Insight visualization provides rich and adaptive features to display real time or near real-time dashboards, for quick analysis of data. The visualization features and capabilities are as follows:

Near real-time flow monitoring
- Analyze the network traffic patterns and resolve network performance issues with the help of interactive dashboards.
- Detects which applications are hogging maximum bandwidth.
- Simplified reports on detailed traffic data over a specified time period.

Ready to use traffic overview and traffic details dashboards
- Ten network topology level dashboards for top 10 talkers
- Drill down dashboards to device level or interface level for more details on flow
- Fifteen top ten views that show the interface level details.

Bandwidth consumption by applications
- Detects top applications usage of bandwidth.
- Monitors their ports.

Thresholding and alerting
- Traceable alerts are sent instantly when an interface crosses the pre-configured threshold value.
- Helps to drill-down to the interface that exceeds its threshold value.

Historical data
Configurable flow data from a specific date or time to view activity and problems in the captured data.

Filtering flow data
- Ability to filter across records
- Ability to filter flows by the following traffic data views:
- Top Sources
- Top Sources with Application
- Top Applications
- Top Applications with Source
- Top Applications with Conversation
- Top Applications with Destination
- Top Protocols
- Top Protocols with Source
- Top Protocols with Application
- Top Protocols with Conversation
- Top Protocols with Destination
- Top Conversations
- Top Conversations with Application
- Top Destinations
- Top Destinations with Application

**Note:** The event grid is shows data based on last hour, day, or week period as set in the filter. To view the old data, use the filter option. The time filter displays events until the previous month.

**Built in DNS name resolution**
Performs DNS forward and reverse resolutions.

### Introduction to visualization dashboards

A dashboard is a user interface that helps you visualize data. These dashboards are interactive and display metrics and data. They can pull real-time data from all the sources.

Dashboards are a means of displaying various types of data from different sources onto a single page, which can be useful for tracking status, progress, and activity at a glance.

IBM Network Performance Insight visualization allows built-in and interactive dashboards that cover the entire traffic data representation.

### Available Dashboards

A dashboard is an arrangement of one or more widgets in the work area and contain the widgets that are needed to complete tasks.

A dashboard provides a simplified view of data in widgets. A widget is a graphical representation of information, which is designed to provide a quick overview of statistics, or other important information. The variety of widgets available to add to dashboards is dependent upon Dashboard Type.

Following are the two main dashboards available in Network Performance Insight 1.1.0:

**Traffic Overview**
Displays traffic data for the entire network topology.

For more information about the Traffic Overview dashboard, see "Monitoring Traffic Overview dashboard” on page 13
Traffic Details
Displays the traffic details at interface and network level.

For more information about the Traffic Details dashboard, see "Monitoring Traffic Details dashboard" on page 17
Chapter 4. Traffic Overview dashboard

The user interface provides access to standard dashboards, which are pre-generated traffic reports for the fixed time periods such as Last Hour, Last Day, Last Week, and Last Month.

Widgets are web applications that display information or provide a service in a console dashboard.

The colorful donut charts are a cluster of pie charts that show the details of a particular entity when you hover on the donut charts. The pie charts display the values for top ten entities and percentage of traffic on the grouping that occupies the traffic. Each color in the chart on the Traffic Overview dashboard corresponds to network level aggregation of different grouping for a single continuing conversation between 2 specific nodes.

Following widgets are integrated in IBM Network Performance Insight Traffic Overview dashboard:
- Top Interfaces
- Top Ingress Interfaces
- Top Egress Interfaces
- Top Applications
- Top Protocols
- Top Conversations
- Top Sources
- Top Destinations

Any interface that is violating the new threshold value is reported in the Active Event List in the Traffic Overview dashboard. Double-click any row to open the Traffic Details page that is related to the interface that generated the event.

Monitoring Traffic Overview dashboard

Traffic Overview dashboard displays the Top Interfaces and the Threshold view.

About this task

On the Traffic Overview page:

Procedure

1. Log in to Jazz for Service Management server.

2. In the navigation, click Console Integrations ( ) and select Traffic Overview.

3. Filter the network traffic for the Last Hour, Last Day, Last Week, or Last Month.

   Note: The event grid shows the data based on last hour/day/week period that is set in the filter. To view the old data, use filter. The time filter displays events until the last month.
4. View the Start and End time in the upper-right corner. The start and end time is displayed according to the network traffic filter you select. For example, if the current time is 5.00 PM on 8/20/15 and you select the filter for Last Hour, the start time that is displayed is 4.00 PM on 8/20/15 and end time 5.00 PM on 8/20/15. The same applies for Last Day, Last Week, and Last Month.

The Threshold Violation table at the bottom of the page describes:

| Severity | Describes the severity of a particular interface threshold. |
| Entity   | Name or IP of that particular interface. |
| Time     | Time when the threshold is violated. |
| Description | Describes the threshold violation details for that particular interface. |

The Description column for Critical and Major events displays the total volume of traffic. It also displays the total value that is violated to raise the event. If the violation is Clear, the value is not displayed.

5. Click Page Actions ( ) icon to define a particular action on that page.

6. Click Create a new page icon ( ) to create a new page. Click the arrow to view the pages that are open in the dashboard. You can choose to close all the pages that are open from here.

**Traffic Overview at Interface and Network level**

On the Traffic Overview page, the colors in the form of pie charts display the reports at an interface and network level.

The inbound and outbound traffic details at all levels can be viewed by clicking the donuts. You can click any of the pie charts and drill down to the Traffic Details page. You can also double-click any of the rows in the Threshold violation grid at the bottom and it drills down to the specific entity details page where you can see all the details for that specific entity.

For example, if you double-click a row for the entity 10.55.239.4-6, it drills down to the details page of 10.55.239.4-6 entity.

The following donuts display the reports at an interface level:
- Top Interfaces
- Top Ingress Interfaces
- Top Egress Interfaces

The following donut charts display the reports at network level:
- Top Applications
- Top Protocols
- Top Conversations
- Top Sources
- Top Destinations

For more information about aggregation definitions that are used to display the data on Traffic Overview and Traffic Details dashboards, see *Built-in aggregation definitions in Network Performance Insight overview*. 

14 Using Network Performance Insight
Top Interfaces
Top interfaces provide a view of most active interfaces in the dashboard. They are identified as top interfaces because of the traffic that passes through these interfaces, and by the bandwidth they use for a particular interface.

Top Ingress Interfaces
Ingress Interfaces monitors the traffic flow that comes in an interface. The traffic details for Ingress interfaces are displayed at an interface level.

Top Egress Interfaces
Egress Interfaces monitors the traffic flow that goes out of an interface. The traffic details for Egress interfaces are displayed at an interface level.

Top Applications
This report allows you to recognize the top bandwidth consuming applications that are streaming on your network so that you can ensure that your network resources are going to the mission critical applications.

You can select Ingress, Egress, or Both from the drop-down. By default, the Traffic Details page displays Both.

Top Protocols
Top protocol resource provides a view of the highest used protocols in the network.

Top Conversations
Provides a view of top conversations that use the most bandwidth on your network.

Top conversations report displays the details of the conversation, such as source and destination. It also displays the percentage of traffic for that particular conversation.

Top Sources
The Top Sources display the topmost source hosts that contribute to traffic for the selected time period.

Top Destinations
The Top Destination displays the topmost destination hosts that contribute the traffic for the selected period.
Chapter 5. Traffic Details dashboard

You can view the traffic details of a particular entity both at Network and Interface levels.

Double-click any pie chart on the Traffic Overview dashboard to drill down to the Traffic Details dashboard.

For example, if you click any one of the pie charts from Top Protocols donut chart, it drills down to the Traffic Details dashboard. On the Traffic Details dashboard, you can see all the details for that entity.

The check boxes on the right show the inbound and outbound traffic for each chart with bandwidth consumed by each conversation in either bytes or packets.

Monitoring Traffic Details dashboard

The Traffic Details dashboard displays the details at an interface level or at a network level.

About this task

You can click any of the pie charts, to drill down to view the specific details in the Traffic Details page.

By default, the Traffic Details page displays the details for Top Ingress interfaces at Ingress level, Top Egress interfaces at Egress level. Whereas, Top Interfaces and all Top Networks display the traffic details as Both.

Procedure

1. Select Traffic Details for Ingress, Egress, or Both from the list.
2. From the View list, select any of the entities. For more information about dashboard views, see “Traffic Details dashboard views overview” on page 19
3. In the Start field, click to select a start date.
4. Click to select start time.
5. In the End field, click to select an end date.
6. Click to select end time.
7. Click Update to update the details for selected date and time. The graphical presentation of data is updated for the selected date and time.

Two red lines are displayed in the graph that notify the Upper Threshold and Lower Threshold limits are crossed. When you hover over the area charts, a tooltip is flashed giving you the details for that particular source.

For more information about aggregated data for a specific duration, see Data storage section in Network Performance Insight overview.

8. Click to refresh the page.
9. The legend on the right displays the top 10 interface details. If you clear a check box for a particular interface, the details for that interface are hidden. If you check the **Remaining** check box, it displays the details for the remaining traffic on the interfaces.

**Note:** If the upper limit and lower limit of a threshold is crossed, two extra check boxes for Upper Threshold and Lower Threshold are seen in the legend.

The table at the bottom displays top 10 interface details. The table displays the following details for an interface:

**Rank** Display the number in ascending order.

**Grouping**
Displays the interface for which you are viewing the data. For example, if you select Top Protocols from the **View** list, the grouping that is displayed is for Protocol.

The columns change depending on the view selected. The main grouping keys for the Traffic Overview dashboard can be defined as:

<table>
<thead>
<tr>
<th>Grouping Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>It is a standard that is defined on how a network conversation is established. It delivers the packets from the source host to the destination host.</td>
</tr>
<tr>
<td>Source</td>
<td>The source tells you how the customer browsed your site. The pie chart in the donut charts represents the sources that are sending the most traffic.</td>
</tr>
<tr>
<td>Conversation</td>
<td>Conversation here means a network conversation that happens between the 2 endpoints. For example, conversation between a source and an application.</td>
</tr>
<tr>
<td>Application</td>
<td>Applications are mapped based on port, protocol, and IP address or network.</td>
</tr>
<tr>
<td>Destination</td>
<td>Destination can be a host computer to which the traffic flow or network flow comes from a source computer.</td>
</tr>
</tbody>
</table>

**Octets** Displays the amount of data that is used in KB and Bytes.

**Percentage**
Percentage of traffic on the grouping that occupies the traffic.

**Related concepts:**

[Traffic Details dashboard views overview](#) on page 19

Views give you details about Network Traffic Overview and Traffic Details reports at network and interface level.
**Traffic Details dashboard views overview**

Views give you details about Network Traffic Overview and Traffic Details reports at network and interface level.

The dashboard View list displays the following views:

**Top Sources**
Displays the details about top Sources for a particular entity. The report shows the top-most sources for ingress, egress and both. The table at the bottom displays the following details.

*Table 2. SOURCE_IP*

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data used in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

**Top Sources with Application**
Displays the traffic details for top Sources and top Application. The reports show the conversation between top most source and applications for ingress, egress, and both.

*Table 3. SOURCE_IP+ APPLICATION_NAME*

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

**Top Applications**
Displays the traffic details for top Applications. The reports show the top-most Applications for ingress, egress and both.

*Table 4. APPLICATION_NAME*

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

**Top Applications with Source**
Displays the details about top Applications with top Sources for a
particular entity. The report shows the conversation between top most applications and sources for ingress, egress and both. The table at the bottom displays the following details.

Table 5. APPLICATION_NAME + SOURCE_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Applications with Destination

Displays the traffic details for top Applications with top Destinations for a particular entity. The reports show the conversation between top most Applications and Destinations for ingress, egress and both.

Table 6. APPLICATION_NAME + DESTINATION_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Applications with Conversation

Displays the traffic details for top Applications with top Destinations. The reports show the conversation between top most Applications, Sources, and Destinations for ingress, egress and both.

Table 7. APPLICATION_NAME + SOURCE_IP + DESTINATION_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Protocols

Displays the traffic details for top Protocols. The reports show top most Protocols for ingress, egress and both.
Table 8. PROTOCOL_ID

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Identity of the protocol.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Protocols with Source
Displays the traffic details for top Protocols with top Sources. The reports show the conversation between top most Protocols with Sources for ingress, egress and both.

Table 9. PROTOCOL_ID + SOURCE_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Identity of the protocol.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping which occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Protocols with Application
Displays the traffic details for top Protocols with top Applications. The reports show the conversation between top most Protocols with Applications for ingress, egress and both.

Table 10. PROTOCOL_ID + APPLICATION_NAME

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Identity of the protocol</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data utilized in KB, Bytes and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping which occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Protocols with Conversation
Displays the traffic details for top Protocols with top conversations. The reports show the conversation between top most applications, sources, and destinations for ingress, egress and both.

Table 11. PROTOCOL_ID + SOURCE_IP + DESTINATION_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Identity of the protocol.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
</tbody>
</table>
Table 11. PROTOCOL_ID + SOURCE_IP + DESTINATION_IP (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destination</td>
<td>Identity of the destination</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data utilized in KB, Bytes and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping which occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Protocols with Destination
Displays the traffic details for top Protocols with top Destinations. The reports show the conversation between top most Protocols and top most Destinations for ingress, egress and both.

Table 12. PROTOCOL_ID + DESTINATION_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Identity of the protocol</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data utilized in KB, Bytes and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping which occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Conversations
Displays the traffic details for top Conversations for a particular entity. The reports show the top most conversations for ingress, egress and both.

Table 13. SOURCE_IP + DESTINATION_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data used in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Conversations with Application
Displays the traffic details for top Conversations and top Application. The reports show the conversation between top most source, destination, and applications for ingress, egress and both.

Table 14. SOURCE_IP + DESTINATION_IP + .APPLICATION_NAME

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Source</td>
<td>Identity of the source.</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination.</td>
</tr>
</tbody>
</table>
Table 14. SOURCE_IP + DESTINATION_IP + .APPLICATION_NAME (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octets</td>
<td>Displays the amount of data used in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Destinations
Displays the traffic details for top Destinations for a particular entity. The reports show the top-most Destinations for ingress, egress and both.

Table 15. DESTINATION_IP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>

Top Destinations with Application
Displays the traffic details for top Destinations with top Application. The reports show the conversation between top most Destinations and Applications for ingress, egress, and both.

Table 16. DESTINATION_IP + APPLICATION_NAME

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>Displays the number in ascending order.</td>
</tr>
<tr>
<td>Application</td>
<td>Name of the application.</td>
</tr>
<tr>
<td>Destination</td>
<td>Identity of the destination.</td>
</tr>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is utilized in KB, Bytes, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>
Notices

This information was developed for products and services that are offered in the USA. This material might be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user’s responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
United States of America

For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:
INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.
Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Director of Licensing
IBM Corporation
North Castle Drive, MD-NC119
Armonk, NY 10504-1785
US

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

The performance data discussed herein is presented as derived under specific operating conditions. Actual results may vary.

The client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM’s future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

All IBM prices shown are IBM’s suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information is for planning purposes only. The information herein is subject to change before the products described become available.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the
names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© (your company name) (year).

Portions of this code are derived from IBM Corp. Sample Programs.

© Copyright IBM Corp. _enter the year or years_. All rights reserved.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml).

Adobe, Acrobat, PostScript and all Adobe-based trademarks are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, other countries, or both.

IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency which is now part of the Office of Government Commerce.

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of The Minister for the Cabinet Office, and is registered in the U.S. Patent and Trademark Office.
UNIX is a registered trademark of The Open Group in the United States and other countries.

Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.

Linear Tape-Open, LTO, the LTO Logo, Ultrium, and the Ultrium logo are trademarks of HP, IBM Corp. and Quantum in the U.S. and other countries.

Terms and conditions for product documentation

Permissions for the use of these publications are granted subject to the following terms and conditions.

Applicability

These terms and conditions are in addition to any terms of use for the IBM website.

Personal use

You may reproduce these publications for your personal, noncommercial use provided that all proprietary notices are preserved. You may not distribute, display or make derivative work of these publications, or any portion thereof, without the express consent of IBM.

Commercial use

You may reproduce, distribute and display these publications solely within your enterprise provided that all proprietary notices are preserved. You may not make derivative works of these publications, or reproduce, distribute or display these publications or any portion thereof outside your enterprise, without the express consent of IBM.

Rights

Except as expressly granted in this permission, no other permissions, licenses or rights are granted, either express or implied, to the publications or any information, data, software or other intellectual property contained therein.

IBM reserves the right to withdraw the permissions granted herein whenever, in its discretion, the use of the publications is detrimental to its interest or, as determined by IBM, the above instructions are not being properly followed.

You may not download, export or re-export this information except in full compliance with all applicable laws and regulations, including all United States export laws and regulations.
IBM MAKES NO GUARANTEE ABOUT THE CONTENT OF THESE PUBLICATIONS. THE PUBLICATIONS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE.