Before using this information and the product it supports, read the information in "Notices" on page 21.

This edition applies to version 1.2.1.0 of IBM Network Performance Insight and to all subsequent releases and modifications until otherwise indicated in new editions.

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Using Network Performance Insight

This information helps you to understand and use the visualizations that are available to work with Network Performance Insight.

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 1.2.1 system
- Basic principles of network protocols and network management
- NetFlow concepts
- Administration of RHEL
- IBM® Netcool® Operations Insight
- IBM Tivoli® Network Manager IP Edition
- Jazz™ for Service Management

Network Performance Insight architecture

IBM Network Performance Insight is a network 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 downtime and optimized network performance.

Network Performance Insight provides IBM Netcool Operations Insight with comprehensive IP network device performance monitoring and session traffic analysis.

The following diagram shows how data is flowing through the various components in Network Performance Insight:
IBM Open Platform with Apache Spark and Apache Hadoop

IBM Open Platform with Apache Spark and Apache Hadoop (IOP) can be used to help process and analyze the volume, variety, and velocity of data that continually enters your organization every day. Network Performance Insight is installed as a service extension to the installed IBM Open Platform with Apache Spark and Apache Hadoop stack.

The features of IOP that are used in installing Network Performance Insight:

- IBM Open Platform with Apache Spark and Apache Hadoop
- Default support for rolling upgrades for Hadoop services
- Support for long-running applications within YARN for enhanced reliability
- Spark in-memory distributed compute engine for dramatic performance increases
- Apache Ambari operational framework. Apache Ambari is an open framework for provisioning, managing, and monitoring Apache Hadoop clusters. Ambari provides an intuitive and easy-to-use Hadoop management web UI backed by its collection of tools and APIs that simplify the operation of Hadoop clusters.
- Essentially includes the following open source technologies for working with Network Performance Insight:
  - HDFS
  - Kafka
  - Ambari
  - Spark
ZooKeeper

Note: Because Zookeeper requires a majority, it is best to use an odd number of machines. For example, with four machines ZooKeeper can only handle the failure of a single machine; if two machines fail, the remaining two machines do not constitute a majority. However, with five machines ZooKeeper can handle the failure of two machines.

Integrated products

The products that are needed to work with Network Performance Insight, V1.2.1 are as follows:

Jazz for Service Management 1.1.3.0
Dashboard Application Services Hub provides visualization and dashboard services in Jazz for Service Management. It has a single console for administering IBM products and related applications. Visualization for Network Performance Insight is federated into Dashboard Application Services Hub.

Products that are integrated with Network Performance Insight 1.2.1:

IBM Tivoli Network Manager IP Edition 4.2.0.3
Tivoli Network Manager provides network discovery, device polling, including storage of polled SNMP data for reporting and analysis, and topology visualization. In addition, Network Manager can display network events, perform root-cause analysis of network events, and enrich network events with topology and other network data.

Tivoli Netcool/OMNIbus component of IBM Netcool Operations Insight 1.4.1
Netcool Operations Insight is powered by the fault management capabilities of IBM Tivoli Netcool/OMNIbus. In Network Performance Insight v1.2.1, Tivoli Netcool/OMNIbus 8.1.0.11 is an important part of the solution for monitoring the network threshold violations.

Network Performance Insight services

Network Performance Insight components are running on microservice architecture that has the software application as a suite of independently deployable, small, modular services in which each service runs a unique process and communicates through a well-defined, lightweight mechanism.

For more information about these services, see IBM Network Performance Insight: Product Overview.

Related information:
- IBM Network Performance Insight on IBM Knowledge Center
- IBM BigInsights 4.2 documentation
- HDFS Architecture
- Apache Hadoop YARN
- Apache Kafka
- Apache Zookeeper
Service Management Connect

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


- 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.

Related information:

IBM Network Performance Insight community on developerWorks

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](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](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, multicolumn 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. Traffic Details dashboard

IBM Network Performance Insight visualization allows built-in and interactive dashboards that cover the entire traffic data representation. You can view the traffic details of a particular interface in your network.

The Traffic Details dashboard or portlet provides a simplified view of traffic performance data. The Flow data that is collected by Network Performance Insight is shown from Traffic Details dashboard. It displays the traffic details at interface level.

You can launch the Traffic Details portlet that is available as a widget from the following dashboards:

- **From Device Dashboard**
  Right-click an interface of interest and click **Show Traffic** from the **Interfaces** tab in the **Topology** portlet.

- **From Event Viewer or AEL**
  Right-click a Flow event from the Event Viewer or the AEL and select **Flow Dashboard**, to view the traffic details for the event.

- **From Network Health Dashboard**
  The traffic details for an interface are populated in the Network View page, from a selected network view.

Related tasks:

- “Launching Traffic Details dashboard from Network Health dashboard” on page 13
- Chapter 5, “Monitoring network performance from Event Viewer,” on page 17

You can monitor and manage network performance from events that are generated by Tivoli Netcool/OMNIbus on Web GUI.

Monitoring Flow data with Traffic Details dashboard

The Traffic Details dashboard displays the network information at an interface level.

**About this task**

By default, the **Traffic Details** page displays the data about the top ingress, top egress, or both flows for an interface.

**Procedure**

1. Select **Traffic Details** for **Ingress**, **Egress**, or **Both** from the list.
2. Select any dashboard view from the **View** list.
   - For more information about dashboard views, see “Traffic Details dashboard views” on page 3.
3. Click  to select a start date from the **Start** field.
4. Click  to select start time.
5. Click  to select an end date from the **End** field.
6. Click ⌁ to select end time.

7. Click Update to update the details for 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. The graphical presentation of data is updated for the selected date and time.

8. Click ⌁ to refresh the page.

9. Select one or more interfaces from the legend on the right.
   It displays the top 10 interface details.

10. Optional: Clear the check box for a particular interface.
    The details for that interface are hidden.

11. Optional: 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 Details dashboard can be defined as:

**Table 1. Grouping**

<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>Source is the IP address from which traffic is originated.</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 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.

**Note:** If the top 10 interface table is not shown, reduce the zoom percentage of your current browser.
Traffic Details dashboard views

Use this information to see the list of views that are available in The Traffic Details dashboard.

Top Sources
Displays the details about top Sources for a particular entity. The report shows the topmost sources for ingress, egress and both. The table at the bottom of the view 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 that is used in Bytes, KB, 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 Applications for a particular entity. The reports show the conversation between top most source and applications for ingress, egress, and both. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, 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 for a particular entity. The reports show the topmost Applications for ingress, egress and both. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, 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 of the view 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 used in Bytes, KB, 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. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, 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 Conversations for a particular entity. The reports show the conversation between top most Applications, Sources, and Destinations for ingress, egress and both. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, 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 for a particular entity. The reports show top most Protocols for ingress, egress and both. The table at the bottom of the view displays the following details:
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 used in Bytes, KB, 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 for a particular entity. The reports show the conversation between top most Protocols with Sources for ingress, egress and both. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, 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 Application
Displays the traffic details for top Protocols with top Applications for a particular entity. The reports show the conversation between top most Protocols with Applications for ingress, egress and both. The table at the bottom of the view displays the following details:

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 that is used in Bytes, KB, 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 Conversation
Displays the traffic details for top Protocols with top Conversations for a particular entity. The reports show the conversation between top most applications, sources, and destinations for ingress, egress and both. The table at the bottom of the view displays the following details:

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>
</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>Protocol</td>
<td>Identity of the protocol</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 used in Bytes, KB, 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 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. The table at the bottom of the view displays the following details:

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 that is used in Bytes, KB, 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
Displays the traffic details for top Conversations for a particular entity. The reports show the topmost conversations for ingress, egress and both. The table at the bottom of the view displays the following details:

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 that is used in Bytes, KB, 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 Applications for a particular entity. The reports show the conversation between top most source, destination, and applications for ingress, egress and both. The table at the bottom of the view displays the following details:
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>
<tr>
<td>Octets</td>
<td>Displays the amount of data that is used in Bytes, KB, 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 topmost Destinations for ingress, egress and both. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, 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 Applications for a particular entity. The reports show the conversation between top most Destinations and Applications for ingress, egress, and both. The table at the bottom of the view displays the following details:

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 used in Bytes, KB, and so on.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Percentage of traffic on the grouping that occupies the traffic.</td>
</tr>
</tbody>
</table>
Chapter 2. Getting started with network performance monitoring

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

Before you begin

Perform these steps on the Dashboard Application Services Hub where Tivoli Network Manager is installed:

- **Configure the network discoveries**
- **Set up the network visualization**

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.
     - 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. Enter the user ID and password in the Dashboard Application Services Hub login page. Click **Log in**. The Dashboard Application Services Hub Welcome page opens.

- Click **Incident** in the navigation bar and select **Event Viewer** or **Active Event List (AEL)** under **Events**.
  
  Right-click a Flow event from the Event Viewer or the AEL and select **Flow Dashboard**, to view the traffic details for the event.

  **Note:** The **Flow Dashboard** option is the launch-in-context tool that is created for Network Performance Insight. For more information, see **Configuring launch-in-context integration with Network Performance Insight** in Installing and Configuring IBM Network Performance Insight.

  - From Device Dashboard, right-click an interface of interest and select **Show Traffic Details**.

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• Click **Incident** on the navigation bar and select **Network Health Dashboard** under **Network Availability**.

The traffic details for an interface are populated in the Network View page, from a selected network view.

**Related information:**

[Device Dashboard](#)
Chapter 3. Monitoring network performance from Network Health Dashboard

IBM Networks for Operations Insight is an optional feature that can be added to a deployment of the base IBM Netcool Operations Insight solution to provide service assurance in dynamic network infrastructures. The capabilities of Networks for Operations Insight include network discovery, visualization, event correlation and root-cause analysis, and configuration and Compliance Management that provide service assurance in dynamic network infrastructures.

The Network Health Dashboard monitors a selected network view, and displays device and interface availability within that network view. It also reports on performance by presenting graphs, tables, and traces of KPI data for monitored devices and interfaces. Traffic Details portlet can be launched for the interfaces that are available in the Structured Browser.

The Network Health Dashboard includes the Event Viewer for detailed event information. You can start the Traffic Details portlet to display the NetFlow traffic details for the interface that violated a set threshold value.

Related information:

Monitoring the network using the Network Health Dashboard

Adding Network Performance Insight widget in Network Health dashboard

Dashboards or pages, are an arrangement of one or more widgets in the work area and contain the widgets that are needed to complete tasks. Users whose roles have Editor or Manager access to a dashboard can edit a dashboard’s layout and content. You can add multiple widgets in a screen. When you are adding widgets, you can also rearrange the widgets as needed.

About this task

By default, the Network Health Dashboard page displays the Network View, Structure Browser, and Event Viewer widgets.

To view the traffic details from Network Health Dashboard for the first time, you need to add the Network Performance Insight widget.

Procedure

1. Log in to Jazz for Service Management server.

2. Click the Incident icon ( ) and select Network Health Dashboard under Network Availability.


4. In the tab bar, click Page Actions icon ( ) and select Edit Page.
The dashboard is changed to show the widget palette and a series of buttons in the tab bar. The menu that is associated with the Edit options icon for each widget is updated so that you can edit its layout and content.

5. Click the NPI folder from the widget palette.
   The NPI folder name is based on the launch-in-context tool that is created for Network Performance Insight. For more information, see Configuring launch-in-context integration with Network Performance Insight in Integrating Network Performance Insight.

6. Click and drag the Traffic Details widget from the palette.
   To assist you in positioning the widget, use the background layout grid. You can change the size of the layout grid and have widgets snap to the layout guide lines through the Layout button in the tab bar.

7. Click Save and Exit to exit the dashboard from the edit mode, after you complete editing.

Related tasks:
“Launching Traffic Details dashboard from Network Health dashboard” on page 13
The Traffic Details widget displays the details of an interface from a selected network device.

Related information:
Editing dashboard content and layout

Traffic Details from Network Health Dashboard

Network Health Dashboard displays the traffic details of a particular network.

The Traffic Details widget data is populated from NCIM view that is part of Network Performance Insight database structure, where it joins multiple tables into a single virtual table.

NCIM view represents the subset of data that is discovered from the Tivoli Network Manager and Network Performance Insight Flow tables.

The discovered data by Tivoli Network Manager is mapped with Flow records by using the following fields:

Table 17. Mappings table

<table>
<thead>
<tr>
<th>Flow table</th>
<th>NCIM view</th>
</tr>
</thead>
<tbody>
<tr>
<td>exporter ip</td>
<td>device ip address</td>
</tr>
<tr>
<td>if index</td>
<td>interface index</td>
</tr>
</tbody>
</table>

The following SNMP fields in the Traffic Details widget are populated from the NCIM view:

Note: If the discovered interfaces are not mapped with Network Performance Insight flow data, you can’t see the SNMP fields in the table on Traffic Details dashboard.
Table 18. SNMP fields in Traffic Details dashboard

<table>
<thead>
<tr>
<th>Traffic Details fields</th>
<th>Description</th>
<th>Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device</td>
<td>The device name.</td>
<td>The exporter ip from Flow table is mapped to the device name in the NCIM view.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This mapping results to the device name populated in the traffic details widget.</td>
</tr>
<tr>
<td>Index</td>
<td>A unique number that is associated with the physical or logical interface.</td>
<td>The if index from Flow table is mapped to the interface index from in the NCIM view.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This mapping results to the index value populated in the traffic details widget.</td>
</tr>
<tr>
<td>Description</td>
<td>The interface name.</td>
<td>The interfaces that are discovered by Tivoli Network Manager are mapped with the collected Network Performance Insight flow data as interface name.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This mapping results to the description of the device that is populated in the traffic details widget.</td>
</tr>
<tr>
<td>Speed</td>
<td>The value of the traffic flow through network interfaces, which measures the speed of the data transferred.</td>
<td>The speed from Flow table is mapped to the interface speed from NCIM view.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This mapping results to the speed value populated in the traffic details widget.</td>
</tr>
</tbody>
</table>

If you do not see data in the Traffic Details dashboard, see Integration problem: Traffic Details dashboard cannot be launched from Network Health Dashboard section in Troubleshooting IBM Network Performance Insight.

Related concepts:

“Traffic Details dashboard views” on page 3

Use this information to see the list of views that are available in The Traffic Details dashboard.

Launching Traffic Details dashboard from Network Health dashboard

The Traffic Details widget displays the details of an interface from a selected network device.

About this task

Browse from Network Health dashboard to view the specific traffic details of an interface 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. Log in to Jazz for Service Management server.
2. Click the Incident icon ( ) and select Network Health Dashboard under Network Availability.
   The dashboard page populates the configured network devices.
3. Select a view from the Network Views bookmark that you configured from the Network Health Dashboard.
   The other widgets update to show information based on the network view that you selected.
   The Network View dashboard opens in another tab. This dashboard contains Network Views GUI, the Event Viewer, the Structure Browser, and the Traffic Details, and it displays the selected network view.
4. Double-click a network from the Network View.
   For example, double-click All Routers.
5. Click an entity or device from the Network View.
   The selected entity details are displayed on the Structure Browser.
6. Click the Show Interfaces icon ( ) from the Structure Browser.
   List of interfaces for the entity is displayed.
7. Click an interface.
   The traffic details data with the interface details is displayed on the Traffic Details.
8. Select an entity from View list.
   For information on monitoring traffic details, see “Monitoring Flow data with Traffic Details dashboard” on page 1.
9. Optional: Click the Maximize icon ( ) from the upper right of the Traffic Details widget.
   The traffic details dashboard is displayed in full screen mode.

Related information:

➡️ About the Structure Browser
Chapter 4. Troubleshooting network issues with Device Dashboard

The Netcool Operations Insight 1.4.1 entitled customers can use the Device Dashboard to troubleshoot network issues by navigating the network topology and see performance metric values, anomalies and trends on any device, link, or interface.

Follow these steps to use the Device Dashboard for performance monitoring of network entity metric data and traffic Flow data:

- Start the Device Dashboard
- Change the Device Dashboard focus
- Monitor performance data
- Display performance timelines
- Display traffic data on an interface

Related information:

Device Dashboard
Chapter 5. Monitoring network performance from Event Viewer

You can monitor and manage network performance from events that are generated by Tivoli Netcool/OMNIbus on Web GUI.

About this task

You can access the events from the following widgets:

- **Managing events in the Event Viewer**

  Use the JavaScript Event Viewer to monitor and manage events. You can access Event Viewers in any page in Dashboard Application Services Hub that hosts an Event Viewer widget.

- **Monitoring events in Active Event Lists**

  The Active Event List (AEL) is an interactive Java applet for displaying alert data from the ObjectServer. Communication between the ObjectServer and the AEL is bidirectional. The AEL presents alert information from the alerts.status table in the ObjectServer to operators. Operators can perform actions against alerts such as changing the results from the alert properties in the alerts.status table from the AEL.

Procedure

1. Log in to Jazz for Service Management server.

2. Click Incident ( ) > Events > Event Viewer in the navigation bar.

3. Right-click an event that is labeled as NPI/Flow under the Manager column from the Event Viewer and select one of the following commands. Both of these commands launch the Traffic Details dashboard.

   - Flow Dashboard
   - Performance Insight > Show Traffic

   The Traffic Details dashboard that is associated with the selected event is displayed in another window.

   **Note:** You can launch the Traffic Details dashboard from Flow events only. Flow events are marked in the Event Viewer using the value NPI/Flow in the Manager column.

   For more information, see Configuring launch-in-context menu in Installing and Configuring IBM Network Performance Insight.

4. Optional: Right-click a Flow event from Incident ( ) > Events > Active Event List (AEL) and select Flow Dashboard.

   The Traffic Details dashboard that is associated with the selected event is displayed in another window.

Related information:

- Monitoring events in the Web GUI
**Event severity levels**

A severity level is associated with each generated alert to help you to prioritize and manage alerts in the Event list. Severity levels are color-coded for easy identification.

There are six default severity levels, as shown in the following table.

<table>
<thead>
<tr>
<th>Level</th>
<th>Threshold type</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clear</td>
<td>Green</td>
</tr>
<tr>
<td>1</td>
<td>Intermediate</td>
<td>Gray</td>
</tr>
<tr>
<td>2</td>
<td>Warning</td>
<td>Blue</td>
</tr>
<tr>
<td>3</td>
<td>Minor</td>
<td>Yellow</td>
</tr>
<tr>
<td>4</td>
<td>Major</td>
<td>Orange</td>
</tr>
<tr>
<td>5</td>
<td>Critical</td>
<td>Red</td>
</tr>
</tbody>
</table>

You can customize the event data and how the event data is displayed.

**Related information:**

[Customizing event displays in the Web GUI](#)
Chapter 6. Troubleshooting visualizations

Problems that might occur during network visualizations and how to resolve them.

About this task

For all troubleshooting issues in Network Performance Insight dashboards, see *Use this troubleshooting information to troubleshoot problems when you view the traffic data dashboards* in *Troubleshooting IBM Network Performance Insight*. 
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