Release summary
Before using this information and the product it supports, read the information in "Notices" on page 7.

This edition applies to version 1.2.3.0 of IBM Network Performance Insight and to all subsequent releases and modifications until otherwise indicated in new editions.

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## Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>About this information</td>
<td>v</td>
</tr>
<tr>
<td>Intended audience</td>
<td>v</td>
</tr>
<tr>
<td>Network Performance Insight architecture</td>
<td>v</td>
</tr>
<tr>
<td>Network Performance Insight technical training</td>
<td>viii</td>
</tr>
<tr>
<td>Support information</td>
<td>ix</td>
</tr>
<tr>
<td>Conventions used in this publication</td>
<td>ix</td>
</tr>
<tr>
<td>Typeface conventions</td>
<td>ix</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release summary</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notices</td>
<td>7</td>
</tr>
<tr>
<td>Trademarks</td>
<td>9</td>
</tr>
<tr>
<td>Terms and conditions for product documentation</td>
<td>10</td>
</tr>
</tbody>
</table>

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About this information

Describes issues of importance to users of IBM® Network Performance Insight®, Version 1.2.3 system.

Get familiar with what’s new in the release and access valuable release resources.

Intended audience

The audience for this information is the network administrator or operations specialist. You must have a thorough understanding of the following subjects:

- Basic principles of networks and network management
- Administration of the Linux
- IBM Network Performance Insight
- IBM Netcool® Operations Insight
- IBM Tivoli® Network Manager IP Edition
- IBM Tivoli Netcool/OMNibus
- Jazz™ for Service Management

Network Performance Insight architecture

IBM Network Performance Insight is a network performance monitoring system. It offers both real-time and historical trends in network performance and interactive view on the network 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:
Network Performance Insight services

Network Performance Insight services 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. Currently, Network Performance Insight 1.2.3 consists of the following microservices:

**Foundation services**
- DNS
- Event
- Manager
- Storage
- UI

**Entity Metric services**
- Cacti Collector
- Formula Service
- Entity Analytics
- SNMP Collector
- SNMP Discovery
- Tivoli Network Manager Collector
- Threshold

**Flow Metric services**
- Flow Analytics
- Flow Collector
For more information about these services, see their respective sections in *IBM Network Performance Insight: Product Overview*.

**Network Performance Insight additional components**

Some of the additional components that are introduced in Network Performance Insight V1.2.3 for enhanced functions are described here:

**Network Performance Insight Dashboards**

These interactive dashboards are the built-in JSON-based dashboards suite that can display aggregated network data from Network Performance Insight database with the help of REST API calls. It supports a combination of data from multiple data sources.

This feature provides a wide variety of dashboards for Network Operators, Network Engineers, and Network Capacity Planners. These dashboards help in pinpointing the troubled resources and general resource performance. A number of web-based configuration options are available to control the data that is displayed on the dashboards.

For more information, see *Network Performance Insight Dashboards* section in *IBM Network Performance Insight: Product Overview*.

**Note:** Networks for Operations Insight is a solution extension of Netcool Operations Insight that includes the following components and products:

- Tivoli Network Manager
- Tivoli Netcool Configuration Manager
- Network Performance Insight
- Network Health Dashboard
- Device Dashboard
- Topology Search

**IBM Open Platform with Apache Spark and Apache Hadoop components**

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 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 increase
- 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
Note: Because Zookeeper requires a majority, it is best to use an odd number of machines. For example, with four machines ZooKeeper can 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**

Products that are integrated with Network Performance Insight 1.2.3:

**Jazz for Service Management**
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.

**IBM Tivoli Network Manager IP Edition**
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**
Netcool Operations Insight is powered by the fault management capabilities of IBM Tivoli Netcool/OMNIbus. In Network Performance Insight V1.2.3, Tivoli Netcool/OMNIbus is an important part of the solution for monitoring the network threshold violations.

**Related information:**
- IBM Network Performance Insight on IBM Knowledge Center
- IBM BigInsights 4.2 documentation
- HDFS Architecture
- Apache Hadoop YARN
- Apache Kafka
- Apache Zookeeper
- IBM Networks for Operations Insight

**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 [https://www.ibm.com/software/support/isa](https://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
Release summary

Release summary for IBM Network Performance Insight, Version 1.2.3.

Contents

- Description
- What's new in Network Performance Insight
- Supported network technology and devices
- Compatibility with Netcool Operations Insight
- System requirements
- Media
- Installing Network Performance Insight
- Known issues
- Developer Works (dW) community
- Technical information PDF library
- Support

Description

IBM Network Performance Insight is the Performance Management extension of the IBM Netcool Operations Insight solution. Network Performance Insight is well-suited to monitor and troubleshoot the complex enterprise networks by providing contextualized insights through correlated SNMP, Flow, and IPSLA data sources.

Note: IBM Network Performance Insight is available for IBM Netcool Operations Insight entitled customers only.

<table>
<thead>
<tr>
<th>Table 1. Release update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version</td>
</tr>
<tr>
<td>1.2.3</td>
</tr>
</tbody>
</table>

CAUTION:
Before you attempt an installation of Network Performance Insight, you’re advised to read these release notes. Failure to consult these release notes might result in a corrupted, incomplete, or failed installation.

What's new in Network Performance Insight

New features and functions available with Network Performance Insight 1.2.3.

New Network Performance Insight deployment scenarios

The focus of this release is to address relevant Network Performance Insight deployment scenarios that customers might have:

- Network Performance Insight serves as second-level Performance Manager to Cacti, an open source performance monitoring software. Cacti’s database is based on RRDtool where data is stored in circular
buffer and is overwritten periodically. Network Performance Insight provides longer Cacti data retention for historical analysis and capacity planning.

For more information, see Scenario 2 - NetFlow data and Performance data from Cacti section in Installing and Configuring IBM Network Performance Insight

- Network Performance Insight can now be installed without requiring Tivoli Network Manager from Network Management extension of Netcool Operations Insight solution. This deployment scenario provides Netcool Operations Insight customers an easier installation path.

For more information, see Scenario 3 - NetFlow only data section in Installing and Configuring IBM Network Performance Insight.

Enhancements to Network Performance Insight Dashboards
The following improvements are introduced to visualizations:

- A new dashboard by name Network Traffic Overview, which helps to analyze network traffic and interface performance with insights into IP traffic composition based on NetFlow data that is collected.

- Enhancement to Network Performance Overview Dashboards:
  - Introduction of VoIP quality metrics monitoring from Cisco IP SLA - Mean Opinion Scores (MOS) and The Calculated Planning Impairment Factor (ICPIF).
    This dashboard provides insights on worst performing VoIP calls, by correlating jitter information to level of speech distortion and voice quality changes or degradation.
  - Introduction of Device Load metrics - CPU Load and Memory Load. This dashboard helps to identify resources with high CPU or Memory Load with ability to launch-in-context from the worst performing devices to On Demand Filtering Dashboard for further assessment.
  - Enhancement to On Demand Filtering Dashboards (Flow, IPSLA, and Device Health).
    Introduction of Dynamic Chart widget - All associated interfaces for a device are rendered side by side for useful pattern and trend analysis.

For more information, see Network Performance Insight Dashboards section in Using IBM Network Performance Insight.

Upgrade support
Upgrade is possible from Network Performance Insight 1.2.2 to 1.2.3.

For more information, see Upgrading IBM Network Performance Insight.

What’s new for developers
Existing REST APIs are modified to query and supply data to all the Network Performance Insight Dashboards in all installation scenarios. The updated REST APIs are as follows:

Flow Metric API
- aggregation
- interface
- summary

Entity Metric API
- deviation
- entity
For more information, see REST APIs in IBM Network Performance Insight: References.

Documentation addendum

Documentation updates that are handled between releases are documented in documentation addendum from here:

Documentation addendum on IBM developerWorks®

The English documentation always contains the most up-to-date information.

Supported network technology and devices

Functions that are supported by Network Performance Insight.

Table 2. Supported Network Performance Insight functions

<table>
<thead>
<tr>
<th>Functions</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported flow formats</td>
<td>• Cisco NetFlow (V1, V5, and V9) and Flexible NetFlow</td>
</tr>
<tr>
<td></td>
<td>• Juniper J-Flow (V5 and V9)</td>
</tr>
<tr>
<td></td>
<td>• Huawei NetStream (V5 and V9)</td>
</tr>
<tr>
<td></td>
<td>• Alcatel CFlow (V9)</td>
</tr>
<tr>
<td></td>
<td>• IPFIX</td>
</tr>
<tr>
<td>IP SLA</td>
<td>• Cisco</td>
</tr>
<tr>
<td>Supported Internet Protocol versions</td>
<td>• IPv4</td>
</tr>
<tr>
<td></td>
<td>• IPv6</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The open source Hadoop is not compliant with IPv6. Therefore, IPv6 is not supported on Network Performance Insight servers network. But IPv6 is supported on monitored devices.</td>
</tr>
<tr>
<td>Supported flow transport protocols</td>
<td>• UDP</td>
</tr>
<tr>
<td></td>
<td>• SCTP</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> You must configure your SELinux to support the SCTP protocol.</td>
</tr>
<tr>
<td>Application Visibility and Control (AVC)</td>
<td>• Cisco Aggregation Services Routers (ASR) 1000 Series, Cisco ISR 4000 Series</td>
</tr>
<tr>
<td>supported Cisco devices</td>
<td>• Cisco Cloud Services Router (CSR) 1000V, Cisco Integrated Service Routers Generation 2 (ISR G2)</td>
</tr>
</tbody>
</table>

Compatibility with Netcool Operations Insight

Integrated components and their supported versions in Netcool Operations Insight.

The following components from Netcool Operations Insight are required to work with Network Performance Insight:

• Tivoli Network Manager
• Tivoli Netcool/OMNIbus
• Device Dashboard
• Network Health Dashboard

For all the latest compatible versions of these components, see Version 1.4.1.2 on developerWorks community.

System requirements

The system requirements for the IBM Network Performance Insight installations.

For more information about system requirements for the IBM Network Performance Insight, Version 1.2.3, see Requirements.

See the detailed system requirements for Netcool Operations Insight from Software Product Compatibility Reports (SPCR) from here:


Media content

Network Performance Insight consists of the following general media packages:

Important: IBM Network Performance Insight is referred to as IBM Netcool Operations Insight - Performance Management in the media and they both refer to the same product capability.

Table 3. Part numbers for Network Performance Insight 1.2.3

<table>
<thead>
<tr>
<th>Component description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netcool Operations Insight - Performance Management V1.2.3 Linux Multilingual Base eAssembly</td>
<td>CJ3HMML</td>
</tr>
<tr>
<td>Netcool Operations Insight - Performance Management V1.2.3 Linux Multilingual</td>
<td>CNSIIML</td>
</tr>
<tr>
<td>Netcool Operations Insight - Performance Management Quick Start Guide V1.2.3 Multilingual</td>
<td>CNSIJML</td>
</tr>
</tbody>
</table>

For part numbers of other integrated IBM Netcool Operations Insight V1.4.1.2 components, see Download IBM Netcool Operations Insight 1.4.1.x.

Installing Network Performance Insight

Simplified installation with the help of some installation scripts.

For step-by-step installation instructions, see Installing and Configuring IBM Network Performance Insight.

Known issues

Provides the list of all current known problems and issues with IBM Network Performance Insight, Version 1.2.3.
For a list of known issues and resolutions for IBM Network Performance Insight, Version 1.2.3, see Troubleshooting IBM Network Performance Insight.

**Developer Works (dW) community**

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

Use dW community 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.

[IBM Network Performance Insight community on developerWorks](https://developerWorks.ibm.com)

**Technical information PDF library**

Link to the product documentation in PDF format for convenient printing.

Documentation in PDF format for Network Performance Insight is available from here:

[PDF documents for download](https://www.ibm.com/support/docview.wss?uid=swg21399876)

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