Product overview
Before using this information and the product it supports, read the information in “Notices” on page 13.
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About this information

IBM® Tivoli® Netcool® Performance Manager 1.3.3 consists of a wireline component (formerly Netcool/Proviso) and a wireless component (formerly Tivoli Netcool Performance Manager for Wireless).

The IBM Tivoli Netcool Performance Manager: Product Description provides an overview of the product, its new features and the steps to take if you decide to purchase IBM Tivoli Netcool Performance Manager 1.3.3.

Intended audience

The audience includes those considering IBM Tivoli Netcool Performance Manager as a Performance Management solution and those starting out with Tivoli Netcool Performance Manager who want an overview of the system.

What this information contains

This publication contains the following sections:

- Chapter 1, “Tivoli Netcool Performance Manager overview,” on page 1: A product overview.
- Chapter 2, “New features,” on page 3: A list of new features introduced in the 1.3.3 product release.
- Chapter 4, “What is next for customers,” on page 11: A very brief description of the next steps to take if you are considering IBM Tivoli Netcool Performance Manager as a performance management solution.

Network and Service Assurance community on Service Management Connect

Connect, learn, and share with Service Management professionals: 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.
For Tivoli technical training information, see the following IBM Tivoli Education website at [http://www.ibm.com/software/tivoli/education](http://www.ibm.com/software/tivoli/education).

**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. Tivoli Netcool Performance Manager overview

Tivoli Netcool Performance Manager is a Performance Management system that provides visualization and reporting of network performance data for complex, multivendor, multi-technology networks.

IBM Tivoli Netcool Performance Manager enables communication service providers, enterprises, and utilities to manage network performance of both fixed and mobile networks. It provides a comprehensive, flexible, and scalable Performance Management system that supports complex, multivendor, multi-technology networks and provides increased visibility into total network performance.

With Tivoli Netcool Performance Manager, customers can consolidate Performance Management of both wireless and wireline/IP-based networks to a single vendor solution for lower cost of ownership. The solution enables organizations to move toward convergence and next-generation networks at their own pace-while continuing to support existing mature technologies.
Chapter 2. New features

New features and enhancements that are included in the 1.3.3 release for Wireline component.

Tivoli Netcool Performance Manager, Version 1.3.3 offers an option to use IBM DB2® as the database support apart from Oracle support in Tivoli Netcool Performance Manager, Version 1.3.2. IBM DB2 support is for Wireline component only.

IBM Tivoli Netcool Performance Manager 1.3.3 offers the following new features:

IBM DB2 supports the use of
  • Tivoli Integrated Portal 2.2
  • Tivoli Common Reporting 2.1.1

Supported Linux version
  Red Hat Enterprise Linux 5.9

IBM DB2 support for database
  Support for:
    • IBM DB2 Enterprise Server Edition 10.1.0.1 Linux 64-bit only.
    • IBM Data Server Client 10.1.0.1 64-bit only

Note: Tivoli Netcool Performance Manager must be installed and run as a stand-alone database. It must not be placed on a server that already has a database. The co-hosting of Tivoli Netcool Performance Manager also affects performance in unknown ways. If a co-host is required, then you must contact IBM Professional Services for support.

Enhancements

The following features are enhanced in IBM Tivoli Netcool Performance Manager 1.3.3:
  • Resource label support in Diagnostic View
  • Save and Open workspaces in Diagnostic View
  • Tabular view support in Diagnostic View
  • Export to PDF in Diagnostic View
  • Export to CSV in Diagnostic View
  • Tivoli Netcool Performance Manager report label format change
  • RST multiple filtering criteria for subelements

High Availability

High availability is implemented for Tivoli Netcool Performance Manager. Tivoli Netcool Performance Manager consists of:

High Availability Manager (HAM)
  A DataChannel component that can be configured to handle availability of SNMP collectors.
For information on High Availability for DB2 database, see *High Availability and Disaster Recovery Options for DB2 for Linux, UNIX, and Windows* from the following location:


**Note:** For information about High Availability for Tivoli Netcool Performance Manager with DB2 as the database will be provided in the next release as this feature is still under testing.
Chapter 3. Tivoli Netcool Performance Manager architecture

Tivoli Netcool Performance Manager is a comprehensive, flexible, and scalable Performance Management system that supports the most complex multi-vendor, multitechnology networks while providing end-to-end visibility into total network performance. Tivoli Netcool Performance Manager reports on all aspects of network operations, manages the data and displays it in intuitive visual representations for all users within the enterprise. Armed with the key performance metrics they need, service providers can make informed operational decisions.

When both the wireline and the wireless components are installed in a multi-technology network, the result is the following overall product architecture.

![Overall product architecture](image)

**Figure 1. Overall product architecture**

**Wireline component**

The wireline component can be installed separately.

The wireline component uses a four-tiered architecture that tracks the sources from which different metrics are derived. It then collects those metrics, performs aggregations on them, stores them in a database, and reports the metrics by using a web portal.

The wireline component consists of the following main modules:
- "DataLoad" on page 6
- "DataChannel" on page 6
- "DataMart" on page 7
DataLoad

The DataLoad module is used to collect metric data from network resources. The DataLoad module interfaces with the network and uses SNMP and bulk collection to gather data.

The DataLoad module performs the collection of SNMP and bulk (non-SNMP) data based on policies that you have enabled for their collection. Collection is done in Coordinated Universal Time (UTC). The collected data is refined and used to create a Binary Object File (BOF). The DataLoad module places all the collected data into a directory tree, which can be understood and read by the DataChannel module.

The DataLoad modules can be loaded on lightweight servers and placed as close to the network as possible (often inside the network firewall).

DataChannel

The DataChannel module is used to move collected raw data from the DataLoad modules. It aggregates the data and then moves the data to storage in the wireline datastore.

The DataChannel processes provide the interface between the DataLoad module collection process and the database. The DataChannel processes handle the communication between the collectors and the database. They also perform calculations to the raw data to make it useful for reporting. The DataChannel processes load the data into the database on an hourly and daily basis. The DataChannel provides many applications responsible for transferring data from the DataLoad collectors to the database. The DataChannel provides these basic functions:

• Manages and aggregates data that is collected by the DataLoad collectors.
• Transfers data to the database on an hourly and daily basis.
• Creates logs that detail data flow from collectors to the database.
• Runs processes to start and monitor both the data loading process and aggregation process.

The DataChannel module uses a File Transfer Engine (FTE) to pull in files that are collected and compiled by the DataLoad module.

It performs statistical calculations on the data by using the Complex Metric Engine (CME). Depending on your chosen frequency, the Hourly Loader or Daily Loader are used to aggregate the CME data based on time and load it into the database. The DataChannel module also manages the state of components and maintains application logging information.
DataMart

The DataMart module provides administration for the wireline database and other aspects of the wireline component.

The database can store large volumes of data and retrieve the data quickly and efficiently. It accomplishes those tasks by using database partitioning. The DataMart database uses range partitioning to divide the database into partitions that are based on a range of date values.

The DataMart module includes the Discovery Server tool that is used to discover the network resources for which the wireline component provides reports. It also includes GUI tools for administering the wireline component installation.

DataView

The DataView module is used to gather resource and resource group data from the database and other sources. This data is presented in the form of charts and tables in Resource Views in the Tivoli Netcool Performance Manager console.

The DataView module provides a framework for configuring a wide variety of resource views and reports.

Users can set various report parameters, view reports from different time periods, and navigate through the various resources on the reports.

Administrators can install Technology Packs, associate users with reports and assign permissions and properties.

Content designers can modify and extend the functionality of technology packs by using the DataView Page Design Toolkit.

DataView and Tivoli Integrated Portal security processes ensure that only users that are authorized to access a report actually have access to that report.

Wireless component

The wireless component can be installed separately.

The wireless component consists of the following main modules:

- "Gateways and mediation" on page 8
- "Loaders" on page 8
- "Application server" on page 9
- "Wireless database" on page 8
- "Visualization" on page 9
Gateways and mediation

Gateways and mediation transform raw data form (such as ASN1, CSV, XML) into standardized LIF format.

A rules-based engine transforms the vendor source data to a standardized format. The engine runs every collection period as configured, for example, every 15 minutes, or hourly.

Rules typically involve:
• Retrieve the raw data from the datasource, for example OMC.
• Transform the data:
  – Insert hierarchy data.
  – Merge files into larger files for better performance.
  – Unpeg data (for rolling Counters).
  – Transform counters (such as add, split, subtract).
  – Generate LIF output.
• Push/publish to loader.
• Transfer LIFs to loader input directory for loading.
• Generate statistics.

Loaders

Loaders extract, transform, and load (ETL) the measurement data into traffic and hierarchy tables.

Load LIF data to populate:
• The measurement counters into the raw tables. This is the raw vendor generated statistics.
• The hierarchy data, that is, all the physical and logical entities on the Network and their relationships.
• Load Cells, their parent information, related attributes.
• Manage rehoming (A cell that is moving from one parent to another).

Track information on the interval of the loaded data per table (is the raw data that is being loaded at 15, 30 min or hourly intervals).

Track statistics on the amount of data that is loaded per table The amount of data that is loaded per block (in the LIF).

Generate alarms that are based on thresholds on raw counters that are being loaded.

Wireless database

An Oracle database provides the wireless datastore to store performance data. Time series data (raw, summary, busy hour) is stored in partitioned tables.

Core system metadata:
• System dictionary (the KPIs available for reporting) and ETL rules.
• Reports and report results.
• Scheduled jobs (system and user defined for reports).
Application server

The JBoss Application server runs scheduled jobs, analytics services, reporting, and manages the system dictionary for the wireless component.

Authentication is implemented by using LDAP in the Tivoli Directory Server, which is bundled with the product.

Major services:
- Scheduler: Manages the scheduling of system jobs (such as summarization) and user defined (scheduled reports).
- Dictionary: Logical -> Physical model mapping.
- Report Generation: Engine to transform report definitions into SQL statements to produce report results.
- AlarmService: Store and forward alarms that are generated during data loading.
- VMM: Tech pack installation and uninstallation.
- Summarization: Stored Summaries and Busy Hours.
- Partition Maintenance: Database maintenance.

Visualization

Visualization is provided by using the Tivoli Netcool Performance Manager console.

The Tivoli Netcool Performance Manager console facilitates the execution of administration tasks. Its main job however is to allow the user browse DataView resource views and reporting. In addition, it provides access to Tivoli Common Reporting, and co-location and integration with other Tivoli products.

Tivoli Integrated Portal

Tivoli Integrated Portal is a common web portal for all Tivoli products that enables cross-product, task-based views. You access wireline views and reports that are generated by the DataView module from resource views on the Tivoli Integrated Portal. Tasks can also be created that allow users with the correct roles to see information from more than one Tivoli product.

Through Tivoli Integrated Portal, users can set various report parameters, view reports from different time periods, and navigate through the various resources on the reports.

For wireline, Tivoli Integrated Portal integration enables the diagnosis of network performance problems by providing detailed information about threshold violations in a Performance Threshold Violation View.

The Performance Threshold Violation View is deployed as a Tivoli Integrated Portal portlet that can be started from the wireline component or from other Tivoli products. The portlet displays performance threshold violation details for events that are listed in the Active Event List portlet.


**Tivoli Common Reporting**

Tivoli Common Reporting is a common Tivoli business intelligence reporting solution that is delivered with the Tivoli Integrated Portal.

Tivoli Common Reporting uses the reporting capability of IBM Cognos to support wireline, wireless, and cross-domain reporting.
Chapter 4. What is next for customers

What to do if you would like to install Tivoli Netcool Performance Manager 1.3.3.

Important: Customer cannot upgrade to Tivoli Netcool Performance Manager 1.3.3 from the previous releases.

If you are considering to install Tivoli Netcool Performance Manager 1.3.3, the typical steps are as follows:
1. The customer contacts Technical Sales.
   You can contact an IBM representative by filling out a contact form.
2. The customer with the aid of Tivoli Services/Technical Sales outline the Topology that they require.
3. Technical Sales request Budgetary Sizing.
   The Budgetary Sizing is performed by an IBM body and is created to provide the customer an estimate of the approximate cost of the proposed Tivoli Netcool Performance Manager system.

   Note: Under no circumstances must a Budgetary sizing be used to define the dimensioning and acquisition of Tivoli Netcool Performance Manager customer production hardware.
4. Based on agreement, Technical Sales request Full Sizing.
   The full sizing is performed by an IBM body and is the final communication to the customer to state the total hardware that is required to fulfill the outlined Topology.

   Note: Complete this process before any hardware is purchased or the customer designates existing hardware for Tivoli Netcool Performance Manager.
5. The customers with the aid of Tivoli Services install the system.
   The documentation that outlines the requirements and procedures of an installation or upgrade of Tivoli Netcool Performance Manager can be found on the Information Center.

Further information

For specific information on the requirements and procedures of Tivoli Netcool Performance Manager 1.3.3 Wireline component, see IBM Tivoli Netcool Performance Manager: Installation Guide.
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