IBM

Tivoli software

IBM Tivoli Netcool Performance Manager
for Wireless

Highlights

- Capture and analyze vital network metrics from legacy, next-generation and future networks to execute network-wide analysis of infrastructure performance

- Proactively monitor and predict important trends to help improve network utilization and increase productivity

- Take advantage of near-real-time reporting in graphically and functionally rich formats

- Share relevant network health information to the appropriate users throughout the service provider organization

- Effectively manage ongoing changes in the network and automate time-consuming tasks to help minimize costs associated with troubleshooting and problem resolution

The telecom market demands that your organization deploy third-generation (3G) wireless, wireless IP and broad-band data networks in tandem with legacy wireless and wireline voice networks. This requirement only adds complexity to the task of assuring high service availability and quality. Meanwhile, sophisticated, new services and third-party content put further demands on your network infrastructure and operations.

To more flexibly and efficiently manage network resources during these changing times, you want better insight into network performance metrics. Furthermore, imagine what you could do with a performance management solution that collects, processes and analyzes data from the most complex multivendor, multitechnology networks to build an end-to-end view of overall network performance.

IBM Tivoli® Netcool® Performance Manager for Wireless provides critical performance metrics to help you proactively manage all aspects of your network infrastructure. Additionally, it enables you to display performance information in intuitive visual repre-sentations so that all users within the service provider organization can make the most of it.

Tivoli Netcool Performance Manager for Wireless offers a comprehensive, flexible and scalable performance management system, including an extensive library of "off-the-shelf" network interfaces: IBM Tivoli Netcool Performance Manager for Wireless Technology Packs. As a result, you can use it to obtain end-to-end visibility into total network performance — and leverage that insight to proactively avoid and resolve problems. That is why organizations of all sizes — from emerging service providers and

growing midsize operators to the largest carriers in the world — rely on Tivoli Netcool Performance Manager for Wireless.

Manage diverse technologies from multiple vendors

First-class performance management depends on "agnostic" integration capabilities and an understanding of various integration standards. If you can draw data from more network data sources, you can deliver a more complete picture of network performance. The architecture of Tivoli Netcool Performance Manager for Wireless has been designed with these ideas in mind, and as a result helps minimize the cost of ownership and maximize the capability and comprehensiveness of network performance monitoring.

IBM offers an enormous library of network interfaces that are ready for you to deploy as your network requirements evolve. Our strong relationships with network equipment manufacturers mean that you can receive timely support for vendor upgrades to coincide with manufacturers' release cycles.

Preconfigured technology packs can be quickly deployed, extended and
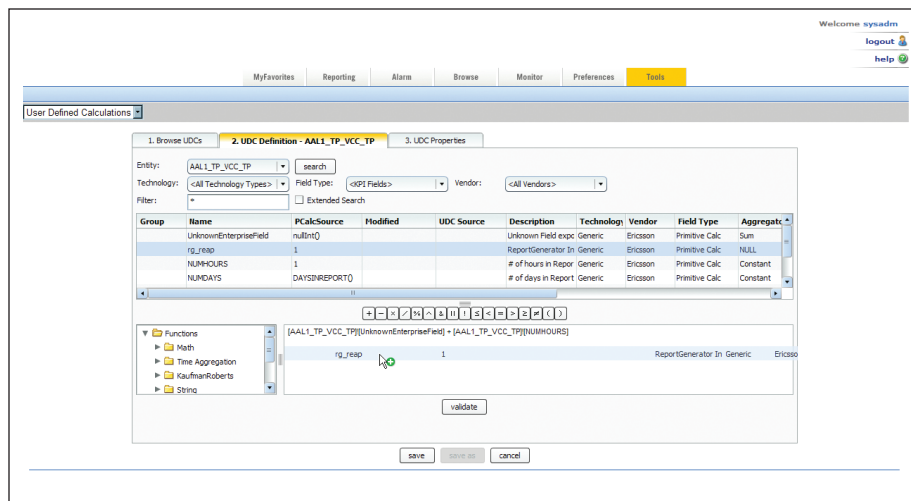
User-defined calculations deliver performance metrics tailored for network managers and company executives.

modified to make it simple for you to manage different technology types. These independent modules can be added to Tivoli Netcool Performance Manager for Wireless so that you can take advantage of domain-specific data models, vendor-specific counters and key performance indicators (KPIs), and value-added reports and graphs. As a result, you obtain visibility and intelligence from day one.

Example technology packs include Tivoli Netcool Performance Manager for Wireless Technology Packs for:

- Global System for Mobile (GSM).
- General Packet Radio Service (GPRS).

- Universal Mobile Telecommunication System (UMTS).
- Code Division Multiple Access Single Carrier Radio Transmission Technology (CDMA/1xRTT).

Solutions are available that provide comprehensive support for radio, core, transport, messaging systems and other key aspects of a wireless network.

Tivoli Netcool Performance Manager for Wireless Technology Packs also provide existing support for key technical developments such as High-Speed Packet Access (HSPA), IP Multimedia System (IMS), Mobile Switching Centre Server (MSC-S), Media Gateway (MGW) and more.

Each Tivoli Netcool Performance Manager for Wireless installation is also supported by extensive IBM experience with a wide range of network elements, service offerings and technologies.

Leverage predefined and customized KPIs

The KPI reporting and dashboard capabilities in Tivoli Netcool Performance Manager for Wireless deliver key metrics that help identify areas where your operations can improve network quality.

Typically, networks support an extensive set of low-level performance measurements (known as raw counters) for a given technology. To perform effective management of the network, operations staff can use Tivoli Netcool Performance Manager for Wireless to derive higher-level performance measurements that enable teams to monitor and report on network performance in terms that are commonly understood across the business. For example, you might be able to view and share a KPI for dropped calls.

Tivoli Netcool Performance Manager for Wireless not only includes predefined KPIs that you can quickly take advantage of, it also allows you to modify them or even build your own custom performance measurements. These custom measurements — user-defined

calculations (UDCs) — can enhance, modify or otherwise manipulate the data from one or more fields managed by Tivoli Netcool Performance Manager for Wireless. Typical uses for UDCs include:

- Creating a performance measurement KPI not already on the system.
- Building a complex expression (more than one field or operator) to use as a filtering criterion when generating a report.

Managing a multivendor, multitechnology network requires the ability to visualize the overall network with end-to-end KPIs and the information needed to compare the performance of components from different vendors. Consequently, Tivoli Netcool Performance Manager for Wireless allows service providers to define cross-technology and cross-vendor KPIs, using counters provided by a specific vendor or other counters that are vendor-neutral.

Take advantage of flexible reporting

Just as data collection and KPIs are most useful when they both include out-of-the-box capabilities and facilitate customization, the visualization capabilities and graphical representations in Tivoli Netcool Performance Manager for Wireless feature preconfigured and configurable components.

The large library of preconfigured calculations and KPIs includes highly useful wireless-specific reports, as well as technology-specific, multivendor report pages. At the same time, users can create new reports and graphs can be created in minutes by using the intuitive report definition tool.

Tivoli Netcool Performance Manager for Wireless reports are based on the latest XML technologies — unlike some structured query language (SQL)–based solutions. As a result, you can deliver near-real-time reporting in graphically and functionally rich reports. The product also offers support for flexible report scheduling.

If you prefer to work with report data in another context, Tivoli Netcool Performance Manager for Wireless can easily export reports to any reporting tool or database. Or you can export reports to Microsoft® Excel to enhance data manipulation. Additional output formats such as comma-separated values (CSV), plain text and others are also supported.
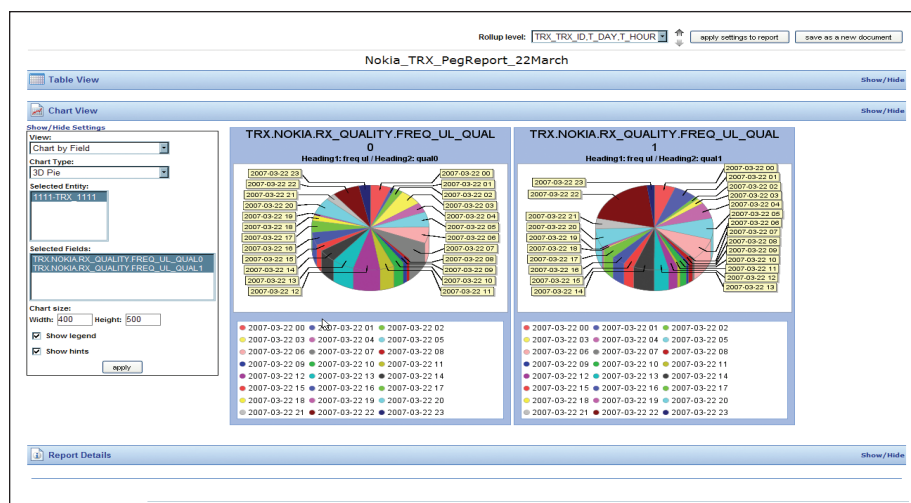
When reports are created, their components (report template, schedules and so on) and their output are stored in a vault that protects access to reports and facilitates information sharing when

appropriate. Users can define the hier-
archical structure that specifies which
reports are published for others to take
advantage of, as well as which remain
private. For example, corporate reports
can be published to avoid different
groups wasting resources by gener-
ating the same report multiple times.
Or you might define groups by market,
region, technology, time period and so
on, and then note which reports should
be published to these varying groups.
Report folders can be accessed by
authorized group members using any
secure Internet connection.

Tivoli Netcool Performance Manager for Wireless provides clear reports on the health of the network that everyone can understand.

Distribute information to users throughout your organization in ways that are easy for them to use

Performance management, when
done properly, can deliver network
intelligence not only to network opera-
tions but also to other business
management functions. Consequently,
a solution works best when it can
deliver intelligence to the varying
organizational groups that require
it in appropriate and useful ways.

Tivoli Netcool Performance Manager
for Wireless has been designed as
an intuitive tool for users with a wide
range of technical skills. A Web-based
interface delivers up-to-date perfor-
mance reports and analysis to facilitate

improved decision making. While
network engineers review detailed,
low-level network and transmission
layer reports, high-level business
executives can view a national quality
scorecard that rolls up regional KPIs
into an overall picture that can be used
to benchmark the regions.

The Web portal that users have for
accessing the network health information
most relevant to each of them can also
be customized by each individual. For
example, users can create pages
of content in customized layouts, or
reconfigure workspaces for quick access
to the information they need most.
Tivoli Netcool Performance Manager
for Wireless can then follow the default
behaviors established by each user.

Control troubleshooting and problem-resolution costs

To help maintain high-quality service
experiences for your customers and
deploy new services effectively, Tivoli
Netcool Performance Manager for
Wireless enables you to identify anoma-
lies in near-real time, troubleshoot
and test using custom reports and ad
hoc queries, and immediately review
the results of corrective action. Using
statistical measurement, sophisticated
troubleshooting and in-depth analysis
and measurement, Tivoli Netcool
Performance Manager for Wireless
helps you identify and fix potential
quality problems before customers
experience degraded service.

Granular troubleshooting provides network engineers with the technical detail required to pinpoint problems in the network, remedy them quickly and communicate proactively within the organization or to customers. Tivoli Netcool Performance Manager for Wireless also provides historical hourly, daily, weekly and monthly analysis, which is critical to help optimize long-term network performance and quality. The system provides powerful root-cause analysis capabilities that allow users to drill down to the level of the network element counter and roll up data to a higher level in the hierarchy, as needed.

Additionally, performance-based alarms can be fully configured to notify the appropriate staff about potential problems identified by any measured or calculated parameter, including trends identified by applying standard deviations to performance data. User-defined thresholds can be applied against report data to proactively generate alarms, which can automatically be e-mailed to any mobile device or routed through Simple Network Management Protocol (SNMP) traps to fault management systems such as IBM Tivoli Netcool/OMNIbus™ or to any other target system.

For more information

To learn more about how Tivoli Netcool Performance Manager for Wireless can help your organization efficiently manage your complex, heterogeneous networks, contact your IBM representative or IBM Business Partner, or visit **ibm.com**/tivoli

About Netcool software

The Tivoli Netcool software portfolio is used by many of the world's leading service providers for its ability to consolidate and manage events, network performance, service quality and the customer experience across some of the largest, most complex, heterogeneous environments. The Tivoli Netcool software portfolio offers broad collection, consolidation and correlation capabilities to help organizations rapidly identify and resolve problems and improve operational efficiency. By combining real-time service modeling and impact analysis capabilities with scalable fault and network management, the Tivoli Netcool software portfolio helps organizations to effectively manage the availability, performance, service quality and security of business applications and services.

About Tivoli software from IBM

Tivoli software provides a set of offerings and capabilities in support of IBM Service Management, a scalable, modular approach used to deliver more efficient and effective services to your business. Helping meet the needs of any size business, Tivoli software enables you to deliver service excellence in support of your business objectives through integration and automation of processes, workflows and tasks. The security-rich, open standards–based Tivoli service management platform is complemented by proactive operational management solutions that provide end-to-end visibility and control. It is also backed by world-class IBM Services, IBM Support and an active ecosystem of IBM Business Partners. Tivoli customers and business partners can also leverage each other's best practices by participating in independently run IBM Tivoli User Groups around the world — visit www.tivoli-ug.org

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