Tivoli® software

IBM

IBM Tivoli Netcool Service Quality Manager

Highlights

- Monitor and improve the quality of services, resulting in more effective customer care and increased customer satisfaction

- Respond to network issues based on corporate directives such as revenue, profitability, service and customer impact

- Provide product differentiation to your enterprise sales team by offering guaranteed SLAs to attract and retain high-value enterprise customers

- Help lower costs and time to market with standard off-the-shelf service solution packages for wireless and IP services

- Enable the successful, rapid introduction of new services that you can offer with confidence in their service quality

Telecommunications operators, seeking to grow and increase profitability, look for ways to control costs, reduce churn, improve revenue per user and grow the overall subscriber base. These goals must be accomplished against a background of spiraling network complexity, increased competition, service proliferation, demanding customer expectations and ongoing convergence.

The key to addressing these challenges is understanding the customer experience. Insights into the real customer experience can help you keep high-value subscribers, create and launch new services, and optimize existing services. Traditionally, however, service management tools have not provided the end-to-end visibility of the service quality needed to improve that experience.

In contrast, IBM Tivoli® Netcool® Service Quality Manager enables you to see your service through the customer's eyes and thus helps you

deliver high-quality service. With an end-to-end view, you can verify that each service (including voice, video, e-mail, Voice over IP [VoIP], i-mode, online gaming, virtual private network [VPN], IP-TV, DSL, Metro-Ethernet and more) is functioning correctly and within the expected bounds.

To help you manage services for each subscriber group on the network, Tivoli Netcool Service Quality Manager takes a technology-agnostic approach so that you can manage service quality and the customer experience through a wide variety of delivery technologies. Additionally, it features quick-to-deploy solutions for managing services such as Global System for Mobile (GSM) communications, General Packet Radio Services (GPRS), third-generation (3G) wireless technologies, Digital Subscriber Line (DSL) and WiMAX/WiFi networks.

Tivoli Netcool Service Quality Manager brings together an historical view of service quality management (SQM) and service level agreement (SLA) management into one solution, designed specifically to manage and improve service quality despite the complexities of today's telecommunication networks. This solution includes customer experience management capabilities and is one component of the comprehensive SQM offering from IBM, which is designed to address the full spectrum of quality from the network, service and customer perspectives.

Enable diverse business units to leverage customer-centric service quality information

Tivoli Netcool Service Quality Manager allows you to integrate various teams throughout your enterprise. Each team can make use of relevant information about service quality — provided in a variety of formats supporting different business functions:

- Senior management can see qualitatively and quantitatively how well the business serves customers.
- Network operations and engineering can prioritize customer-impacting service degradations while also being able to view how network improvements impact delivered service quality.

Tivoli Netcool Service Quality Manager within the OSS environment
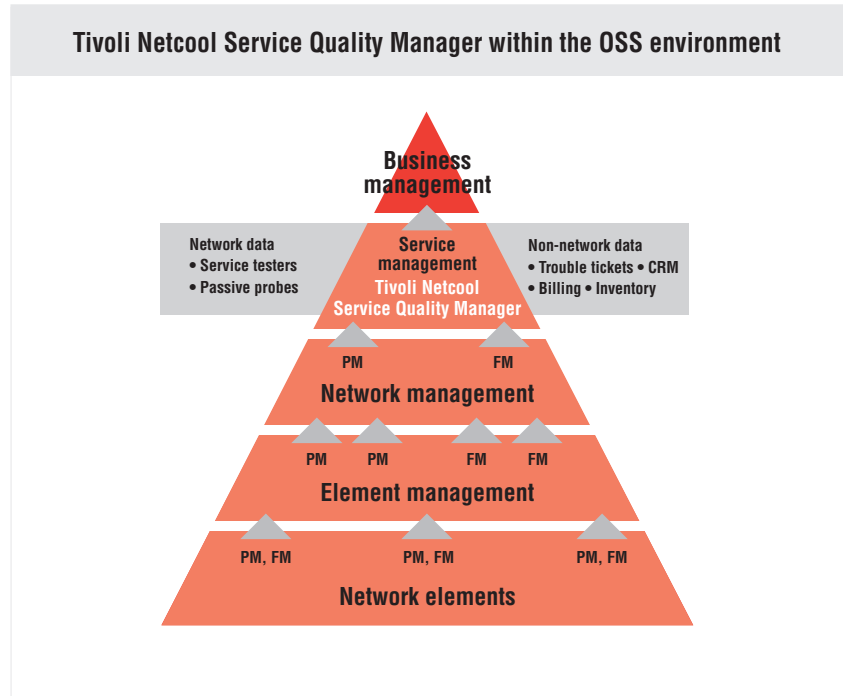
Tivoli Netcool Service Quality Manager augments performance management (PM) and fault management (FM) systems by leveraging data from other network and non-network sources, giving you the visibility needed to deliver high-quality services.

- Customer care can verify customer complaints and use impact analysis tools to prioritize problems that have the greatest impact on customers and revenues.
- Product management can see at a glance how their products perform.
- Corporate sales teams can offer SLAs to high-value enterprise customers to differentiate your business offerings.
- Third-party suppliers such as content providers can have visibility into the quality of service delivery.

Tivoli Netcool Service Quality Manager also includes an optional component that focuses specifically on customer experience management (CEM). CEM provides a detailed analysis of an individual subscriber's experience. It examines subscriber transactions by service, location, subscriber group and device type, then supplies this critical customer experience information to teams such as customer care, marketing, network operations and executives.

By integrating these diverse efforts, Tivoli Netcool Service Quality Manager helps you operate efficiently and achieve a sharpened focus on customer service quality, in the context of your overall business management priorities.

Manage customers' SLAs

Tivoli Netcool Service Quality Manager enables management of the service quality delivered to your most profitable customers through the monitoring of customer SLAs. More and more services (for example, BlackBerry) are becoming critical to the day-to-day business of customers. Consequently, for service providers to attract and retain enterprise customers, you must be able to both measure service quality and prove compliance with SLAs at a very granular level. It is not enough to deliver an aggregate view of service quality; your customers want to know the service levels they receive for each individual service their businesses rely on.

To address requirements such as these, Tivoli Netcool Service Quality Manager tightly couples SLA management with SQM. Whether using quality thresholds established by your organization or by your customers, you can map and manage service performance levels to SLAs. Even the performance of third-party service providers can be measured against SLAs.

By integrating SLA management and historical SQM, you can minimize errors while constructing new SLAs and test them prior to deployment. Additionally, you can more easily develop internal SLAs, allowing internal targets for service quality to be monitored and enforced. Different constituents within the service provider organization can use the SLA Web view to monitor compliance using a Web browser, without having to install software on their personal computers.

When potential SLA violations may occur, Tivoli Netcool Service Quality Manager can raise alarms in real time. Multiple thresholds can be set for an SLA; for example, one might be based on the severity of the impact and another on the time of day in which a problem occurs. Using these thresholds and monitoring information to trigger alarms, Tivoli Netcool Service Quality Manager helps your organization move proactively to maintain customer relationships and mitigate revenue impacts. It also enables targeted notification to relay service quality issues to the responsible parties in the organizations, thereby expediting problem resolution.

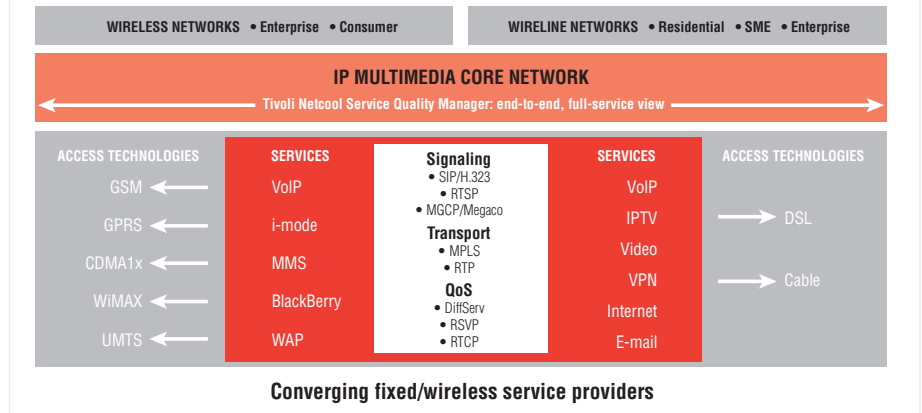**Identify high-priority problems quickly and accurately**

Intelligent key quality indicators (KQIs) in Tivoli Netcool Service Quality

Manager provide essential insights into customer-perceived quality issues and help identify network problems that affect customers. The quantitative service and diagnostic measurements of Tivoli Netcool Service Quality Manager KQIs match industry standards such as the TMForum WSMT Handbook methodology (GB923) and TMF GB917 SLA Handbook. If you set KQI thresholds based on historical values, Tivoli Netcool Service Quality Manager can highlight deviations from "typical" service performance.

KQIs can draw on new or existing data sources as well as multiple network and non-network sources. This flexibility is important because customer perceptions of inadequate performance may stem from an unreliable network or delays in resolving problems. An end-to-end understanding of network performance and service quality can help your business adopt the customer's view when assessing service quality.

With Tivoli Netcool Service Quality Manager, you can also dynamically adapt to changing conditions and priorities to optimize service quality restoration. A top-level view highlights important problems that cause the greatest trouble for customers. From the high-level metric, users can drill down into the cause of the problem

Tivoli Netcool Service Quality Manager covers every technology, every service — end to end

| WIRELESS NETWORKS • Enterprise • Consumer | WIRELINE NETWORKS • Residential • SME • Enterprise |

IP MULTIMEDIA CORE NETWORK
Tivoli Netcool Service Quality Manager: end-to-end, full-service view

ACCESS TECHNOLOGIES	SERVICES	Signaling	SERVICES	ACCESS TECHNOLOGIES
GSM	VoIP	• SIP/H.323 • RTSP • MGCP/Megaco **Transport** • MPLS • RTP **QoS** • DiffServ • RSVP • RTCP	VoIP	
GPRS	i-mode		IPTV	DSL
CDMA1x	MMS		Video	
WiMAX	BlackBerry		VPN	Cable
UMTS	WAP		Internet	
			E-mail	

Converging fixed/wireless service providers

Tivoli Netcool Service Quality Manager provides end-to-end visibility to help you deliver superior service quality while reducing operational costs.

Comprehensive reports in Tivoli Netcool Service Quality Manager include:

- Automatically generated SLA performance reports.

- Reports compiled on a per-SLA or per-customer basis.

- Customized reports based on specific user requirements.

- Automated reports distributed by e-mail and Web.

- Historical analysis and trends.

- Enhanced multidimensional KQIs.

- Adaptive thresholding — adjust thresholds to reflect typical performance, based on historical service metrics.

- Event forwarding to Tivoli Netcool/OMNIbus.

and perform root-cause analysis. Automated root-cause analysis capabilities further help speed problem resolution via a diagnose function that allows the SQM analytics layer to derive the top contributing factors to a service degradation.

Obtain a more complete picture of service performance by using open architecture

First-class service quality management depends on drawing data from sources throughout your network and enterprise. The more an SQM solution integrates with your existing and future systems, the more complete the picture of service performance it can deliver.

Tivoli Netcool Service Quality Manager uses open application programming interfaces (APIs) that conform to

industry standards such as Java™ EE, OSS/J and 3GPP. The scalable platform not only integrates with current systems but also supports your evolution to 3G/4G and all-IP networks. As a result, it helps minimize the cost of synthesizing data and simultaneously maximize the comprehensiveness of your service monitoring efforts. The solution forwards events to IBM Tivoli Netcool/OMNIbus™ — the premier event management system from IBM — to enable out-of-the-box integration for addressing service quality breaches.

Furthermore, Tivoli Netcool Service Quality Manager can deliver network and service intelligence to customer and business management systems that require it, in ways that these systems can use.

Rapidly introduce service quality management for individual technologies

Sometimes, a provider wants to begin with SQM on a limited scale and leave the option of expanding into a broader initiative later. IBM Tivoli Netcool Service Quality Manager Solution Packs allow you to implement SQM for a single technology or multiple technologies, such as VoIP, IP-TV, IP-VPN, BlackBerry, GPRS or i-mode. These targeted offerings include defined service models, data interfaces and reports that help you obtain a detailed view of the service delivery network, fulfill demanding quality of service expectations, reduce churn and attract new, high-value subscribers. As a result, you can introduce SQM quickly — and provide a basis for future Tivoli Netcool Service Quality Manager deployments.

Tivoli Netcool Service Quality Manager at a glance

Minimum hardware requirements for Tivoli Netcool Service Quality Manager server:
- Four 1GHz processors
- 6GB memory
- Three 36GB disks
- DVD-ROM

Minimum hardware requirements for Tivoli Netcool Service Quality Manager client:
- Intel® Pentium® III or above
- 1.5GHz processor
- 512MB RAM
- 3GB disk space availability for the software

Quickly map services to architecture

One of the biggest challenges in service quality management is service modeling — mapping services to the supporting infrastructure so that you can monitor performance in all its dimensions. This is particularly challenging every time you take a new service to market.

To streamline this process, IBM continually develops "off-the-shelf" service models (see sidebar) that are available with Tivoli Netcool Service Quality Manager. You also can use the product's highly graphical interface to develop your own models or modify the provided models by dragging and dropping service elements. The standard models developed by IBM — based on proven deployments — facilitate rapid introduction of new services. From the outset, you

can accurately monitor and track the delivery quality of new services.

Deploy a comprehensive SQM solution

Tivoli Netcool Service Quality Manager provides SLA and historical SQM functions that comprise key parts of the complete IBM service quality management solution. In addition, IBM offers solutions that help you implement:

- **Real-time service status management** — Allow operators to quickly assess the impact of events on the performance or availability of business services. IBM provides a dashboard that correlates service indicators across business and technology components.

- **Customer experience management** — Analyze in detail individual subscribers' experiences and correlate them back to broader service quality trends aggregated by service, location, subscriber group and device type. CEM is an optional component of Tivoli Netcool Service Quality Manager.

By deploying these integrated functions together, you can address the full spectrum of quality management, from the network, service and customer perspectives. To learn more about the comprehensive IBM SQM solution, visit **ibm.com**/tivoli/solutions/service-quality-mgmt-tele

For more information
To learn more about how Tivoli Netcool Service Quality Manager can help your organization meet SLAs and roll out new services effectively, contact your IBM representative or IBM Business Partner, or visit **ibm.com**/tivoli

About Netcool software
The IBM 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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