

# Accelerate and assure wireless services with intelligent solutions for wireless network and service management.



## Highlights

- Attract and retain customers
- Effectively manage service level agreements (SLAs)
- Help reduce operational costs
- Accelerate time to market for new services
- Improve customer support and service management
- Improve service quality and each customer's experience

## Achieve end-to-end management of new-generation services

Consolidation, technology changes and global competition bring new strategic challenges to the wireless industry. Operations must run seamlessly between departments, through disparate systems, over multiple technologies and across continents. Sophisticated and complex services require intuitive management tools to optimize network performance, service quality and, ultimately, the customer experience. Persistent competition puts pressure on providers to expand service offerings overnight and to deliver on expected service levels while growing and retaining a loyal customer base. Additionally, wireless service providers need to maximize and leverage investments already made in legacy systems while focusing on the successful rollout of existing and future networks — Universal Mobile Telecommunications System/Wideband

Code Division Multiple Access (UMTS/WCDMA) and beyond.

To be successful, service providers must continue to focus on customer profitability, deliver value-added services and control infrastructure labor and capital spending while developing new service offerings. IBM offers robust, end-to-end service management capabilities, from the content server down to the handset. IBM Tivoli® Netcool® wireless service management solutions help providers:

- Acquire and retain a loyal customer base.
- Effectively manage SLAs and reduce penalties.
- Improve service quality management.
- Consolidate and integrate silo tools under a single management platform to help control costs and improve operational efficiency.
- Achieve “service acceleration” — the ideal state in which strategy, operations and infrastructure are optimally aligned.

Success requires a new focus on customer profitability and retention, and a complete understanding of how wireless services are performing. Service assurance offers a way to manage operational resources and achieve better control of the customer experience in real time. It involves measuring quality indicators such as response time and availability of services — and much more.

Tivoli Netcool solutions for wireless provide an enhanced, end-to-end service assurance suite to accelerate business and provide a real-time, flexible and adaptable solution to help meet current and future requirements.

### **Improve customer retention with better quality of service**

Communications service providers face an extremely competitive marketplace. Their customers have high expectations and can take advantage of low switching costs if those expectations are not met. Loyalty management is a key priority, especially for retaining high-value enterprise customers.

Service providers need a transparent, end-to-end view of the network to see how services are performing and help minimize customer frustration.

Customers demand high service levels wherever they are, even when roaming in another country. However, customers will often blame “poor cell phone service” when the issue may be caused by a malfunction deep within the network.

With the Tivoli Netcool portfolio, operators can prioritize problem resolution based on impact to SLAs and services, which can in turn help reduce churn. This added business visibility allows providers to determine which services require additional investments and resources. Additionally, the customer care organization can better manage customer expectations, managing service calls proactively and communicating about service-related issues more effectively.

### **Accelerate the launch of value-added services**

Customers need your products and services today. Tivoli Netcool solutions enable faster time to market — helping service providers compete in the business and consumer markets by providing a platform that is flexible and adaptable out-of-the-box to help deliver new stable, high-value-add service offerings. This flexibility allows providers to quickly configure management applications and have visibility of network

### **Support new products and services**

- Gaming
- iMode
- Location-based services
- Mobile video and music
- Multimedia Messaging Service (MMS)
- Push-to-talk over cellular (PoC)
- Retail downloads
- Short Messaging Service (SMS)

configuration to determine new business and service viability.

Network complexity increases as service providers consolidate infrastructures and undergo network transformation while simultaneously rolling out new services. Managing these new revenue-generating services requires end-to-end service management across increasingly complex, multivendor infrastructures. Service providers who take a service oriented architecture-based approach to new service creation, delivery and management will have an advantage over their competitors. Services increasingly depend on a variety of interrelated elements that span wireline, wireless, IP and fixed/mobile infrastructures — from devices to applications and across a wide array of vendors. A holistic view of the entire network is essential to managing these services and making sure they are ready for the mass market.

### **Manage SLAs and the user experience**

Managing the quality of services is no longer simply a matter of ensuring that the device is functioning properly. Understanding the true service quality for each individual customer is vital. With Tivoli Netcool solutions for wireless, providers can measure and maintain SLAs by gaining a unique understanding of each customer's experience.

For example, they can measure service quality directly from the customer's handset and track service degradation to individual network devices. Or they can calculate the percentage of uptime in service, drop-call rates and the amount of time left — all to help ensure SLAs are being met. Ultimately, Tivoli Netcool solutions enable early detection, isolation and resolution of service issues.

### **Ensure network performance from the content server to the handset**

Your wireless networks are built using a variety of technologies, put together in phases as your business has grown — and in some cases through acquisition. If you use a disparate range of network element managers and performance management systems, you probably have a

fragmented view of overall services and unnecessary, costly inefficiencies.

Tivoli Netcool solutions integrate with Signaling System 7 (SS7) network probes to link real-time feeds of customer experience service measurements with signaling information extracted from the network. The solution gathers large volumes of service quality data from users distributed geographically across your network and analyzes the data to link network issues with their impact on delivered service quality. Service providers can proactively manage multiple technologies, vendors and devices with a single consolidated view across networks and continents. Tivoli Netcool solutions also help you simplify fault and event management, as well as network performance monitoring.

### **Consolidate operations and maintain high service levels**

Tivoli Netcool wireless service management solutions help service providers meet the high service levels required to retain their customers during a time of consolidation. The solutions provide end-to-end visibility and real-time monitoring of the entire wireless network infrastructure to bridge the gap between network fault management, network performance, service

level monitoring and customer management. Tivoli Netcool solutions deliver unmatched scalability, making them ideal for even the largest, most complex networks. Capable of handling more than 100 million events per day, Tivoli Netcool solutions help service providers dramatically streamline the management of multiple sites.

### **Help reduce capital expenditures with low-cost, centralized service management**

Service providers need broad service quality management solutions. The Tivoli Netcool portfolio provides complementary network and service management software, including network performance monitoring and service quality management, helping service providers monitor and report on the health of their networks, measure the quality of their customers' experiences and manage their networked infrastructures.

IBM can free you from the need to have separate support organizations for the radio access network (RAN), the transmission network, the IP core and the IT server network. A single organization can carry out first- and second-line fault management — and thereby generate cost savings and increased staff efficiencies. Additionally, out-of-the-box

integration with help-desk applications and operational support systems (OSS) provides third-line support.

**Leverage support for both new-generation technologies and existing investments**

As technology continues to evolve, the capabilities of the Tivoli Netcool portfolio continue to adapt. IBM can support service providers through new technologies and infrastructures as they develop, from 3.5G to 4G and beyond. IBM works closely with IBM Business Partners that create leading software and hardware to provide out-of-the-box integration between their platforms and the Tivoli Netcool suite. As a result, IBM helps you facilitate efforts to comply with standards such as 3GPP.

Furthermore, IBM recognizes that service providers have invested heavily in legacy 2G, 2.5G and 3G network technologies. Tivoli Netcool solutions help you:

- Extend the capabilities of existing operations centers by reducing the number of platforms required for a management solution.
- Improve the efficiency of existing underutilized network capacity through effective asset management.
- Identify unused or lost resources and minimize the unnecessary addition of new network devices.

**Monitor and manage service quality in real time**

Wireless service providers operate in a rapidly changing, competitive marketplace. To compete, providers must reduce costs, speed time to market for new services such as mobile video, mobile music and mobile gaming, and ensure high service quality. As carriers deploy service delivery platforms (SDP) and IP Multimedia Subsystems (IMS) — and deliver fixed/mobile convergence in pursuit of these goals — the complexity involved in managing the infrastructure and the services it carries increases significantly. IBM technology helps service providers understand network health and the quality of each customer's experience across large, complex, multitechnology, multivendor environments. With this insight, service providers can confidently roll out new services delivered at a high quality level while running an efficient operation.

The Tivoli Netcool portfolio includes a deep understanding of the wireless RAN, a critical infrastructure that supports the services wireless providers deliver to their customers. Tivoli Netcool solutions offer a complete picture that spans the critical assets you rely on to deliver services to customers.

*“T-Mobile’s voice and data networks can generate upwards of two-and-a-half million alarms every couple of hours, and the Netcool solution has proven its ability to quickly scale to enable our IT/NT operations teams to proactively manage our service infrastructure.”*

**— Guenther Ottendorfer, Chief Operating Officer, T-Mobile**

Tivoli Netcool software also allows providers to gain a view into how customers and revenue are affected by service and network status. Additionally, they can use the software to model the relationships and dependencies between the network, applications, host and business processes. Service providers can also link services to infrastructure and to customers — providing a live view of service status.

### **Understand the customer experience**

Tivoli Netcool software provides a “window into the customer experience” by nonintrusively monitoring the actual quality of voice, video and data delivered to the customer handset — in real time. These monitoring capabilities help you:

- Verify that high-quality service is delivered the first time — and every time.
- Increase service uptake and use.
- Build brand loyalty and customer retention.
- Close the customer-care loop.
- Provide immediate information on service degradation.
- Drill down to root causes of problems and fix them before customers and revenues are impacted.

### **For more information**

To learn more about how Tivoli Netcool wireless service management solutions help you optimize customer experiences, network management and service delivery, contact your IBM representative or IBM Business Partner, or visit [ibm.com/tivoli](http://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 comprehensive 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. Meeting 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 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](http://www.tivoli-ug.org)



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