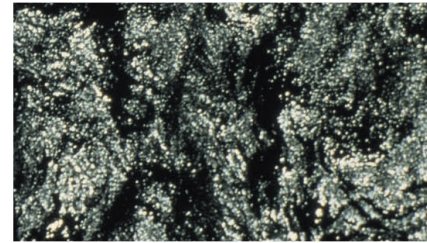**IBM**

Create, execute and manage for quality of next-generation communications services.

Highlights

- Manage the end-to-end service life cycle through integrated service creation, service execution and service management processes

- Enhance the quality of rich multimedia applications and converged services for improved customer experience and greater customer loyalty

- Rapidly deliver new, high-quality communications services to market to attract new customers and generate new revenue streams

- Continuously monitor services to improve quality and increase customer satisfaction

- Quickly identify, isolate, diagnose and resolve service problems to maximize responsiveness

- Leverage existing and next-generation networks, enable fast access to new content and applications, and incorporate evolving technologies

- Minimize cost and risk through improved operational efficiencies and reuse of existing service assets

Build in service quality by addressing the complete service life cycle

Communications service providers are under tremendous pressure to successfully manage new business and technology challenges. Competitive pressures are driving consolidation, evolution from legacy to next-generation networks, convergence of fixed and mobile services, and broader service offerings. Being able to respond quickly to these pressures is the key to survival.

This means service providers need to rapidly create and deliver innovative, new services — including customized, composite services and short-term specialty and promotional services, such as the instant replay of a goal in a World Cup soccer match — while assuring service quality once the service is live. You need to derive greater value from your existing infrastructure while having the flexibility to incorporate evolving technology such as IP multimedia subsystem (IMS) infrastructure, service oriented architecture (SOA) and Web 2.0 principles. And you need to lower costs associated with managing services by identifying and resolving problems quickly and prioritizing efforts based on business goals.

Communications service providers need a way to meet these aggressive time-to-market and service quality demands. You need a solution that will help them create, execute and manage high-quality services efficiently and effectively.

IBM Governance and Risk Management
Business alignment, visibility and control

IBM offers a holistic approach that spans the entire service life cycle. From service concept through deployment and ongoing service assurance monitoring for quality and performance, IBM offers communications service providers a complete solution for next-generation service quality management.

Streamline and speed service creation

Considering all the steps involved in creating a next-generation service, it's no wonder that communications service providers struggle to bring new products to market quickly. Take the example of an interactive gaming offering, in which customers use the same device to both play a game and "trash talk" with their fellow gamers using voice communications. This offering might rely on multiple services, such as:

- A gaming application created by one party.
- A Voice over IP (VoIP) conferencing service.
- Presence and location information.

Exchanging information and synchronizing efforts between the various parties can be difficult. For example, recombining the conferencing service and presence or location information

with a different gaming application could be nearly as time-consuming as starting from scratch. And managing updates to an individual component could also create major headaches.

IBM Rational® Unified Service Creation Environment — a key component of the IBM next-generation service delivery platform (SDP) — helps you manage the end-to-end service delivery life cycle from concept and requirements definition to design, development, testing, deployment and later updates, and eventually to product retirement. Based on the Eclipse framework, it provides a common, open standards–based environment with tools tailored to various skill sets.

By supporting a life-cycle approach to service creation, Rational Unified Service Creation Environment helps you align IT, line-of-business and network teams to enable them to work together more efficiently and effectively.
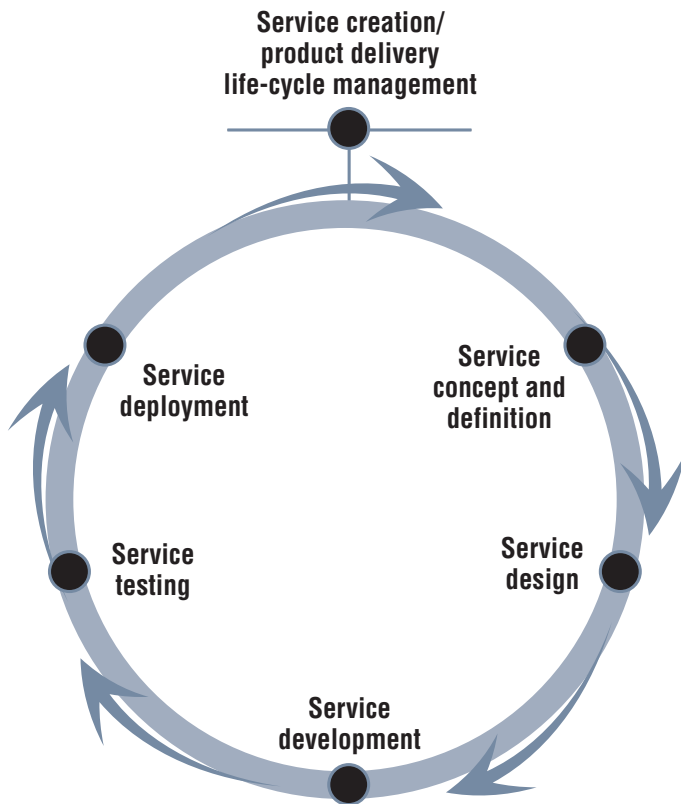
A key aspect of this life-cycle approach is that you can use a service architecture strategy to anticipate and streamline service assurance needs up front during service creation, rather

than just before production. You can design the optimum monitoring instrumentation that will be needed later to ensure a positive customer experience and quickly catch any service delays or outages. This allows you to maximize flexibility and speed when bringing high-quality, next-generation services to market.

Deliver a high-performance execution environment

Without a common platform for executing both HTTP-based and Session Initiation Protocol (SIP)–based applications, managing next-generation services can only be done in piecemeal fashion. Imagine that the service in our interactive gaming example relies on an HTTP-based gaming application and SIP-based functions for presence and for push-to-talk or voicemail. What happens if one application component in the service goes down? How is failover managed for the entire service?

For most communications service providers today, it is difficult to respond in an automated, consistent way because of the lack of integration between the HTTP and SIP environments. The result is inconsistent service quality for the end user.

**Service creation/
product delivery
life-cycle management**

**Service
deployment**

**Service
concept and
definition**

**Service
testing**

**Service
design**

**Service
development**

From service concept through deployment and overall management, IBM offers communications service providers a complete product delivery life-cycle solution for next-generation service creation.

To deliver a high-performance execution environment for converged services, the IBM next-generation service delivery platform relies on IBM WebSphere® technology with SIP capabilities to deliver converged HTTP/SIP applications. IBM WebSphere Application Server software provides seamless failover handling, security features, edge routing and load balancing for converged services to help you optimize the stability, availability and performance of your services — ultimately helping to drive high-quality customer experiences.

By leveraging the principles of a service oriented architecture (SOA) and combining this common execution platform with a component approach to core service enablers, you can extend functionality like presence and group list management across multiple services. For example, the presence component of our interactive gaming example could be leveraged in an enterprise service to inform employees about the availability of colleagues and the best ways to contact them, such as instant messaging or mobile phone.

IBM WebSphere software also helps you take advantage of architectures built to minimize the cost and time to deliver rich, composite services to market by providing modular, IP-based service enablers, including:

- IMS service control (ISC) interfaces for call session control function (CSCF), media gateways, user equipment and SIP devices, presence servers and more.
- A diameter stack to support IMS reference points for offline charging (Rf), online charging (Ro) and subscriber database support (Sh).
- Presence capabilities to collect, manage and distribute real-time information about user accessibility, availability and willingness to communicate.

- Document management to help users and administrators define and manage network-based documents (group lists, profile information, policies and authorization rules).
- Flexible, controlled access to telecom network capabilities and information through standards-based telecom Web services.
- Protocols and functionality to deliver carrier-grade security and interfaces for communication with business support systems (BSS) and operational support systems (OSS).

Improve service quality

The success of next-generation services is measured by high service retention rates and brand loyalty. In today's competitive environment, customers are quick to abandon services that don't perform as expected. To be successful, providers must deliver rich, value-added services, while ensuring the customer experience meets expectations. They must integrate voice, video and data traffic, without sacrificing performance.

To maintain high quality of service for customers, service providers need to deploy state-of-the-art service management software. Next-generation service management capabilities from IBM provide a comprehensive approach to help reduce the complexity of service management environments, lower

operational costs and improve quality of service. IBM service management capabilities, enabled by IBM Tivoli® Netcool® software, provide:

- **End-to-end view of service quality and customer experience** — measures and reports against key metrics to more effectively monitor availability, health and quality of communications services.
- **Support for any service** — proactively monitors and visualizes voice, video, data and other services.
- **Real-time service impact** — provides a real-time and historical view on business impact with prioritization.
- **Service level agreement (SLA) management** — allows operators to offer SLA management with conformance analysis.
- **Dashboards tailored to users** — extends service information to customer care, marketing, service operations, enterprise sales and executives.
- **Quality new-service launches** — helps drive customer satisfaction by enabling services to work right the first time and every time.
- **Powerful root-cause analysis** — enables detailed analysis down to the network element counter level for rapid problem identification and resolution.
- **Rapid deployment** — provides extensive, pre-established service models such as IP-TV and VoIP.

- **Customer experience management**— correlates data from fault, performance and probes down to the IMS infrastructure for a true view of service quality and the customer's experience.
- **Future-proof environment**—based on open, scalable architecture with adherence to TeleManagement Forum (TMF) standards.

As a result, service providers can gain a competitive advantage by shortening or avoiding service interruptions and assuring a high-quality customer experience.

Leverage a powerful solution to manage quality of next-generation services

Successfully managing quality of next-generation services requires end-to-end service management across complex, multitechnology and multivendor infrastructures. The IBM next-generation service delivery platform helps you create, execute and manage high-quality next-generation services quickly and efficiently — from service conception through deployment and ongoing service assurance monitoring. This allows you to focus on the customer, not the technology, and to better manage the customer experience. You can attract new customers and generate new revenue streams, while improving quality and customer
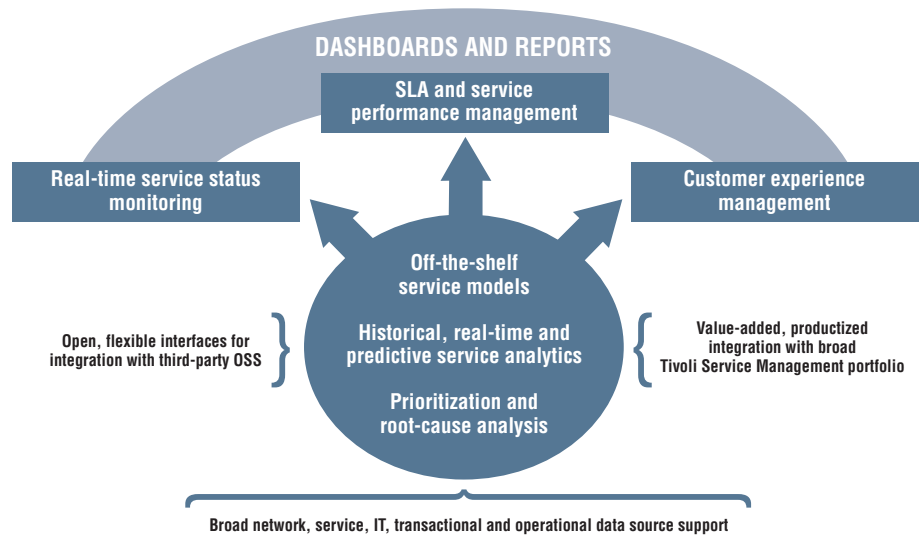
satisfaction. And by improving operational efficiencies, leveraging existing infrastructures and reusing service assets, you help reduce cost and risk.

IBM is uniquely qualified to deliver service quality management

As the only vendor offering a service management approach that applies industry best practices that encompass the entire service management life cycle, IBM is uniquely qualified to offer a modular, comprehensive service management model that includes hardware, software and services to speed implementation, as well as flexible financing options. From a single vendor, communications service providers can find the service management entry point that best meets their needs.

For more information

To learn more about how IBM solutions can help communications service providers build in and manage service quality throughout the service life cycle, contact your IBM representative or IBM Business Partner, or visit **ibm.com**/itsolutions/servicemanagement

DASHBOARDS AND REPORTS

SLA and service performance management

Real-time service status monitoring

Customer experience management

Off-the-shelf service models

Historical, real-time and predictive service analytics

Prioritization and root-cause analysis

Open, flexible interfaces for integration with third-party OSS

Value-added, productized integration with broad Tivoli Service Management portfolio

Broad network, service, IT, transactional and operational data source support

IBM Tivoli service quality management enables real-time service status monitoring, SLA and service performance management, and customer experience management.

About IBM solutions for enabling IT governance and risk management

IBM enables IT organizations to support governance and risk management by aligning IT policies, processes and projects with business goals. Organizations can leverage IBM services, software and hardware to plan, execute and manage initiatives for IT service management, business resilience and security across the enterprise. Organizations of every size can benefit from flexible, modular IBM offerings that span business management, IT development and IT operations and draw on extensive customer experience, best practices and open standards–based technology. IBM helps clients implement the right IT solutions to achieve rapid business results and become a strategic partner in business growth. For more information about IBM Governance and Risk Management, visit **ibm.com**/itsolutions/governance

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