

Solution overview brochure

Better manage service quality

Do it faster, easier, and at a lower cost with HPE



**Hewlett Packard
Enterprise**

Manage service quality from the user's point of view; give your customers the excellent service they demand, leading to powerfully enhanced customer experience and loyalty. Ensure better customer satisfaction, improved operational costs, greater insight, and control over your organization's service portfolio.

Drive top- and bottom-line revenue

In this new decade, it takes a lot to stand out in the highly competitive telecom marketplace. Improving the customer experience has become one of the top ways to retain customers and win new businesses.

As a result, communications service providers (CSPs) embark on transformation initiatives to enhance the customer experience at all touchpoints. Evolution to more customer centricity spans the different responsible groups of service provider organizations. It also transforms how these groups work with each other to improve customer satisfaction at the best possible costs.

Delivering the best customer experience is not an easy task. This is especially true in times of dramatic data traffic explosion delivered by multiple generations of networks and service platforms, and combined with high smartphone adoption rate. This explosion makes it more difficult and time-consuming to identify the root causes of user-affecting incidents and how to best resolve them. Yet service quality is a deciding factor in determining customer satisfaction. Service providers need to resolve service quality problems before they negatively impact the customer experience.

For operations, resolving service quality problems before they affect the customer experience means adopting a new mode of operations. It also means embracing service quality from the user experience point of view, in addition to the multiple technologies that deliver the services.

This adoption is almost impossible to realize without:

- Powerful service and resource dependency-mapping capabilities
- Common dashboards that provide visibility into the service experience
- Clearly defined levels of service

Services must be monitored for adherence to defined key Quality of Service (QoS) and Quality of Experience (QoE) indicators, computed from numerous technical indicators coming from different management applications. When technical issues arise, it must be possible to immediately:

- Visualize impact on the user experience
- Identify which service quality indicators have failed to meet the agreed targets
- Locate the technical sources of the issues, so corrective actions are taken without delay

A robust and automated solution is needed to monitor the service quality and experience. When technical issues arise, it has to enable a rapid handover to different groups that can make required adjustments and repairs. These include technology experts' in-field maintenance, network engineering, and planning teams, and now, with the success of smartphones, additional stakeholders such as staff responsible for device management.

The challenge is significant, but so is the payoff—better customer satisfaction, improved operational costs, greater insight, and control over the service portfolio, leading to powerfully enhanced customer experience and loyalty.

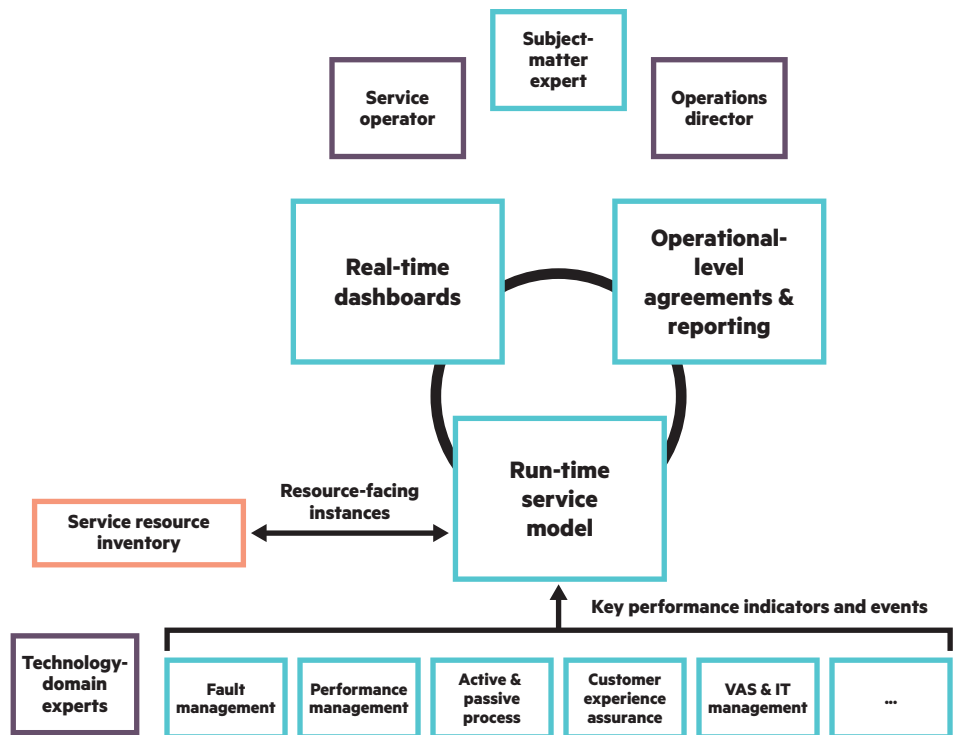


Figure 1: HPE Service Quality Management solution

Manage service quality

The Hewlett Packard Enterprise (HPE) Service Quality Management (SQM) solution helps CSPs improve customer experience when using services while keeping the associated support costs under control. The solution helps operations, like yours, adopt a customer-oriented mode of operations by filling the gap among:

- Experience metrics that matter to the customer
- Service-specific quality indicators
- Technical performance of the networks and value-added services (VAS) infrastructure that deliver the services

Real-time views offered by HPE SQM

- **Consolidated, synthetic views** provide an at-a-glance look at the services and associated user experience across different services, in terms of service availability, accessibility, retainability, security, and QoE support indicators.
- **Service views** enable the operator to see service quality—by service, in terms of availability, accessibility, retainability, supportability, security, and associated specific KQIs. Examples include:
 - Mean opinion score (MOS)
 - Speech quality
 - Number of dropped calls for voice services
 - Throughput for data services—streaming, browsing, download, peering, and others
 - Total transfer time for a short message and more

These views enable easy drilldown into the service dependencies to quickly identify the resource or set of resources causing or reporting a problem. Furthermore, SQM service views can be configured for operational needs, such as regionally organized views—how services perform in region A, B, C, and so on—from a common and shared set of data.

Pinpoint and resolve issues quickly

This solution provides full visibility—in real time—of service quality and experience through consolidated services views. It does this by collecting key performance indicators (KPIs) from different sources, such as network performance and fault management, network surveillance or passive probes, active probes, customer experience applications, traffic management, and trouble-ticketing systems.

The different KPIs are further used to compute service key quality indicators (KQIs), according to resource and service dependencies. KQIs are made available in a dashboard, enabling operations to immediately detect issues damaging the user experience. The dashboard provides different views of the services and indicators. With them, operators can easily drill down into more detailed views. They can find out which metrics are involved and where in the service dependencies “tree” an abnormal behavior is degrading the user experience.

Customizable alarms can be triggered to alert the appropriate personnel to take action, raise service incidents, or both. This enables them to focus on the most critical issues before service-level agreements (SLAs) are violated or customer experience suffers.

Upon technical resolution, service operations can immediately verify that the result of the repair activities have cleared the issue experienced by users. By shortening delays in identifying and diagnosing service issues, HPE SQM reduces risks and costs of service degradations and poor quality.

Guide operational improvements

In addition to real-time capabilities, the solution provides reporting on service quality and user experience and how these compare with defined service-level objectives. Service-level management enables you to focus on the objectives associated with services. It leverages the same set of service data and KPIs, KQIs, and QoE indicators as used in real-time views, with a focus on services and operational achievements.

For example, service levels can be defined to have the overall view of service availability and accessibility percentages over time, showing the frequency at which service quality or user experience is degraded. Levels of service can also be defined by service to capture service-specific achievements, such as worst number of dropped calls in peak hours for voice, percentage of text messages with transfer delay above 60 seconds, ratio of unsuccessful session setup for video steaming, and others.

Using this capability, your operations, field maintenance, network engineering, and product management can measure their performance and focus on selected key process, service, and technical improvements that can enhance customer experience and maximize operational efficiency.

Improve satisfaction and efficiency

HPE Service Quality Management is aimed at operations organizations that need to evolve their processes and capabilities to better serve the business objectives of higher customer satisfaction and improved efficiency. Yet evolving from a technology to a service- and user-experience-focused mode of operations is an operations support system (OSS) transformation—and that does not happen from day one.

HPE OSS:

- Is built on more than 25 years of deep and broad OSS experience
- Was successfully implemented in more than 500 client deployments worldwide, out of which 350+ are Assurance solutions
- Is backed by a portfolio of more than 300 field-proven best practices
- Integrates OSS capabilities from Hewlett Packard Enterprise and solution partners
- Gives you access to 10,000 HPE Services personnel available in more than 170 countries
- Enables fast deployment with minimal disruption to existing operations
- Gives you the peace of mind that comes with local experts, based near you, who speak your language
- Brings a complete capability to manage and operate your network and services

This iterative process is facilitated by the modular and flexible design of this Hewlett Packard Enterprise solution, which can easily evolve as the level of maturity in service management augments. It is possible to begin by focusing only on selected services and later progress to additional services—potentially finer grain visibility as mandated by business objectives and requirements.

Our solution is composed of modular components that work with each other to deliver the desired functionality. These components support the whole SQM solution lifecycle through designing, deploying, operating, reporting, and improving levels of service.

HPE Service Management Foundation

The HPE Service Management Foundation is the core of this solution. It provides the HPE Run-time Service Model (RtSM), which acts as the operational repository for services, their topology and associated quality, and user experience metrics and computation rules.

In production, RtSM keeps an always up-to-date picture of the services, their dependencies on technical resources, and the values of different KPIs and KQIs. RtSM is used by the SQM dashboard, which provides real-time service views, and the service-level management (SLM) component that provides reporting and visibility into the achieved levels of service.

HPE Service Management Foundation features:

- Predefined service models and a KPIs and KQIs library—HPE Service Management Foundation provides a predefined data set, called Telco Universe, which facilitates needed customizations required by the existing environment and desired operational model. Telco Universe is based on the TM Forum Shared Information/Data model (SID), further extended and iterated with mobile and fixed line services, service elements, and their dependencies. It also includes predefined KPIs, KQIs, and calculation and propagation rules to compute service quality and user experience metrics. Definitions and enrichment rules are based on industry standards such as TMF GB.923 and GB.917, relevant 3GPP 32 series technical specifications, ETSI TS 102 250 and 126 944, and our experience from successful HPE SQM solution deployments worldwide.
- Dynamic service instantiation and synchronization—The Service Management Foundation provides advanced mechanisms to automate instantiation of services and their dependencies on resources in the RtSM. Instantiation can use different modes such as discovery, upload, and federation from any data sources that have an accurate inventory of service resources. These mechanisms also enable updating services dynamically and automatically when measurements from previously unknown service resources are collected.
- Run-time Service Model—Once adapted to the desired service quality operational model, services are instantiated in the Run-time Service Model as described in the previous bullet. RtSM computes and propagates the service quality and user experience indicators from the KPI data sources and makes them available in the Service Management Foundation Dashboard and SLM views. It also supports multiple views so service operators can focus on their area of responsibility while sharing the same set of components with other users.
- Service quality dashboard—The Service Management Foundation Dashboard provides a role-based, user-based, and customizable service quality dashboard, creating a common environment that brings together services, quality, and user experience KQIs; dependencies on resources; and their technical KPIs from multiple data sources. The dashboard enables detecting user experience issues immediately. It also facilitates drilldown into service dependencies, reducing the time and complexity needed in locating, diagnosing, and documenting the suspected cause.

HPE Service Level Management

HPE Service Level Management measures operational levels of service over time, comparing them with the desired improvements objectives in user experience and operational efficiency. It provides visibility on the different types of issues affecting users, including where they are happening in the service-delivery chain and to what extent they degrade the user experience.

The solution sends alerts if the user experience or process performance is in danger of falling below the defined operational targets. Combined with operational metrics, such as mean time to resolve a service incident, it provides full visibility on where technical improvements can have the most positive impact on the customer experience, and where the efficiency of operations needs improving.

Reporting features a variety of web-based reports on historical quality of service, experience, and many types of statistical information. A variety of predefined reports are included, and many types of customized reports can also be generated—regularly scheduled or on demand.

HPE SQM Service Adapters

The HPE SQM solution collects KPIs from Hewlett Packard Enterprise and third-party data sources using mediation modules called service adapters. Typically, KPI data sources include network performance and fault management, network surveillance or passive probe systems, active probes, customer experience applications, traffic management, and trouble-ticketing systems.

HPE Service Designer

As different customers have different requirements, the solution includes an HPE Service Designer—used in the initial service design and evolution phases of the solution lifecycle. It eases the design of complex services from customer-facing down to resource-facing services, their dependencies, and associated KPIs, KQIs, and QoE indicators.

The modeling is done in Unified Modeling Language (UML). It uses the HPE Service Management Foundation Telco Universe to reduce the effort and complexity in adapting these models and indicators to the desired service model and operational environment. The resulting service models are translated by HPE Service Designer, from UML into the HPE Service Management Foundation models used in production.

Reversely, existing service models from HPE Service Management Foundation models can be imported into the service designer to be modified and make the SQM solution evolve over time.

HPE OSS and BSM integration

In addition to integrating with Hewlett Packard Enterprise and third-party data sources to instantiate and populate RtSM and collect KPIs, HPE SQM integrates seamlessly with other components of the HPE OSS software portfolio.

Take full advantage of the HPE OSS portfolio by automating the OSS assurance processes from error detection to resolution, using integrations with HPE Customer Experience Assurance, HPE Universal SLA Manager, HPE Unified Correlation Analyzer, HPE TeMIP, HPE Unified Topology Manager, and HPE Service Manager.

For telecom and IT convergent environments, you can combine the benefits of the HPE OSS and HPE Business Service Management (BSM) solutions, capitalizing on the shared components between HPE SQM and HPE Application Performance Management software. These advantages include BSM capabilities and numerous native integrations, including HPE Operations Manager i software, HPE Network Node Manager i software, HPE Universal CMDB software, and more.

The HPE SQM solution also provides open interfaces to integrate other vendors' software and custom-developed solutions.

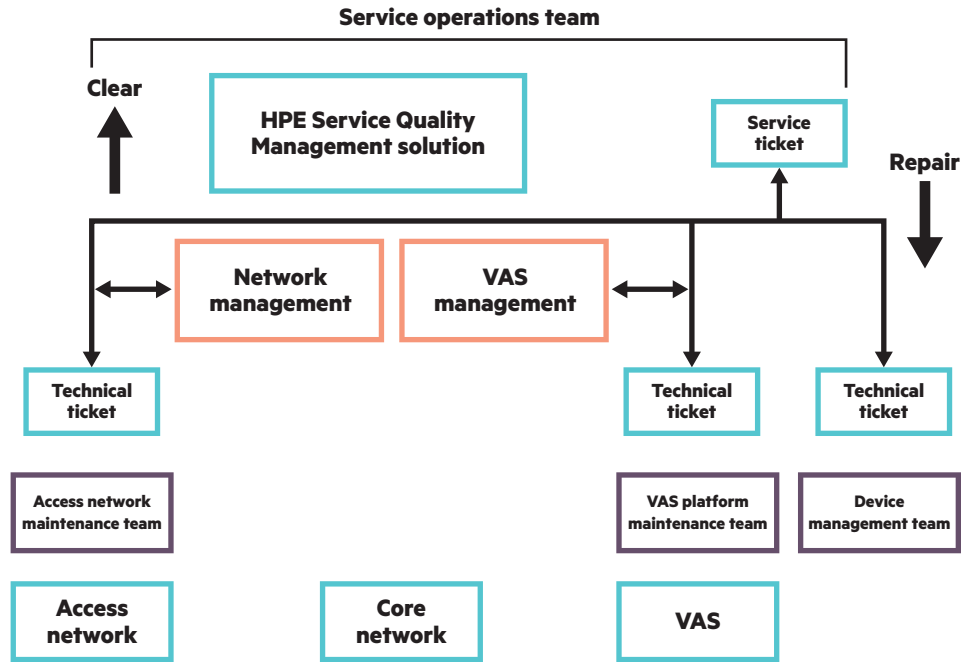


Figure 2: Integration of resolution processes for service and resource problems

Deliver the desired experience

Spur revenue growth and customer loyalty

Deliver the service experience customers want; it helps improve average revenue per user (ARPU) and drive growth. By efficiently managing service quality from the user's point of view, operations directly contribute to the business objective of improving the customer experience. As a result, it increases customer stickiness, service use, and adoption rate while strengthening the brand to attract new subscribers and reduce churn.

Gain a competitive advantage

Get visibility into the actual user experience and identify service problems before they negatively impact customer satisfaction. This helps you deliver a superior service experience to differentiate yourself from the competition. It also drives network and service improvements to help maximize the positive impact of changes. This differentiation enables you to enforce your leadership and capture new market opportunities and demands.

Improve operational efficiency and reduce risks

Gain visibility into the actual user experience to reduce the risks of unseen issues that severely impact business. Simplifying the localization and investigation of service-affecting issues helps operations personnel optimize the time spent on simple vs. hard-to-diagnose issues. The repair process is triggered more rapidly. Automating coordination of different teams involved in technical repair and seeing directly the results on the user experience drastically improves business processes and associated first-time resolution performance. As a result, high-quality services can be managed reliably and cost-effectively.

Benefit from HPE Services

HPE Communications & Media Solutions (CMS) Services offers a proven way for navigating your transformational journey:

- **HPE Solution Consulting Services** helps define business transformation and translates strategies into actionable solutions.
- **HPE Solution Implementation Services** offers a low-risk project lifecycle across design, development, customization, and network and system integration.
- **HPE Solutions Management Services** increases the operational efficiency of your existing solutions, including reactive, proactive, operational, and enhancement management services.
- **HPE Outsourcing Services** offers a variety of sourcing options—including IT and infrastructure outsourcing, application management, and business process outsourcing—designed to improve business agility while reducing your operational expenses.

And depending on your needs, we can offer a variety of financing and operating approaches for OSS.

Work with a leader

As the trusted partner for OSS transformation, Hewlett Packard Enterprise has the unique combination of many years of consulting experience. We've gained this insight from small to large and complex OSS transformation projects worldwide, industry-leading solutions, mature deployment methodologies, and highly experienced delivery teams.

HPE is an active member of the TM Forum, helping drive development and adoption of TMF Framework standards. We are equally active with the Information Technology Infrastructure Library (ITIL) and are the only technology vendor to author one of the five ITIL V3 core books. In addition, HPE authored the ITIL glossary and built the overarching process maps for the new library.

Combining this rich experience, Hewlett Packard Enterprise brings the best of both to our consulting and product development. An active participation in TM Forum, ITIL, and other bodies helps ensure HPE solutions are closely aligned with where the industry is going, so investments made today continue to pay off long into the future.

Learn more at
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