The Accenture Service Assurance Solution
Improving Network Service Quality while Reducing Cost

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The Growing Importance of Holistic Quality Assurance

For communications service providers (CSPs), the journey to optimized network operations can be a powerful enabler in recovering efficiency, deploying services more rapidly and providing customers with enhanced quality of service.

The Accenture Service Assurance Solution

The Accenture Service Assurance Solution is designed to help clients more rapidly, efficiently and cost-effectively identify, isolate, troubleshoot, and repair device, network and service problems that are impacting their customers and network services.

The solution leverages a variety of services, including operational diagnostics; organization and process design; systems implementation and integration; analytics; and outsourcing of fault, performance, service level and trouble management functions.

The Accenture Service Assurance Solution utilizes IT and consulting services, as well as business process outsourcing (BPO), and can help CSPs:

- Improve their responsiveness to network and service issues in order to guarantee the customer experience.
- Launch, manage and maintain QoS-guaranteed services that differentiate their market positioning and customer appeal.
- Introduce a service operations center (SOC) function as the operational hub that bridges network and customer experience through the correlation of network signals into meaningful interpretations of service quality.
- Recover efficiency and reduce the total cost of ownership of addressable OSS.

Specific Services

As shown in Figure 1, within the Service Assurance offering, Accenture provides three main specialized sub-offerings that target the specific needs of CSPs.

Figure 1: The Accenture Service Assurance Offering Areas

Reinvent network quality management, exploiting data from diverse sources, business-side and network-side, and reducing the volumes of network incidents to be managed

Reshape network operations, defining efficiency-recovering approaches for core operational competencies and exploring alternative sourcing options for non-core ones

Transform traditional network operations into a service-oriented operational paradigm that brings together cost efficiency, service performance insight and customer centricity
Service Quality Management

CSPs are showing a heightened sense of urgency in moving toward service-oriented organizational structures, processes and system architectures, and are looking for more automated and meaningful ways to interact with their customers.

This urgency stems from several clear needs encountered in the telecom market today:

- **Transformation** from a network-centric operations paradigm to a service-centric one, focusing on customer experience rather than just on network performance.
- **Churn reduction and loyalty improvement** through customer advocacy of user-perceived in-service quality with better management of high-ARPU customers. This requires specifically focusing on leveraging analytics to understand and predict the user’s behaviors, as well as enlisting in better and faster resolution of customer issue calls.
- **Cost reduction** through the automation of network operation and maintenance tasks; the centralization of the associated capabilities and their consistent application across network domains, services and customer segments; and reduction of the number of customer service requests made to the support desk, as well as overall issue resolution time.
- **Revenue generation** through the capability of measuring and proactively monitoring service performance, which also enables CSPs to offer new products associated with committed-to service performance and customer experience levels (SLAs). This capability also allows CSPs to commit to a higher level of service with improved quality of experience, reducing lost revenue caused by service outages and churn, and ultimately driving an improved reputation for customer experience in the market.

In the standard structure of NOC-based operations (see Figure 2), network issues cannot always be properly correlated to service quality or customer impact, while redundant NOC structures create a lack of clear accountabilities for end-to-end service quality.

**The Solution: Service Quality Management from Accenture**

As shown in Figure 3, Accenture’s proposition for a SOC bridges network and customers through correlation of weak and strong “signals” and through a clear definition of service quality accountabilities.

In such a structure, SOC operators have, for each monitored service, end-to-end views focused on the service and on its layers, and on the service experience perceived by end customers.

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**Figure 2: Standard Structure of Network Operations Center-based Operations**

The wall between network and service visibility

A weak signal, not caught by NOC: an overloaded (not yet saturated) Iub interface

Network Element Alarms

- Which service(s) is this NE fault blocking?
- How do I see the service impact?
- I wish I knew...

- How many customers are impacted by this NE alarm?
- How do I prioritize its resolution?
- I wish I knew...

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**Figure 3: Service Quality Management from Accenture**

As shown in Figure 3, Accenture’s proposition for a SOC bridges network and customers through correlation of weak and strong “signals” and through a clear definition of service quality accountabilities.
Service quality management from Accenture enables such end-to-end views, based on data provided by a wide range of sources:

- **Information provided by the network processed by NOC-available OSSs** (network performance and fault management systems) and exported to SOC OSS core systems (service quality and customer experience management systems) as service status and performance data and as service-impacting alarms, i.e., as "translations" of typical network monitoring data into the corresponding service-oriented information.

- **Quality of Experience (QoE) information** provided to SOC OSS core systems by user experience agents running on customer mobile devices, reporting the quality of the service as it is directly perceived by end customers through direct usage.

- **Service life cycle management information** from OSSs and BSSs that is typically not handled by NOCs (e.g., time to repair or time to fulfill configuration change requests).

Through integration with SOC services, Accenture also provides services for successful delivery of improved customer experience across three major aspects, as shown in Figure 4.

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**Figure 3: Utilization of a Service Operations Center**

- Real-time monitoring of end-to-end service quality
- Service troubleshooting
- Creation of service trouble ticket (TT) toward Customer Operations or NOC; SOC is then accountable for service TT resolution
- Off-line service quality trend analysis
- Support to network/business intelligence

- Availability of service quality info per geography, customer, service, technology
- SLA-based marketing (product definition) and sales
- Effective and efficient network planning and creation

**Figure 4: Customer Experience Framework**

- Real-time visibility on service status enables efficiency improvement by filtering and consolidation of customer claims
- Increased customer trust
- Effectiveness enabled by service outage root-cause analysis
- NOC more focused on specialist network troubleshooting
- SLA-oriented prioritization of NOC operations

Recognize and understand the customer’s needs and intentions
- **Customer Insight**
- **Customer Segmentation**
- **Customer Analytics**

Effectively deliver content, solutions and pricing based on knowledge of the customer
- **Product, Service & Treatment Catalog**
- **Next Best Offer Model**
- **Self-service**
- **Customer Information Delivery**
Through an appropriate focus on the key success factors of mindset, analytics, process, technology and governance, CSPs have improved customer rating scores by up to 25 percent to 35 percent.

Accenture offers real-time, proactive responses to customer issues with three main solutions to improve customer interactions:

- **Support virtualization** which helps to manage cost to serve on increasing S&R ticket volume. Specific opportunities include implementation of intercept/prevent “no-trouble-found” exchanges; enhancement of core tech support capabilities; and harvesting and sharing of S&R root cause and remedy data.

- **Device management** to increase automated support capabilities with OMA-DM and TR-69. Opportunities here include utilization of real-time device diagnostics to decrease equipment returns or truck rolls; shortening the time to resolution for trouble tickets by initiating device programming while in queue; and general expansion of customer self-care capabilities.

- **Decision management** uses business intelligence for churn reduction by providing smarter customer relationship data, providing for better understanding of customer behaviors when working a support ticket, and using analytics to identify systemic issues.

Accenture leverages network optimization, network analytics, business intelligence and service operations centers to automate processes, with the goal of keeping the customer satisfied and connected. Our multi-pronged approach uses DPI, probes, drive tests and OSS metrics to generate the data necessary for self-correcting automation.

Accenture can provide these services for customer experience management through consulting, systems integration and business process outsourcing (BPO), helping enable significant cost reduction and improved speed, accuracy and consistency of processing.

Accenture Network BPO Services helps CSPs transform their network operations to improve customer service quality, reliability and predictability while reducing overall costs. Drawing on our recognized market leadership and more than 20 years of experience in the network industry and BPO market, Accenture combines the strength of our Global Delivery Network with our leading-edge technology and functional experience to help network clients better serve their customers and optimize their operations for improved competitive advantage.
Select Examples

The following cases reflect representative results achieved through service quality management from Accenture.

South American Wireless CSP

Business Challenge
The client sought implementation of an integrated platform for a quality operations center, fed by network-specific metrics (from existing systems such as fault/performance management, probes and mediation systems) and providing the ability to correlate/model these into customer-specific metrics.

How Accenture Helped
Accenture delivered end-to-end service quality management capabilities using an open source suite of products, enabling service modeling and hierarchical representation, with views for the client’s main mobile services: data (2G and 3G), voice, SMS and MMS.

Services and network domains were rolled out incrementally using the target architecture, starting with the most critical one (i.e., data) and then moving on to voice, SMS and MMS, without any change in the architecture. Overall, one year was required to complete all service monitoring.

High Performance Delivered
Results included:
- Integration of data coming from more than 20,000 mobile NEs, yielding integration with EMs, a fault and performance management platform, and a trouble ticketing system, and the ability to provide network and customer views and to support next-generation services.
- Processing of more than 500,000 records per day with multi-dimensional analysis of data (geography, time, customer cluster, NE vendor, etc.).
- Service impact analysis: integration with network/service inventory in order to perform this analysis.

European Convergent CSP

Business Challenge
In an environment with multi-vendor automated network management, the client sought end-to-end service quality management, coupled with customer experience management.

How Accenture Helped
Accenture supported the client in building a service operations center (SOC). The SOC platform architecture supports the needs of the operations and quality management functions by sharing the same data sources. Its main modules are:
- Service quality management leading to real-time service monitoring.
- Customer experience management leading to aggregation of quality indicators along different dimensions of analysis (customer perception).

Organizational changes were introduced in two steps, calibrated to the operations team’s assimilation of new processes as well as the system capabilities deployed at the time:
- A new, separate SOC organization for service monitoring, which engaged the NOC for problem resolution.
- The merging of SOC and NOC into one single entity that followed new, integrated processes.

High Performance Delivered
- The SOC was established as a new organization, with a clear mission to monitor mobile services offered and ensure the highest level of quality.
- The new organization provided access to online, drilled-down reports on service quality and perceived customer experience.
Network Quality Analytics

Services created over the top of networks and the increasing capabilities of end-user devices are making the operation of networks much more complex. Customer operations teams are facing demanding customers who initiate a growing number of raw complaints, which generate trouble tickets to be handled by network operations.

At the same time, the level of complexity in the network itself is increasing, with multiple access technologies and multiple vendors. As a result, networks today are creating a huge and fast-growing amount of raw data: each day, a CSP with tens of millions of subscribers may be confronted with billions of CDRs, alarms and performance counters.

CSPs need to consolidate all this raw data into a smaller set of relevant information that reflects the customer experience and the demands of their networks. And by applying Accenture network analytics methodologies, they can achieve this consolidation.

The Solution: Network Quality Analytics from Accenture

Network quality analytics from Accenture is based on an audit process that starts from client needs, applies analytics to existing data and generates prioritized recommendations, together with a business case and an implementation roadmap.

Accenture’s methodology is based on a structured process that takes the client all the way from data collection and analysis, through the introduction of process (see Figure 5) and system capabilities that address the identified gaps, to the ongoing fine-tuning of these capabilities based on periodic analytic re-runs.

Thanks to its global experience in large-scale network transformation and optimization, Accenture is a valuable collaborator in supporting CSPs that are managing the evolution of complex network and services business. Accenture can provide:

- **Ticket triage.** Accenture provides a managed service that combines process and data analytics with automation, utilizing Accenture’s Business Events Processing Tool in order to address complex client business challenges, including work volumes that serve as the drivers of waste within client organizations. The solution can be leveraged across multiple organizations to drive cost savings and increase workforce efficiency by identifying process and system issues and root causes and utilizing historical data to support process-driven business rules. The service has a joint governance model with the client that can provide effective program management, measure the impacted value drivers in order to validate cost savings, and regularly evaluate new opportunities for continuous improvement, with the goal of sustaining or increasing benefits.

- **Improvement in service quality and user experience** through analyzing key functional elements of the communications networks, including the radio/core network elements, switching, IN and VAS systems, and the transport layer up to the point of interconnection to other service providers.

- **Elimination of network weaknesses** through review of technical network elements and processes, resulting in the identification of risks and improvement opportunities.

Based on the outcome of its analysis, Accenture also has the capability to transform, implement and operate new BSS/OSS elements that are aligned with the required processes and governance modifications.

Figure 5: Accenture’s Methodology for Network Quality Analytics: from Data Collection to Implementation and Ongoing Fine-tuning

<table>
<thead>
<tr>
<th>Collect data</th>
<th>Run analytics</th>
<th>Assess outcomes and build roadmap</th>
<th>Implement roadmap</th>
<th>Reanalyze, monitor and fine-tune</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect network, service and business data</td>
<td>Run analysis and identify data patterns</td>
<td>Define improvement initiatives</td>
<td>Carry out implementation of defined initiatives</td>
<td>Re-run analytics periodically to monitor attainment of targets</td>
</tr>
<tr>
<td>Load data into analytics tool</td>
<td>Define problem areas: process bottlenecks and data manipulation deficiencies</td>
<td>Build business case</td>
<td>Fine-tune processes and tools</td>
<td></td>
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<tr>
<td>Define assumptions of analysis</td>
<td></td>
<td>Identify business priorities</td>
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Select Example

The following case reflects representative results from the application of network quality analytics from Accenture.

Telecommunications and ICT Service Company

Business Challenge

The numbers of technical incidents from Customer Service and Network Operations were steadily increasing over the years, implying lower customer satisfaction and generating higher costs for incident handling.

How Accenture Helped

In an eight-week project, an implementation plan was created, along with an associated business case, aimed at reducing the number of technical incidents by 50 percent. The results were to be achieved using analytics in combination with a hypothesis-driven approach.

High Performance Delivered

Based on an estimated reduction of 120,000 incidents, at an average cost of 40 euro per incident, potential total annual savings are 4.8 million euro, to be achieved in combination with improved customer satisfaction. Accenture is now working with the client to realize these savings.

Operations Transformation (Excellence in Network Operations)

The increasing demand for broadband data services is creating pressures on network operators’ abilities to manage quality of service and maintain profitability, while also changing the paradigm of how network infrastructure is deployed and operated. CSPs are attempting to focus on service quality management and to reduce the total cost of operations by reconsidering their deployment strategy, sourcing model, organization and processes, and OSS capabilities.

As Figure 6 shows, these changing market conditions are forcing CSPs to transform their network operations, and such transformations have a direct impact on how CSPs are able to manage excellence, in terms of cost and quality effectiveness, for their service assurance processes. Moving into a network outsourcing or network sharing agreement should not prevent the CSP from retaining its levers for effective management of cost efficiency and service quality.

Figure 6: Changing Market Conditions Forcing Transformation of Network Operations

Typical spending on network operations: 20%* of total company OPEX and more than 30%** of total investments.

Drivers

- CAPEX Efficiency for Broadband Network Development
- OPEX Reduction in the Operation
- Focus on QoS Management

Transformation Initiatives

- Vendor Consolidation
- Network Sharing
- Managed Services/Outsourcing
- NOC Transformation & Evolution
- Field Force Reorganization
- OSS Enhancement/Consolidation

* Including rental, energy, personnel, maintenance contracts and services, leased infrastructure
** Including professional and installation services and raw material for network rollout

CSPs require internal transformation in the complex journey toward network operations excellence.

Experience shows that unclear strategy and lack of proper evaluation of interdependencies among the initiatives have prevented CSPs from achieving expected results.
The Solution: Operations Transformation from Accenture

Accenture can provide CSPs with the necessary capabilities to achieve genuine operations transformation that enables meaningful outcomes.

As shown in Figure 7, Accenture has a unique "value proposition" that supports the CSP engaged in a large transformation program, from strategy to execution. Accenture services encompass advisory support for the definition of the right operating model and sourcing strategy; direct execution of operational transformations, including process reengineering, organization design, introduction of new system capabilities, change management and transition support; and the takeover of selected processes through an outsourcing model.

After an initial assessment of CSPs’ network operations, Accenture can develop a unique value proposition targeting up to 20 percent to 25 percent savings on the addressable cost baseline.

Accenture is uniquely positioned to provide the full range of services required to support the transformation of network operations, encompassing consulting, systems integration/application outsourcing and BPO.

Relevant consulting capabilities include:
- "Managed service" advisory.
- Sourcing model advisory (e.g., SPM, SPOC, etc.).
- NOC consolidation.

Relevant systems integration and application outsourcing capabilities include:
- Workforce management.
- Fault/performance management.
- Service quality management.
- OSS portfolio rationalization and operations.

And Accenture’s relevant BPO capabilities include:
- Field force orchestration.
- Ticket triage.
- Analytics-based forecasting and scheduling.

Figure 7: Accenture as a Strategic Partner

Accenture has a unique "value proposition" that supports the CSP from strategy to execution in a large transformation program.
Accenture has wide experience in supporting CSPs in complex network transformation programs, from strategy to results.

Benefits to the client of working with Accenture on complex network transformation projects can include:

- Savings on the affected baseline of up to 20 percent to 25 percent, reflecting operational costs for operating the network.
- Process efficiency improvement.
- Operational simplification.

Large South American Telco Business Challenge

The client, which had a field force of approximately 10,000 technicians, sought a transformational initiative surrounding network scheduling and dispatching.

How Accenture Helped

Accenture provided a full range of transformational capabilities, including:

- Transformation Program Definition
- Organization and Process Design
- IT Transformation
- Change Management/Execution
- Business Process Outsourcing

High Performance Delivered

The transformation introduced by the project allowed the client to achieve higher flexibility and control of field workforce operations, with significant increases in quality and productivity, including:

**Quality improvements**

- A decrease in certified trouble ticket (TT) recurrence (repeated jobs) of 23 percent.
- A decrease in repairs outside the deadline (outliers) of 25 percent.

**Productivity improvements**

- An increase of 10 percent in field technician productivity.
- A reduction of 9 percent in the volume of triaged TTs sent to the field.

All these benefits translated to an economic savings of around 20 percent in annual operational expense dedicated to the field force.

European Convergent Telco Operator Business Challenge

Despite several years of consolidation, the client was still running its network operations center (NOC) under separate technical domains and in different geographic locations. Such a configuration was preventing the client from achieving higher operational efficiency and funding the evolution of the NOC to a more “service-oriented” model.

How Accenture Helped

Accenture was asked to:

- Study the opportunity to consolidate two distinct transmission network operations into one unified function and identify which of the two teams would be better suited to take over responsibility for the whole network.
- Study the opportunity to achieve front-office consolidation and create a single point of contact for all fixed and mobile network operational activities.

- Develop a plan for the consolidation program that would encompass the creation of new teams, training, activities handover and reallocation of resources.

**Accenture support covered:**

- Designing, planning and supporting the execution of the consolidation, in a single location, of the teams dealing with the transport network.
- The design and plan of the consolidation of the remaining network domains.

High Performance Delivered

Accenture support contributed to identifying opportunity to:

- Increase operating efficiency by 20 percent, thanks to synergies coming from the centralization of the structures previously in charge of separate domains.
- Restructure the activities and responsibilities of surveillance, help desk, technical support and creation/provisioning teams, which minimized the need for the physical relocation of people.
Network Analytics Capabilities
Accenture’s analytics solutions extract data from the network and enable CSPs to make real-time decisions regarding infrastructure investments, service management and premium offerings.

Experience
We have more than 20 years’ experience in streamlining network operations, serving many of the global FORTUNE 500®.

Market-leading Solutions
We leverage unique, tailored products through industry-leading technology alliances. Our solutions help CSPs transform and innovate how they plan, build, launch and operate network and service platforms to streamline operations, minimize time to market and reduce costs.

People and Assets
Accenture’s deep industry experience, Centers of Excellence and Global Delivery Network can enable CSPs to take advantage of local, regional and global talent pools and secure the right business solutions, with the appropriate cost and consistent service quality.

Forward-thinking Abilities
Our vast and extensive services help CSPs rapidly incorporate the latest trends in consumer behavior and developments in mobility services, such as M2M, cloud-based services and social media.

Delivery Excellence
Our excellent delivery capabilities bring together our global reach, innovative solutions, industrialized assets and deep industry and technology skills. The Accenture Global Delivery Network is one of the largest and most diversified groups of technology, business process and outsourcing personnel in the world.

Demonstrable Results
We can help CSPs drive network cost reduction by up to 50 percent and increase “first time right” outcomes by up to 15 percent.

Award-winning Solutions
Accenture has been ranked #1 in the International Association of Outsourcing Professionals Global Outsourcing 100™ list for the fifth consecutive year.

Comprehensive Approach
As CSPs are challenged by evolving assurance requirements, Accenture covers the full range of needs and capabilities required to address those challenges. We address the full spectrum of BSS/OSS environment and IT/technology responsibilities, as well as network and service management processes. We also embrace the full range of network stakeholders, reflected by our dialogue with key corporate decision makers, including the CEO, CIO, CTO and CMO.

Independent Perspective
We are also independent and flexible, reflected in the fact that Network Equipment Providers (NEPs) are more willing to open their EM/NE to Accenture than to a direct NEP competitor. Our position leaves us free to evaluate the best suitable solution for our clients: buy vs. make; best-of-breed software vs. open source tool. We do not commit to approaches we know are not working.

Transformational Leader
We have collaborated on network transformational programs with many of the top 100 global CSPs.
Contact Us
To find out more about how the Accenture Service Assurance Solution can help your business make the most of its opportunities, please contact Paolo Sidoti, managing director, Accenture Network Services, Communications, Media and Technology, at paolo.sidoti@accenture.com, or visit www.accenture.com/network-services.

About Accenture Communications Industry Group
Accenture’s Communications industry practice serves leading communications service providers in an increasingly evolving and dynamic competitive environment.

Accenture helps Communications industry clients face the challenges to connect with the digital consumer, increase revenues, develop and launch innovative products and services quickly and optimize network performance while reducing costs. The combination of our consulting, technology and outsourcing experience, paired with our deep industry knowledge, helps us verify that we bring the right solutions and resources to enable our clients to unlock profitable growth, improve operations and achieve high performance.

About Accenture
We are one of the world’s leading organizations providing management consulting, technology and outsourcing services, with more than 323,000 employees; offices and operations in more than 200 cities in 56 countries; and net revenues of $30.0 billion for fiscal 2014.

Our four growth platforms—Accenture Strategy, Accenture Digital, Accenture Technology, Accenture Operations—are the innovation engines through which we build world-class skills and capabilities; develop knowledge capital; and create, acquire and manage key assets central to the development of integrated services and solutions for our clients.

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