

The Operational Gauntlet: Efficient Operational Support is the Key to Out-Innovating Your Competition

By Casey Kindiger

Information and communications networks have become too big and too complex for cost-effective management by traditional operational support system (OSS) methods and tools. The spectrum of next-generation capabilities has rapidly evolved beyond VoIP to include mobile video, cloud explosion and onwards. Each step forward disrupts legacy business models yet also opens new doors to human experience and business exploitation. As much as these technological advances have required a re-evaluation of business and service methodology, so too do they also demand a re-assessment of current notions of OSS and business support systems (BSS) practices.

The service providers that survive the market transformations currently underway must put their assumptions about service operations through a gauntlet; and, if they are to succeed at out-innovating their competition, they must also ensure that their back-end and front-end processes and tools are more adaptive, automated and human-centric than ever before.

The seemingly intractable tension between increased competition, higher service quality requirements and fixed operational costs acts to constrain innovation and drive margins down for every participant in the market. By making targeted process improvements across network operations and customer care,

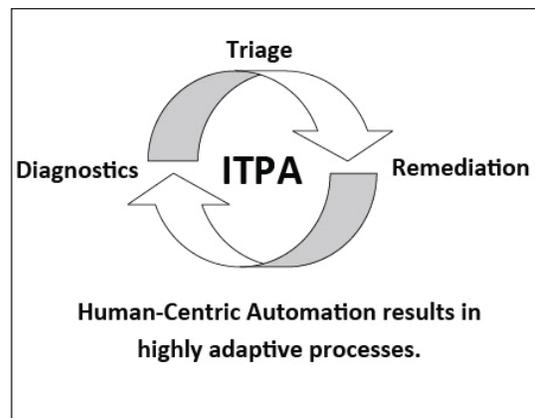


service providers can achieve significant structural advancements in their cost models and remove current constraints to innovation, namely cash flows. The means of accomplishing this objective rests within a new software discipline called IT process automation (ITPA). ITPA tools and associated methods hold the promise of enabling a significant, readily-quantifiable, re-investment of firm operational resources back into innovation and other revenue-generating areas.

Network operations and the network operations center (NOC), sometimes referred to as Level 1 support, form the foundation for high-quality service assurance – ensuring that the network itself supports the increasingly complex lattice of services that ride upon it. Each NOC that a service provider manages tends to be either geographically or product focused, and can be staffed by anywhere from six to 15 personnel on a single shift. The business process of the NOC is typically defined across a classical FCAPS (fault management, configuration, accounting, performance and security) process model, centered on fault management.

As NOC organizations have been constructed over the past 15 years, their services can be loosely classified into proactive identification of existing or potential service problems (“diagnostics”), triage of service problems (“trriage”) and routing of problems to the appropriate internal or external engineering resources (“remediation”).

But each of these NOC services, once established to a reasonable level of maturity, has tended towards a state of operational stagnation, able to scale upwards with increased revenues, but with little or no economies of scale. The NOC organizations have similarly been able to incorporate new technologies and products to support new market demands, but have been unable to optimize around those new



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products in a way that translates into improved operational efficiencies. One of the primary methods used to address these strategic challenges has been to employ lower-cost labor, either through outsourcing arrangements or other forms of labor arbitrage. But labor costs are equalizing throughout the world and business managers are now required to begin looking at making these NOC organizations more adaptive.

Creating a Culture of Knowledge Sharing to Become More Organizationally Adaptive

Unlike biological systems, where adaptation is hard wired, organizational processes require an overarching discipline to keep from regressing to a state of stagnation. Transforming from a rigid, stagnant operating model to a dynamic, adaptive one first requires NOC organizations, and the engineering teams that they support, to become very good at knowledge sharing. Much investment has been made in knowledge management, but often with limited results. Databases of operational knowledge tend to age too rapidly for a meaningful shelf life: knowledge management processes have been designed with an insufficient appreciation for human behavior to ensure continuous contribution.

A culture of knowledge sharing, with the associated increase in aggregate operational and technical knowledge, is the first step in becoming more adaptive. Organizations should actively seek out innovative ideas aimed at instilling such a culture of knowledge sharing through the use of collaborative social media technologies – treating knowledge as something to be shared, not managed.

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A more knowledgeable, adaptive NOC organization does not necessarily translate into efficiency improvements, though it certainly results in higher-quality service delivery. Additionally, providing that same NOC organization with the processes and tools needed to methodically automate the delivery of its services ensures that the operational processes are optimized while external business conditions change. For example, an arguably large portion of the work done within the NOC consists of viewing inbound alerts or events from network and systems management tools and running various diagnostics to try and isolate the problem. Running the diagnostics and creating or updating tickets to be routed to the appropriate internal or external engineering resource tends to consume much manual effort in a typical NOC. When coupled with the need to support a dizzying array of new equipment and services, time constraints often dictate that a large portion of the diagnostic and triage work gets left to the assigned engineer, moving further up the value chain.

The Ultimate Game Changer: Adding a Culture of Automation into the NOC Mix

Building a culture of automation around a culture of knowledge within the NOC makes it possible



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for organizations to achieve the ultimate goal: an elastic process model that scales efficiently with the business. The first step beyond knowledge sharing is to systematically design a method for integrating automation into the underlying services (diagnostics, triage and repair). A proven approach is to first build a library of diagnostic tests that gather diagnostic information for each element of the network infrastructure (network equipment, servers, applications, etc.). Automation models can then be designed to process each events and/or tickets and then apply the appropriate diagnostic, triage and repair procedures.

Applying this same approach to the underlying processes of customer care has a similar effect on efficiency. As an example, consider the advancements that a CSP with operations across three states recently achieved with its innovative automation-based approach to customer care. In early 2010, the company deployed an ITPA solution that allows its NOC and engineering teams to quickly and easily build automation schemes that expedite a wide range of repetitive or complex activities, including those that impact customer service. Customer service representatives (CSR) can make use of these automations to instantly identify resolutions for customer issues. When a CSR makes a request, the system immediately pulls information from a variety of pre-defined sources and provides the CSR with a high-level analysis of that information with warnings and corrective actions that can be put to work in seconds.

The system also streamlines troubleshooting for hundreds of front-line CSRs staffing the CSP's U.S. call centers. When an event occurs, the NOC can instantly issue an alert to an entire team of internal managers, field technicians and even outside vendors to inform them of the issue and help them prepare to take action. Diagnostics and fix-actions are embedded into event and incident remediation workflows, setting the stage for dramatic business process improvements and entirely automated approaches to solving critical customer issues.

For all of these actions, results are archived in a centralized Wiki-based collaboration platform, allowing CSRs to easily go back and review outcomes for future reference, and modify results as new resolutions emerge. By storing these outcomes over time, the solution has grown organically to provide a vast knowledge base through which CSRs can quickly search and find effective results-based documentation on an ongoing basis.

Only those CSPs that embrace automation and collaboration will be able to adjust accordingly, and at a sufficient pace.

Through improved collaboration, a new culture of knowledge has been instilled within this CSP organization. Valuable knowledge – knowledge that previously may have been scattered across various technology departments, or shared exclusively among high-level operations staff and subject matter experts – is now readily available and easily accessible for those handling the CSP's most pressing day-to-day demands. In addition, the company's library of automations now contains thousands of action tasks. That number will continue to grow because the CSP is constantly identifying trends coming into the NOC that make sense for automation. With the ITPA solution in place, the CSP is able to significantly reduce IT and customer service response times. CSRs are now empowered to solve issues quickly and efficiently, and with less escalation. In addition, the CSP has realized a cost-effective way to transform OSS/BSS practices, while also enhancing internal communication; improving CSR workflow and problem solving; and achieving a time savings of thousands of hours each year to drive dramatic improvements in customer service.

Innovation Drives Bottom Line Success

The challenges facing CSPs today are multi-faceted, and include the need to deliver and monetize new services, contend with eroding margins on existing services, and deal with the staggering increases in data traffic driven by new media consumption behavior. Only those CSPs that embrace the new technology currency of the day – automation and collaboration – will be able to adjust accordingly, and at a sufficient pace.

By creating dynamic, human-centric communities powered by automation and focused on operational excellence, everyone – from CSRs to engineers, operations personnel and subject matter experts – is united and in position to directly make vital process improvements. In sharing their collective expertise and experiences, and striving to maximize the value they bring to an organization, these individuals can evolve their organizations in a way that has not been accomplished before. In turn, those with less expertise benefit from the unique knowledge of these experts.

At the same time, a system evolves in which those with the highest levels of expertise can focus more of their energies on adapting processes and tools to meet the ongoing demands of the market – and outpacing the ever-changing operational gauntlet that continues to confront today's complex CSP landscape.

About generationE Technologies

generationE Technologies is an IT process automation (ITPA) software company that places human ingenuity at the forefront of workplace activity. Our products and solutions embrace principles of connectivity to make process automation a fundamental attribute of human interaction within organizations worldwide. With our Resolve software, generationE transforms the way companies operate. Resolve breaks down traditional organizational limitations by introducing collaborative operations management (COM) and new approaches to automation.

The powerful combination of Resolve Run Book Automation software and COM delivers unprecedented levels of automation to network operations and customer care centers as well as provisioning applications. Resolve provides a human-centric operational platform designed to drive efficiency and innovation, and is comprised of the following core attributes: automation, next-generation collaboration, enterprise social and analytics. For more information, you can contact generationE at info@generationEtech.com or +1-949-325 -0125.