

Telecommunications

Next-generation operations support systems as a key to high performance

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The telecommunications space today is all about tomorrow—as in, the “next generation.” Siloed and proprietary infrastructures are a thing of the past. The next-generation network is all about creating a common IP-based architecture that delivers multiple services over many different access technologies, increasing flexibility and reducing overall cost. The next-generation network era brings with it exciting possibilities for creating communications products and services that will revolutionize multiple industries.

But it will be exceedingly difficult to achieve high performance as a next-generation communications company without proper attention to the network’s underlying support systems. Specifically, it is a network’s operational systems and capabilities that industrialize next-generation products and services, bringing rigor, predictability and repeatability to IP-based service creation, control, fulfillment and assurance. Operations support systems (OSS) must be as “next generation” as the network they support.

A complex environment

Why is proper attention to the OSS so important? Consider the many complexities of this new technological and operational environment.

- **Services must be introduced much more rapidly.** The IP environment is compressing time for communications companies to create and deploy new services. Eighteen months used to be a safe planning period; today, creation and deployment of new services may need to happen within a few weeks.
- **Services cross traditional domains.** Future

communications revenues will be generated by new, complex services that rely on many building blocks. Companies will need to coordinate and manage those components across multiple provider domains to deliver services, requiring more sophisticated processes for order management, provisioning and assurance.

- **Companies must now provide end-to-end management capabilities.** Previously, a communications company needed to control the network only up to the customer’s “plug in the wall.” No more. Today, companies must consider everything: core, aggregation, access, service platforms and components that now extend all the way to the end-user’s equipment, whether a computer desktop, a television set-top box or a mobile device. They also must consider the applications or content on the back end. Many of these capabilities are outside the current “comfort zone” of a provider.
- **Customer service must span the breadth of the communications environment.** Because the entire communications infrastructure is now relevant to communications companies, the customer service environment is radically more complex. Customers don’t really care if a problem is caused by the access gateway or the video service. All that matters to them is that the company whose name is on the bundle needs to fix the problem...quickly. In an always-on IP environment, companies must have always-on CRM capabilities, with robust customer self-service functionality.

What is the primary concern raised by the more complex service creation and delivery environment

for next-generation networks? It is that a legacy OSS can do none of these things. The traditional OSS is designed around vertical and tightly integrated silos, without cross-domain functionality. A legacy OSS is inflexible, with high maintenance costs. It lacks device management and self-service capabilities.

To become high performers, communications companies must develop a next-generation operating model that supports the next-generation network's key requirements to meet targets for cost and quality of service, including:

- One delivery process and one assurance process, both product independent.
- Consolidation of locations and organizational structures.
- Retirement of legacy networks, OSS, processes and locations.
- Increased customer self-service functionality and automated service configuration.
- Increased ease of buying and using services.

A roadmap to success

Next-generation OSS represents a considerable investment: worldwide, spending on operations support systems is projected to reach almost \$36 billion by 2007. For this investment to pay off, organizations must create a new, next-generation OSS in a manner that supports the immediate needs of the business, within acceptable cost constraints, while simultaneously creating an infrastructure flexible enough to keep up with rapidly changing requirements. Based on Accenture's OSS work with communications companies, here are several keys to success.

1. Create an overall services and OSS roadmap. To support new products and achieve operational efficiencies, companies must work from a clear vision of what the architecture will ultimately look like. The roadmap to reach that destination should lay out each progressive phase of service introduction, matched to the corresponding OSS capabilities to optimize each phase.

At the same time, a foundation of common capabilities must be in place, or companies will be unable to develop the cross-domain functionalities they need to be successful. Functions such as order management and network inventory

must be created up front, even as a company takes an evolutionary approach to services and OSS capabilities.

2. Align the organization around a realistic release schedule. The "roadmap" metaphor implies correctly that next-generation OSS development is a journey that must be carefully managed over time, in a series of planned releases. This phased-release strategy requires aligning internal organizations, such as marketing, customer service and IT. The goal is to move to an "orderly and quarterly" release schedule with monthly refreshes. The alternative—planning a next-generation OSS as a single release or "big bang," cutting over to an entirely new OSS—is highly risky and to be avoided. Far more effective are multiple releases, directed by competent program and journey management.

We worked with one large European wireless provider, for example, to develop a multiyear change program for its operations organization, supporting its evolution from a geography-based orientation to one based on processes. This work was performed in several steps, introducing changes to the process, the organization and the OSS and then managing adoption along the way. With more flexible capabilities, the new operations group was ready to run both legacy and future telecom products. The new OSS has enabled the company to decrease its cost base while improving customer satisfaction and reducing time to market for new services.

3. Integrate a best-of-breed OSS around a process-oriented enterprise application integration platform. Tackling OSS development in a process-oriented manner enables companies to focus more on the capabilities to be delivered by the architecture and less on the actual systems. By using a modular approach—putting the best applications in place, then moving them as necessary within an integrated framework—companies ensure they are not locked into an infrastructure that requires massive expenses to evolve, fix and maintain. This combination of process and modularity lets companies create a hybrid OSS—leveraging their existing systems and updating them as needed, introducing new applications for new service needs in a flexible manner.

4. Consolidate systems to minimize cost and complexity. Because redundant systems are costly to maintain and operate, companies must plan for system consolidation and rationalization. Consolidation is also the technical foundation for developing cross-domain capabilities that enable the end-to-end management critical to success within a next-generation services business model. In addition, consolidating services is critical for successful customer acquisition and retention. If companies are to effectively bundle services for a customer, they must be able to treat the bundle as a single order across all the technologies, bill based on a single view of the customer and provide ongoing service with a knowledge of all products the customer is receiving across the bundle.

Communications service providers in search of high performance are expanding their networking capabilities to enable IP-based, next-generation services. Although IP means more powerful access technologies and services for lower cost, next-generation services have a profound effect on operations. Companies must work now to create their next-generation OSS—an operating model capable of handling the broader set of requirements generated by next-generation services.

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¹ The next-generation network is a telecommunications packet-based network that handles multiple types of traffic, such as voice and multimedia.