Success of Digital Services Hinges on BSS/OSS

Network operators know they are going to have to change their business and operational support systems to deliver digital services, but knowing what they have to do and accomplishing it are two different things. For many operators the quick solution has been separating their new digital services from the existing network business, but that move carries its own risks, as Nancee Ruzicka explains

Just as cloud platforms change the way we buy and use software applications, delivering and supporting those services also requires a substantive change. The time-consuming, off-line and often manual processes required to process orders, configure services, analyze usage, calculate bills and support customers are too slow, too fraught with errors and too expensive.

Profitably delivering cloud and virtualized services requires service providers to rethink business processes and acknowledge that many of the Business Support Systems/ Operational Support Systems (BSS/OSS) solutions in place are not up to task.

Operators realize this and some, plus vendors, are working with TM Forum on a Digital Services Reference Architecture which overarches virtualization in the form of network functions virtualization (NFV), the necessary changes to BSS/OSS in digital services era and application program interfaces.

TM Forum's recent Insights Research report, *BSS/OSS in the era of digital services* – the report on which the graphics in this article are based – reveals that 90 percent of network operators surveyed believe changes are needed.

Yet implementing the kind of substantial process and BSS/OSS changes required to support cloud and virtualized services will not come easily. For service providers, implementing NFV and delivering digital services is an important revenue opportunity. However, virtualization also represents a significant change from service providers' operations and creates a level of complexity that must peacefully coexist with the infrastructure and services already in use.

Service providers must support customers and services while implementing new network and BSS/OSS solutions. To roll out a new service, operators must often align 10, 20, 30 or more systems from customer contact through service delivery. Beyond the complexity of exchanging data and managing workflow, making manual adjustments for every new product too expensive and unrealistic.

For all the difficulties that multiple BSS/OSS silos create for service providers, rolling out new services (digital or otherwise) is easier, quicker and less expensive when starting with a clean slate. Every new network overlay, from voice, to data, to mobile and now IP, has been accompanied by a corresponding rollout of new network infrastructure and a new BSS/OSS stack.

For cloud, machine-to-machine (M2M) and other digital services, most operators are divorcing the services from the network and setting up a new business unit to tackle the deployment of NFV, Long Term Evolution (LTE) and the associated digital services. Sixty percent of the operators in TM Forum's recent survey said they have established a structurally separate business for digital services.

That means a new stack of BSS/OSS solutions for

fulfillment, assurance and billing. This works if the new business unit changes its perspective on support system processes and functionality. Otherwise, new solutions will only modernize out-dated processes and upgrade systems that are not designed to deliver virtualized services on demand and manage customers in real time.

Demanding on-demand

Service providers competing with over-the-top (OTT) providers recognize that existing BSS/OSS processes are vulnerable when it comes to rolling out cloud and virtualized services. While the BSS/OSS solutions in place work well for existing services, even the most capable BSS/OSS solutions are not well integrated from the customer to the network.

Service velocity – getting products to market more quickly – is becoming increasingly important to service providers. NFV and the automation that it brings to operations will improve service velocity, but service providers have a long way to go to realize those gains.

Investments in real-time mediation, revenue assurance and billing to meet customer and regulatory demands have helped service providers automate and streamline a number of important operational tasks. Likewise, some BSS/OSS solutions are monitoring status and performance across network and service delivery platforms, thereby collapsing some of the network and element management silos.

Transaction engines that process customer data records in real time and share that data with multiple BSS/OSS solutions are becoming the norm, and those same mediation techniques are being implemented outside rating and charging. Understanding customer behavior as it happens requires data mediation, transaction processing and analytics that are well beyond billing.

"[Our] pain is in the flow of information between systems versus systems themselves," says another large broadband operator. "Once that [common information model] is in place then we can focus on the pieces."

Becoming data-driven

Customer and service transaction data is used by assurance, policy enforcement, performance management, security, billing, marketing, customer management and other back-office systems to find faults, uncover security breaches, feed customer analytics engines, execute policies, and manage network quality and capacity.

This data is captured from the infrastructure, but as the volume and variety of infrastructure elements and layers of virtualization increase, the data becomes more difficult to acquire and disseminate.

Although the need is urgent, service providers are progressing slowly toward implementing common data models that establish formats and methods for the use of data throughout the business and enable the type of integration and automation required for cloud and virtualized services.

Becoming data-driven is a strategic imperative that affects every customer, service and system. Access and transport network infrastructure is no longer unique to each product offering and the delivery of cloud services changes with each user and application. Creating a single horizontal view of the customer across the business starts with a single view of the products.

Those product models then drive provisioning and activation functions. Once delivered, individual customer's product configurations are monitored and utilization data is captured to define new offers.

Service providers readily admit that the biggest delays occur in product delivery and fulfillment. In fact, 65 percent of operators surveyed ranked service delivery and fulfillment as most critical in terms of needing upgrades.

Most service providers spend three weeks or more defining a product and up to three months making it available to customers. On average, the time required for service providers to bring a new product to market is two to six months – and many take longer.

No time like the present

As service providers move into the cloud and virtual services market, and compete with the likes of Google, Amazon and others, it is important that they stick with their strengths.

Numerous surveys indicate that service providers remain the most trusted partner for enterprises interested in implementing M2M capabilities and connected devices. Based on the scale, reliability, availability, security and overall quality of services and the public network, that reputation is well deserved.

Beyond adding infrastructure and creating capacity with virtualization, it is important that service providers make cloud and digital services useful to customers. Many network operators have built data centers and offer hosting and storage services, as well as data center colocation and software as a service. However, these services are still largely network-based.

Customers need industry-specific applications to support transportation, healthcare, logistics, government and a host of services targeted at consumers, like home-monitoring and location-based mobile services.

Virtualization creates opportunities for service personalization, speed, flexibility, automation and customer centricity that are not available now.

Rather than treating BSS/OSS solutions as an operational expense, service providers will benefit from making BSS/OSS an important part of the overall virtualization strategy. The success or failure of virtualized service offerings will be entirely determined by the data management, orchestration and BSS/OSS solution strategies implemented.

Nancee Ruzicka is President and Chief Strategist at ICT intuition. *This article is excerpted from TM Forum's Perspectives publication which is available free at http://perspectives.tmforum.org/. Topics such as customer experience, analytics, digital services and IT transformation are the focus of TM Forum Live!, June 2-5 in Nice, France. InterComms readers can take advantage of $200 off the price of an All-Access Gold pass using the code* ***PQV4VX****.*
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