Pipeline
Knowledge Is Power

Merging the Power of Network and IT
by Sanjay Mewada

For over 60 years the telecom business has focused on the Network, the domain of "big iron" — switches, routers, antennas, and towers. Service Providers have invested billions of dollars in it, and it still requires a fantastic human effort to maintain, upgrade, and enhance. In most cases, it is still the foundation of differentiation and the biggest barrier to entry in a connectivity-driven communications industry. The Network has understandably been paramount in a business model which, until recently, was about renting it out to users on a per-minute basis.

However, something has gradually changed over the last 30 or 40 years. The introduction and gradual rise of the computer and IT infrastructure in the telecom environment has changed the entire focus of the industry. Today Information Technology (IT) is playing a critical role in creating, delivering, and managing services. IT is becoming just as important — and with some service providers — more important than the Network itself.

In some ways the evolution of Network and IT within Service Providers reflects the evolution of the role of telecom and datacom managers within the enterprise/business market. Fifteen years ago, telecom and datacom managers were peers with the telecom manager running the voice network and the datacom manager running the LAN network. That relationship shifted dramatically in the enterprise with the datacom manager often becoming the Chief Information Officer (CIO). Not only did this role involve running the LAN network but it also involved management and ownership of the firewall, security, the website, the e-business platform, and the virtual storefront. The center of gravity shifted decisively in favor of the new CIO, due to the centrality of IP and IT inside the organization. In the meantime, the telecom manager continued doing the same thing — running the voice network and connectivity services.

The evolution of Network and IT is not quite the same in the Service Provider world, but the trends are similar.
As Network and IT begin to redefine their roles, both an opportunity and a challenge is created for OSS and network systems vendors. The fact is that most OSS have not kept pace with this fundamental shift within the Service Providers. OSS has traditionally been "network-centric" — that is, it is focused on supporting

infrastructure at Layer 3 and below of the OSI model. An OSS that cannot support both Network and IT infrastructure from Layers 1 though 7 causes misalignment between the Network and IT domains. Where misalignment exists, it costs Service Providers a great deal.

Here are the five most important symptoms of IT/Network misalignment. If these sound familiar, then they are probably caused by an OSS that is incapable of modeling IT infrastructure inside your organization.

1. Your CIO and CTO are not on the same page regarding the systems to use to manage the service infrastructure. This occurs when one executive or the other takes a completely IT- or Network-centric view of the world, driven primarily by loyalty to systems and architectures that are either Network- or IT-centric. All sorts of problems and mistakes can result.

2. Your company takes a long time to create and deliver services to customers. The majority of services today are created using a mix of Network and IT infrastructure. Using an OSS that cannot bridge both domains results in IT/Network misalignment and longer lead times for service creation and delivery.

3. Your company cannot visualize the Network and IT infrastructure from end-to-end. At present the market offers plenty of tools that can provide a functional view of either the Network or the IT infrastructure, but very few that can visualize and model it end-to-end — from devices, services, and applications all the way to the customers.

4. Your company takes a long time to introduce new devices and applications into the service environment. The multiple OSS across the Network and IT are incapable of capturing and modeling new devices (handsets, CPE, gaming consoles, etc.) and applications cannot understand the dependencies and relationships among them.

5. Your company has limited ability to understand service quality and the customer experience on an end-to-end basis. Again, you need to use multiple

OSS platforms to capture and correlate Network, IT, Service, and Customer data to build a single picture of the Service Experience.

This misalignment is due to cultural differences and a lack of appropriate technology and, given the change that's taken place, is understandable. Functionality that used to be embedded in the Network Layers is now being deployed on IT systems. The mobile industry is a perfect example. Close to 70% of the infrastructure used to create and initiate services such as voicemail, messaging, and content services resides within IT infrastructure.

The misalignment indicated by the five symptoms discussed above does have real world outcomes. As the following diagram illustrates, the typical service portfolio of a converged Service Provider requires that a range of Network and IT infrastructure components be invoked to create and deliver a set of services.
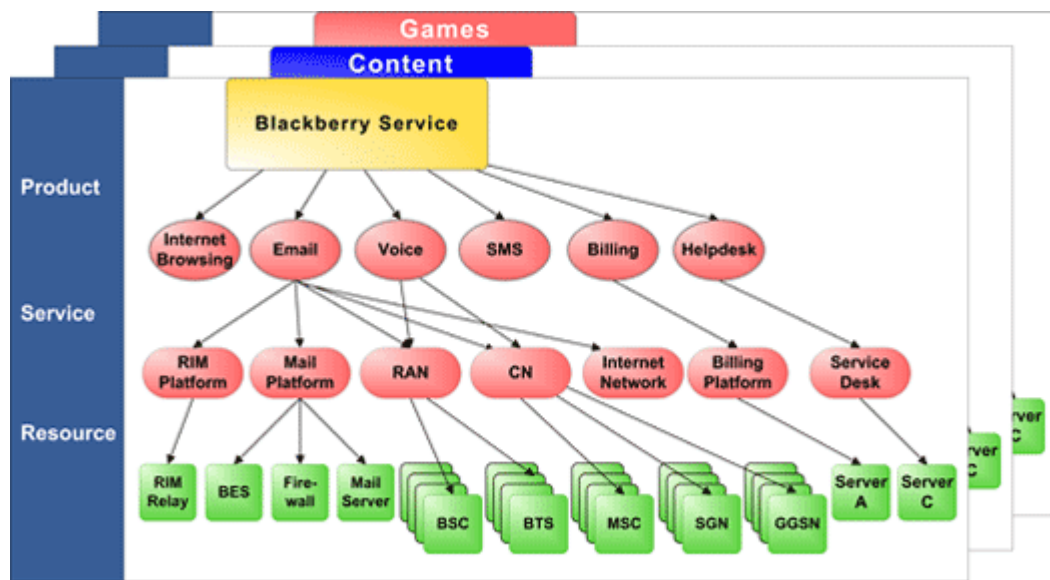
Source: NetCracker Technology

If multiple OSS are used that are either Network- or IT-centric, then the cost of integration, the ability to create new services and service bundles on the fly, and the cost to build end-to-end visibility can be 4 to 6 times higher than when a single system is used to do the same.

Today Network and IT are working far more closely than they did in the past. This is creating a new dynamic of simultaneous co-operation and competition; not surprisingly, the best and most successful service providers are usually those where the CIO and the CTO are on the same page, driving transformation of the business. In the long run there will be no takeover of one side by the other — the best Service Provider environments will see a harmonious balance between the two. Getting that balance right will involve choosing the right OSS.

If OSS is to be relevant in the world of converged infrastructure and services, then it must transcend the two domains and not limit itself to Layer 3 and below. Instead it must evolve with the times and help Service Providers merge the power of Network and IT.

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