



## Merging the Power of Network and IT™

### *NetCracker's Integrated Approach*

Since its beginning, telecommunications has focused on the Network. Today, however, IT plays a critical role in creating, delivering, and managing converged and IP-oriented services. The inefficiencies caused by OSS that do not manage across Network and IT domains cost Communications Service Providers (CSPs) both time and money. Lack of integration causes delays in service deployment, poor interoperability, reduced quality of service, and operations costs that are significantly higher than when a single system is used to span Network and IT infrastructures.

With an integrated system in place, CSPs achieve end-to-end service visibility, a complete picture of the customer experience, and greater ability to manage customer expectations. The result: reduced total cost of ownership and increased profitability.

#### Network and IT Convergence

For over 60 years telecommunications has focused on the Network — “big iron” such as switches, routers, antennas, and towers. Communications Service Providers (CSPs) have invested billions of dollars in the Network, and it still requires a fantastic human and systems effort to maintain, upgrade, and enhance. In most cases the Network is the foundation of differentiation and the biggest barrier to entry in a connectivity-driven communications industry. The Network has been paramount in a business model which, until recently, focused on renting circuits to users on a per-minute basis.

The introduction and rise of computer and IT infrastructures in the telecom environment over the last 30 or 40 years reflects the increasing importance of data communications and multimedia services. Today IT plays a critical role in creating, delivering, and managing converged and IP-oriented services such as IPTV and VoIP. IT has become just as important as — and with some CSPs, even more important than — the Network itself.

In some ways the evolution of Network and IT within CSPs reflects the convergence of telecom and datacom within large enterprises. Fifteen years ago, telecom and datacom managers were peers. The telecom manager ran the voice network, and the datacom manager ran the LAN network. With the rise of mission-critical IT networks, the datacom

manager often became the Chief Information Officer (CIO). This role involved running the LAN network but also involved management and ownership of the firewall, security, website, e-business platform, and virtual storefront. The center of gravity shifted toward the new CIO because of the importance of IP and IT to the business. In the meantime, the telecom manager continued to run the voice network and connectivity services, oftentimes reporting to the CIO. The move to IP-based voice services is bringing telecom and datacom together.

A similar Network and IT convergence has occurred in the CSP world. The redefinition and evolution of telecom and datacom roles presents both an opportunity and a challenge for OSS and network systems vendors.

Most OSS have not kept pace with this fundamental shift that has occurred within CSPs. OSS have traditionally been “network-centric” — that is, focused on supporting infrastructure at Layer 3 of the OSI model and below. They do not impact the services and applications above Layer 3. An OSS that cannot support Layers 1 through 7 is unable to provide the end-to-end view needed to manage multimedia and converged services spanning both Network and IT domains. The inefficiencies caused by OSS that do not manage across domains cost CSPs both time and money.

## Lack of IT and Network Convergence: the Consequences

Numerous symptoms indicate that OSS are not modeling both IT and Network infrastructures on a single platform. Some of the key symptoms are as follows:

### 1. The CIO and CTO have different ideas about which systems to use to manage the service infrastructure.

This occurs when executives take a completely IT-centric or Network-centric view, driven by loyalty to or familiarity with systems and architectures that are in their IT or Network domain. Instead of focusing on customer and service needs, organizational politics prevail.

### 2. It takes a long time to create services and deliver them to customers.

The majority of services today are created using a mix of Network and IT infrastructures. An OSS that does not bridge both domains results in misalignment and longer lead times for service creation and delivery.

### 3. The Network and IT infrastructure cannot be visualized from end-to-end.

Many systems and tools provide a functional view of the Network or the IT infrastructure, but very few can visualize and model it end-to-end — from devices, services, and applications all the way to the customers.

### 4. It takes a long time to introduce new devices and applications into the service environment.

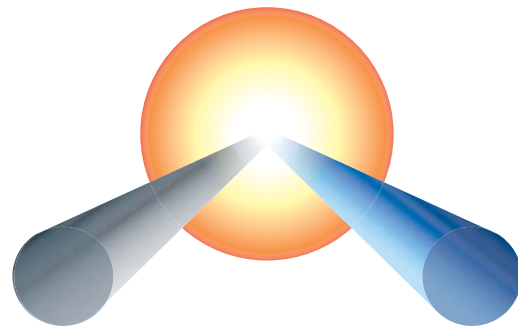
The multiple OSS across Network and IT are incapable of capturing and modeling new devices (handsets, CPE, gaming consoles, etc.), and applications cannot understand the dependencies and relationships among them.

### 5. The ability to understand service quality and the customer experience on an end-to-end basis is limited.

Multiple OSS platforms are required to capture and correlate Network, IT, service, and customer data to build a single picture of the customer and service experience, instead of a single platform that would gather and synthesize data from all those sources.

These kinds of issues result from organizational differences and a lack of integrated operations. Functionality that used to be embedded in the Network Layers is now being deployed on IT systems. The mobile industry is a perfect example of this shift. Close to 70% of the infrastructure used to create and initiate services such as voicemail, messaging, and content services resides within IT infrastructure. The absence of an integrated OSS impacts the customer experience and increases costs.

## Merging the Power of Network & IT™

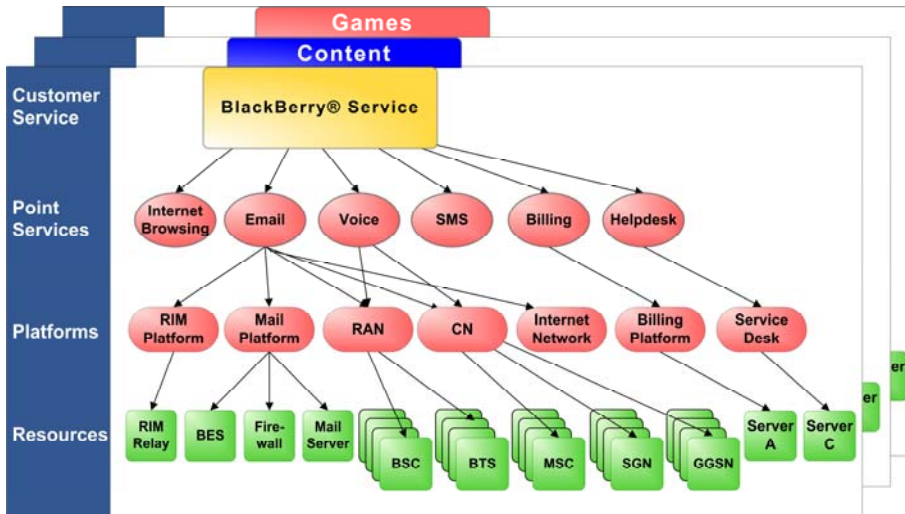


NetCracker's integrated approach merges the power of Network and IT.

## Creating and Delivering Merged Services

Non-integrated OSS have real world consequences. Typically, today's services are complex, customized bundles of point services. For example, a BlackBerry® Service is composed of Internet browsing, email, voice

This approach eliminates inefficiencies and saves millions of dollars that would otherwise be spent attempting to achieve interworking and integration across multiple systems. NetCracker's solution creates an OSS environment that is equally Network- and IT-centric.



NetCracker's innovations have created a groundbreaking OSS that can accurately capture, model, and correlate all the Network and IT infrastructure that is required to create and deliver a set of converged services.

At the same time, NetCracker's integrated approach, and more specifically, its OSS, extend into real-world applications the process management and operations work done by the Management Forum (eTOM®) and ITSM (ITIL®).

services, etc. These point services may be managed by multiple OSS platforms and span a range of Network and IT infrastructure resources.

Lack of integration causes delays in service deployment, poor interoperability, reduced quality of service, and operations costs that are significantly higher than when a single system is used to span Network and IT infrastructures.

With such an integrated system in place, CSPs achieve end-to-end service visibility, a complete picture of the customer experience, and greater ability to manage customer expectations. The result: reduced total cost of ownership and increased profitability.

## NetCracker's Integrated Approach

NetCracker recognized early that next generation Wireline and Mobile services would use servers and applications in addition to switches and routers. NetCracker's core platform, combined with its recently released version 7.0 product modules, enables CSPs, Government, and Large Enterprises to use a single system to manage across their Network and IT domains, from Layers 1 through 7 of the OSI stack.

## NetCracker's OSS: Merging the Power of Network and IT™

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 CSPs are those whose Network and IT organizations work closely in balanced harmony.

Getting that balance right requires choosing the right OSS — one that transcends the Network and IT domains to merge the power of Network and IT.