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ANDREW FEINBERG

VIRTUALIZATION: THE FUTURE OF TELECOM

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Virtualization:
The Future of Telecom

Cloud and virtualization have become buzzwords to describe innovation in the high-tech world. By going virtual and putting computing and application infrastructure in the cloud, enterprises have been able to dramatically cut costs and increase business agility. Telecommunications service providers that are integral to providing gigabit-level connectivity to the cloud and megabit-level connectivity to our mobile phones are gearing up to go virtual in a big way. The impact of this momentous shift will be as fundamental as the introduction of mobility in the age of fixed-line Internet.

I n a recent interview, Andrew Feinberg, President and CEO of NetCracker Technology, a key player and innovator in the communications industry, discussed the promises and challenges of virtualization for telecom operators.

What is the state of the telecom industry today? What are the challenges it faces?

AF: The telecommunications and cable industries are facing tremendous revenue, margin and competitive pressures. The revenue growth over the past five years among fixed and mobile operators, in aggregate, has been flat. Driven by trends like growing smartphone adoption and Internet video usage, however, traffic continues to increase, negatively impacting profitability. From a competitive perspective, over-the-top providers such as Google, Amazon and Netflix are offering alternative and compelling content, relegating the telecom operators to mere connectivity providers. In essence, the telecom industry as a whole is at a crossroad. Service providers can choose to operate as usual and face declining revenues and increasing costs, or take a different approach to running their businesses by choosing new technologies such as cloud and virtualization and making major changes in how they build and run their networks, offer new services and interact with customers.

How will network virtualization technologies help your customers overcome these challenges?

AF: Network virtualization helps create a far more agile business model for communications service providers—one that drives revenue growth and cost reduction by transforming operators from network-centric companies to more software-driven, customer-centric businesses.

Virtualization moves the most critical network functions—such as routing and security—from expensive, purpose-built hardware to general-purpose servers and software. The idea is to reduce the cost of connectivity and build a more software-centric service creation and delivery network that can act as a platform for revenue growth. Today, the process of building and operationalizing the carrier network is manually intensive and cumbersome, requiring highly trained hardware technicians working with a wide range of proprietary, closed systems. This model is simply unsustainable in today's business environment. What is required is a far more efficient and automated service creation and delivery process enabled by network and infrastructure virtualization.

Make no mistake: The transformation to virtual networks and services is a once-in-a-generation shift in the telecom business, and is as important as the shift from the old voice networks to the Internet.

What does network virtualization mean to the industry landscape?

AF: The introduction of network virtualization will change the industry landscape dramatically. Virtualization will make old, custom and proprietary network hardware and its vendors obsolete. As networks start virtualizing, they will take on the characteristics of a software-defined infrastructure. Much the way IT infrastructure has gone virtual with commodity hardware, open interfaces and shared computing resources that can scale dynamically, fixed and mobile networks will begin to exhibit similarly transformational characteristics. To put it bluntly: The router and switch are dead; long live the server.

That is a strong statement; can you elaborate?

AF: When I say the router is dead, I mean that the manner in which current carrier-grade routers and switches are built and operationalized is becoming obsolete. Today's carrier-grade network routers and switches are built on custom hardware, are closed and proprietary and not interoperable. Most important, they are outrageously expensive. Alternative technology and architectures using software/IT-centric models have reached a point where telecommunications service providers can increase their business agility and reduce their network operations costs by more than 30 percent by using general purpose hardware, separating data and control planes and creating open interfaces—the foundations for virtualization. So while routing and switching functions will remain, the conventional way of building and operating routers is dead. Any money spent toward buying, installing and operating these routers and switches is now an investment in obsolescence.

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What will be the critical success factors for vendors looking to survive and thrive as telecom carriers begin to virtualize?

AF: Those with leading virtualization and software expertise, an understanding of IT architectures, non-proprietary solutions and a deep knowledge of operationalizing new services—not simply moving bits from place to place—will win. It will also require supporting telecom carriers with software and IT skill sets to transition from the current legacy networks to a virtual infrastructure.

What does NetCracker bring to the table to make this transformation happen?

AF: NetCracker has all the attributes of an ideal business partner to make network virtualization a reality for our customers. We are a leading telecom software business with deep resources and expertise in helping telecom operators virtualize their IT infrastructure. Combined with our parent company, NEC, we have the R&D scale and resources to provide our customers with the innovation and support they need to execute their virtualization plans. Together, we are a leading voice in the standards that are defining and driving the development of virtualization technologies. We were the first to market with key solutions in software-defined networks and network functions virtualization, and we are engaged with many of the world's largest operators in making virtualization happen. Unlike many conventional hardware vendors, we are not motivated to protect a legacy of installed hardware that is no longer relevant to our customers' future plans. We are focused solely on delivering the software solutions and turnkey professional services that our customers need to transform their businesses. ■

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