Managed Services: A Key Component to Enabling Digital Transformation

Sponsored by: Nokia
Curtis Price
February 2017

Market Overview

The move to digital-based business has created sweeping change across every industry. Companies are investing heavily in technologies and new processes that will help improve competitiveness and drive sustainable sources of differentiation.

The communications industry is at the center of the transformation wave, and telecommunications providers around the world are investing in a broad set of technologies that will drive their own transformation programs. Technology is the key component underpinning digital transformation initiatives for communications services providers. Investments in automation, analytics, cloud, IoT, and security becoming are all key areas that will redefine the communications service provider's business, improve their competitiveness, and enable them to generate new sources of revenue.

Changing Market Landscape

Communications Service Providers: Transforming to Drive Customer Value

Communications service providers are faced with a number of challenges that are putting pressure on current operations and forcing changes in their networking and business strategies. The combination of technology and market dynamics is forcing CSPs to re-evaluate every aspect of their business and technical operations to improve their competitive position in the digital economy.

Changing market dynamics are creating challenges on many fronts for CSPs. On a global basis, revenues are down roughly 2% over the past few years, with a sharp decline of 6.5% in 2015. The shortfall in revenue can be partly attributed to falling ARPU
demand for new services that have been disrupted by over-the-top instant messaging services from providers like Facebook, Skype, and WhatsApp.

To compound these challenges, operator networks are being put under increased stress as bandwidth demands continue to grow, largely due to mobile data growth. IDC expects that the increased usage of mobile video and the emergence of the Internet of Things (IoT) will push current traffic volumes higher over the coming years and create even more strain on CSP networks. These trends could severely compromise the CSPs' ability to provide a high level of customer experience, which has become a key strategic priority and an area where CSPs are looking to differentiate.

These factors have led to significant pressure on margins, and have forced CSPs to seek cost cutting measures to better align their operations with current revenue levels.

When asked about the factors that represent the most significant drivers of change, CSPs ranked the drive for revenue growth, cost reduction, and creating a source of competitive advantage as the top three factors (see Figure 1).
For CSPs, achieving success in these strategic areas is key to improving competitiveness and establishing sustainable competitive advantage. Connectivity has increasingly become a commodity, and CSPs must evolve from a pure connectivity provider and offer a broader set of services across a wide range of vertical markets. Investing in new network technology and improving current operations is critical to creating a different relationship with enterprise customers and driving new sources of revenue.

**Enterprise Digital Transformation**

For many enterprise organizations, digital transformation is seen as the path forward that redefines how an organization operates internally and engages with its customers. The move to pursue digital transformation has spurred growth in spending on next-generation technologies and services. In fact, IDC estimates that by the end of 2017 nearly 50% of enterprise technology spend will focus on areas such as analytics, cloud, IoT, and security.

For many organizations, pursuing digital transformation is largely driven by the need to develop a key source of competitive advantage, and critical to providing reliability for mission critical applications (see Figure 2).
Establishing a closer relationship with customers is the driving force behind many enterprise digital transformation initiatives, particularly in industries where new entrants are utilizing technology to disrupt incumbents. Across a number of industries there are new entrants disrupting incumbents with new business models and bringing a new value proposition to customers. Companies like Uber in the transportation industry and Airbnb in the lodging industry are examples of companies that are disintermediating incumbents with an enhanced value proposition for customers.

The level of change taking place in the enterprise sector creates opportunities for CSPs to leverage their technical expertise, scale, and existing enterprise relationships to enable digital transformation. As enterprises continue to invest in new technologies and services to drive their transformation initiatives, IDC believes that new revenue opportunities will be created for CSPs to offer enterprises a range of new services.

**The Rise of Next-Generation Digital Technologies**

Enterprise demand for communications services will evolve significantly in the coming years as organizations place greater emphasis on utilizing new technology offerings by CSPs. Enterprise concerns over technology complexity and lack of in-house knowledge of new technologies creates an opportunity for CSPs to respond to these challenges and build a suite of services to support enterprises’ digital transformation. Below, IDC provides a summary of four offerings that will play a key role in enterprise transformation initiatives.

**Cloud Services**

Communications services providers and enterprises are leading the charge toward a more flexible and agile networking architecture based on software-defined networking and network function virtualization (SDN/NFV). SDN/NFV holds the promise of removing the network as a bottleneck to full scale virtual
network operations by addressing two of the biggest challenges; cost reduction (capex and opex) and network agility. Survey respondents pursuing a cloud technology strategy expect a variety of operational benefits; some of the more important include improving operational efficiency through automation and network programmability, addressing VLAN sprawl and complexity, and accelerating infrastructure provisioning for application workloads.

In addition, as communications service providers re-architect their network infrastructure platforms, they are increasingly looking to a design approach that favors an open telco cloud ecosystem that will enable long-term scalability and network function flexibility in the infrastructure. NFV holds the promise of addressing the key operational challenges facing operators such as reducing costs, improving operational inefficiencies, improving customer experience, and achieving network agility.

*Managed Internet of Things (IoT)/Analytics*

While the market is still in the early stages of IoT adoption, the vision of a hyper-connected business in which physical elements are connected through sensors, and contextual data can be collected about these elements through analytics, has organizations evaluating potential use cases for the deployment of IoT solutions. IoT awareness is increasing across a variety of industry sectors including healthcare, transportation, retail, public utilities, and local government. The impact of IoT will be so vast that by 2025 IDC estimates that there will be over 80 billion IoT connected devices and over 162ZB of data generated by these devices.

While IoT has the potential to create significant opportunities for businesses, there are several technical and operational challenges that IoT will create for companies looking to integrate IoT solutions into their existing architecture. When asked about the challenges associated with IoT, survey respondents overwhelmingly selected security and data management as the two most significant issues related to IoT (see Figure 3).
Security continues to be a top of mind concern for companies pursuing an IoT strategy. Much of this relates to the challenges of securing a variety of smart connected IoT things that will include devices and machines that communicate in a machine-machine, as well as machine to human manner. IoT architectures will support a range of endpoints, utilizing broadband for connectivity and cloud for data management efficiency. Subsequently, this will have a significant impact on security management as organizations become more susceptible to threats due to a wider attack surface for a potential security breach.

**Managed Analytics**

IDC views analytics as a key to unlocking the value of IoT. The implementation of IoT will create a wealth of data that can be mined to create deeper insight into customer buying behavior, improve operational processes, and create a sustainable source of competitive differentiation.

According to the survey results, nearly 40% of survey respondents are using analytics in a small test environment or have a large scale implementation underway. According to survey results, enterprises cited the following areas where the adoption of analytics will drive business benefits:

- Improving network uptime
- Improve predictability of service/network degradation
- Preventative maintenance
- Gain deeper customer insight
Most organizations do not have data scientists in-house and lack the internal expertise needed to develop an analytics strategy that creates value from data generated by IoT. Subsequently, many of the companies surveyed indicated that upfront consulting engagements around planning and design for IoT and analytics were areas they would greatly benefit from. IDC believes that IoT and Analytics are inextricably linked, therefore engaging organizations early in the planning and design of an IoT implementation is essential to ensuring appropriate assessments of security are conducted and the potential business value analytics is highlighted.

**Managed Security Services**

Security is the common concern that underpins all digital transformation initiatives, and as a result, organizations are keenly aware of the need to address current and future security concerns early in the digital transformation process. In fact, for many organizations the process of virtualizing their IT/network infrastructure, moving workloads to external cloud providers, and utilizing IoT potentially opens the door to new security vulnerabilities (see Figure 4). In addition, the rapidly evolving threat landscape has created the feeling of being reactive to security breaches rather than taking a more proactive and preventative approach to potential and threats.

**FIGURE 4**

**Impact of Managed Security Services on Current Operations**

<table>
<thead>
<tr>
<th>Service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtualization creates more entry points for potential security breaches</td>
<td>47%</td>
</tr>
<tr>
<td>Compliance with regulatory mandates</td>
<td>58%</td>
</tr>
<tr>
<td>Increased need for vulnerability assessments</td>
<td>58%</td>
</tr>
<tr>
<td>Greater need for equipment testing</td>
<td>42%</td>
</tr>
<tr>
<td>Greater need for application testing</td>
<td>56%</td>
</tr>
</tbody>
</table>

Source: IDC, 2017

As organizations look to address security concerns, one of the biggest challenges they face is the cost of hiring a staff of security experts and building an internal security management architecture. The other challenge is the avalanche of new technologies that exist and the security implications inherent in implementing these technologies into the existing IT/network architecture. IDC believes that security considerations are being evaluated early on in the decision making process around digital transformation. IDC has witnessed an increase in security consulting spend as organizations pursue transformation strategies. Respondents to the survey indicated strong spending on managed security services for a variety of security functions including intrusion detection/prevention, threat management, vulnerability management, and identity and access management.
The Value of Managed Services

CSP and enterprise transformation have driven a wave of technology and services spend over the past few years, and one of the service areas that is expected to drive significant value and offer a broad array of benefits is managed services. IDC believes that managed services will play a key role in enabling enterprise and CSP transformation in two primary ways.

Managed Services Enable CSP Transformation

First, CSPs that have primarily leveraged managed services as a cost cutting measure will expand their use of these services to help drive their internal transformation and achieve key business goals. CSP initiatives around the adoption of new technologies such as cloud, IoT, and analytics will drive demand for managed service activity in these areas. There will also be strong interest in utilizing these service in flexible delivery models, which will include consumption of as-a-service models. Figures 5 highlights CSPs’ top drivers for using managed services based on survey results.

FIGURE 5

Top CSP Drivers for Managed Services

![Bar chart showing top CSP drivers for managed services](image)

Source: IDC, 2017

Enterprise Managed Service Opportunities for CSPs

Another area where managed services will prove valuable for CSPs is expanding their managed services portfolio in new areas to help enterprise customers transform their network operations. The network is increasingly viewed by enterprises as a source of competitive advantage, and efforts to improve network operations through investments in next-generation technologies is critical to achieving business objectives (see Figure 6).
Enterprises are keenly aware of the risks associated with their transformation initiatives and the level of complexity involved. One of the biggest technology challenges that enterprises face today is the talent shortage that exists in key technology areas, particularly in emerging areas like IoT and analytics. Survey results indicates that IT/Cloud management, network analytics management, security management, and IoT management are areas where enterprises feel they need the most assistance from managed service providers. These are also technology areas in which enterprises have indicated a willingness to use managed services. CSPs are in a strong position to succeed in providing next generation managed services to enterprises to enable digital transformation given their technology expertise, existing managed services infrastructure, and installed base.

Smart Cities

Smart city initiatives represent one of many use cases where managed services could prove helpful in accelerating deployments. Smart city programs have become a major focus for many local governments around the world as they look to revitalize cities, deal with the challenges of massive urbanization, and provide a better quality of life for residents. While smart city implementations are in the early stages, challenges associated with funding and technology implementation have slowed broad scale deployments. Utilizing managed services can help municipalities overcome many of the barriers to adoption by managing the entire lifecycle of a Smart city initiative, including upfront development of the smart city vision, managing a broad set of technologies and the diverse ecosystem of technology vendors, application developers, and service providers.
Nokia Managed Services

Nokia is one of the leading providers of managed service solutions to communications service providers worldwide with over 200 managed service contracts in 55 countries. The company has a global delivery model for managed services with network operating centers in India, Europe, and the Americas, and has developed a broad managed services portfolio that includes offerings for fixed, IP, and wireless networks.

The company has also built upon its strong presence in communications service provider networks and is now expanding into the large enterprise network sector with a focus on addressing communications infrastructure requirements in key industry sectors such as transportation, public sector, and energy/utilities.

More recently, Nokia has added a suite of new offerings designed to drive innovation in enterprise and communication service provider network operations through the use of analytics, offer managed services in a more flexible as-a-service model, and address management challenges associated with cloud operations. With these new offers added to its portfolio, Nokia possesses a robust suite of managed services that can help enterprises and communications service providers in their transformation journey.

A key component of Nokia's managed services strategy has been a heavy focus on innovation and delivery excellence. The use of automation and analytics in its managed services operations has created agility and flexibility in its own operations and become a source of differentiation for Nokia in managed services.

It is becoming increasingly clear that transformation in the enterprise and service provider segments will require the support of a full lifecycle of services. In addition to Nokia's strength as a managed services provider, it also possesses strong consulting capabilities. IDC believes that consulting and managed services will be tightly linked as enterprises and CSPs will demand upfront consulting engagements to help evaluate the benefits that new technologies could potentially provide. Part of these engagements will also include discussions on various operations models that might be most appropriate, this is where managed services will be emphasized.

Essential Guidance

Given the current market dynamics that organizations are facing, the need to transform their business is critical to long-term success. As companies pursue a transformational path, finding services partners that can act as "trusted advisors" and provide solutions to enable transformation is essential. IDC believes that business leaders are making significant investments in new technologies that will drive innovation, improve the business, and create a source of competitive differentiation. In turn, technology organizations must look to deliver business requirements in an entirely new manner, utilizing new technology and processes through a variety of different delivery methods.

Managed services have evolved significantly over the past few years. Current offerings utilize next-generation technologies for operational efficiency, implement industrialized and standard processes to ensure quality and speed, and employ new delivery models to meet consumption preferences. Given this evolution, IDC believes managed services are uniquely positioned to address current and future challenges and should be considered as a key component of a network transformation strategy.
About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

Global Headquarters

5 Speen Street
Framingham, MA 01701
USA
508.872.8200
Twitter: @IDC
idc-community.com
www.idc.com

Copyright Notice and Restrictions

Any IDC information or reference to IDC that is to be used in advertising, press releases, or promotional materials requires prior written approval from IDC. For permission requests contact the Custom Solutions information line at 508-988-7610 or permissions@idc.com. Translation and/or localization of this document require an additional license from IDC. For more information on IDC visit www.idc.com. For more information on IDC Custom Solutions, visit http://www.idc.com/prodserv/custom_solutions/index.jsp.

Global Headquarters: 5 Speen Street Framingham, MA 01701 USA P.508.872.8200 F.508.935.4015
www.idc.com

Copyright 2017 IDC. Reproduction is forbidden unless authorized. All rights reserved.