EXECUTIVE BRIEF

Why Telcos Need to Embrace Digital Transformation Now

Sponsored by: Ericsson

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EXECUTIVE SUMMARY

The pace of change in modern digital economies, and in the information and communications technology (ICT) sector in particular, is relentlessly accelerating. For communication service providers (CSPs) this is particularly so as technology inexorably advances, new competitors ratchet up the pressure, and their traditional business models continue to decline. This change brings both opportunities for CSPs and profound multiple challenges that impact all parts of the CSP and the relationships they have with their customers, suppliers, and partners. To remain competitive, CSPs need to take radical action and quickly before their market position is seriously compromised. In short, a digital transformation is required.

Designing, implementing, and managing change of this complexity will not be easy. We recommend that CSPs partner with trusted and experienced suppliers to work out what this means to their business. This type of partnership probably starts with a consulting services engagement, which then leads through to developing a roadmap of how to move from where they are today to where they want to be tomorrow. This roadmap needs to address all parts of the business and the processes by which it operates. The rewards from such a transformation will embed operational agility within the company, add the capability to follow growth sectors in the ICT market, and probably secure the long-term viability of the CSP as a business.

INTRODUCTION

The term transformation is much used, and yet is open to interpretation. In our view, and in relation to CSPs, the term means a radically new approach to the network and the IT systems layer (and how the two interrelate to each other), how the CSP interacts with customers, suppliers, and partners; and how the company competes in the marketplace. The prefix "digital" simply means that in a world where all-IP networks are pervasive, where Big Data and analytics are key to competitiveness, this transformation can only occur if it happens using the latest architectures, technology, know-how, and channels (such as social media).

In this Executive Brief we will consider three things. First we explain why the pressure to transform is overwhelming and the option to preserve the status quo is no longer sustainable. Having considered the context, we then look at what a transformation means to the CSP as a business and its relationship with both its customers and suppliers. Lastly we consider how the CSP can tackle this transformation in conjunction with Ericsson as its partner.

WHY DO CSPS NEED TO UNDERGO A DIGITAL TRANSFORMATION?

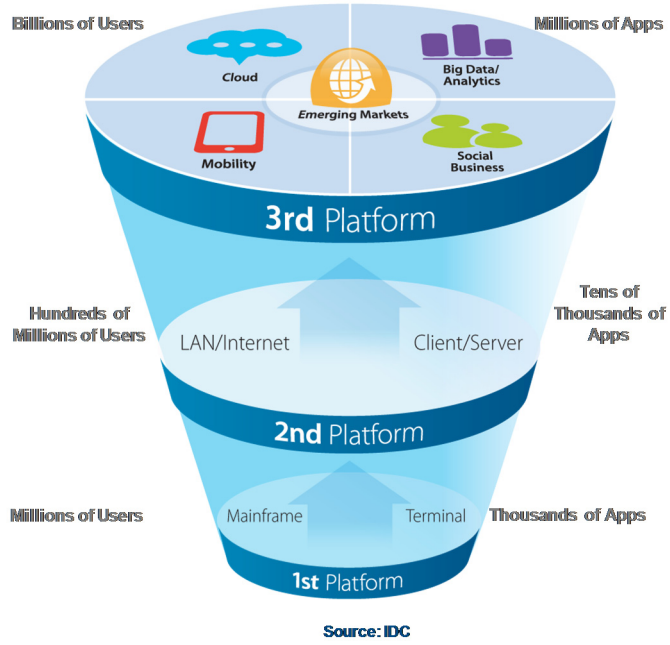
Whichever way you look at it, change is in the air. There are many drivers of this change, but in this short paper we consider just two – the changing ICT market, and the decline of traditional calls and lines business of CSPs.

The Changing ICT Market and the Rise of the 3rd Platform

ICT as we know it is undergoing a revolution that IDC refers to as the creation of the 3rd ICT Platform. The 1st Platform was symbolized by the mainframe era of the 1960s, 70s, and early 80s; the 2nd Platform was in the client/server era established in the mid-1980s, and which brought us the PC, LANs, the Internet, and mobile networks to mention but a few. The 3rd Platform has four pillars – cloud, social business, Big Data, and mobility – providing connectivity not only to billions of users worldwide, but also potentially to trillions of things as ICT enables the intelligent and global digital economy (see Figure 1). The 3rd Platform, unlike its predecessors, will embrace all societies worldwide as the reach of networks expands into developing countries too.

FIGURE 1

The 3rd Platform



Source: IDC, 2015

IDC research shows that 98% of all investment in ICT in 2015-2018 will be in the four pillars of the 3rd Platform – cloud, mobility, social, and Big Data/Analytics. IDC research also shows that while 2nd Platform ICT revenues will decline by 2.4% over the 2013-2018 period, in contrast 3rd Platform revenues will increase by 40%[1]. As the providers of networks, CSPs will benefit from the connectivity revenues, but the real area of interest should be in providing 3rd Platform solutions to enterprises and services to consumers or individuals on the move. To take advantage of these trends requires a different approach by CSPs.

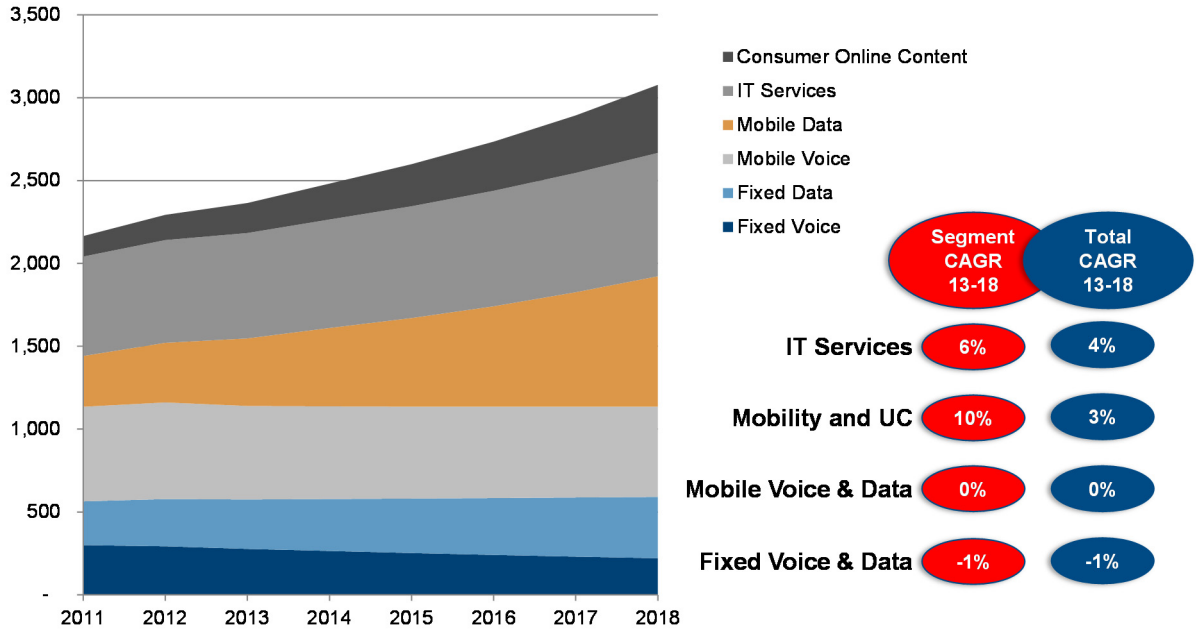
[1] Source: IDC Black Book 2014

The Decline of Traditional CSP Business

The traditional business of CSPs is based on connectivity and calls over fixed and mobile networks. These markets have been under pressure for a number of years particularly in developed markets as service penetration levels are high and competition is intense. There is still growth in subscribers in emerging markets which will drive connectivity spending in those regions, but in developed markets such as Western Europe CSPs need to look to non-connectivity, or associated markets for growth. Figure 2 shows the WW market for connectivity services, IT services, and online consumer content. IT services and content are examples of markets that CSPs are trying to enter.

FIGURE 2

Telco Revenues



Source: IDC, 2015

The pressure to restore top-line revenue growth is such that CSPs are driven (by shareholders, customers, and sometimes governments) to look for new income streams. But to provide new services requires different network architectures, more responsive IT systems, and greater business agility. In short CSPs are being driven towards a digital transformation of some kind.

WHAT NEEDS TO TRANSFORM IN A CSP

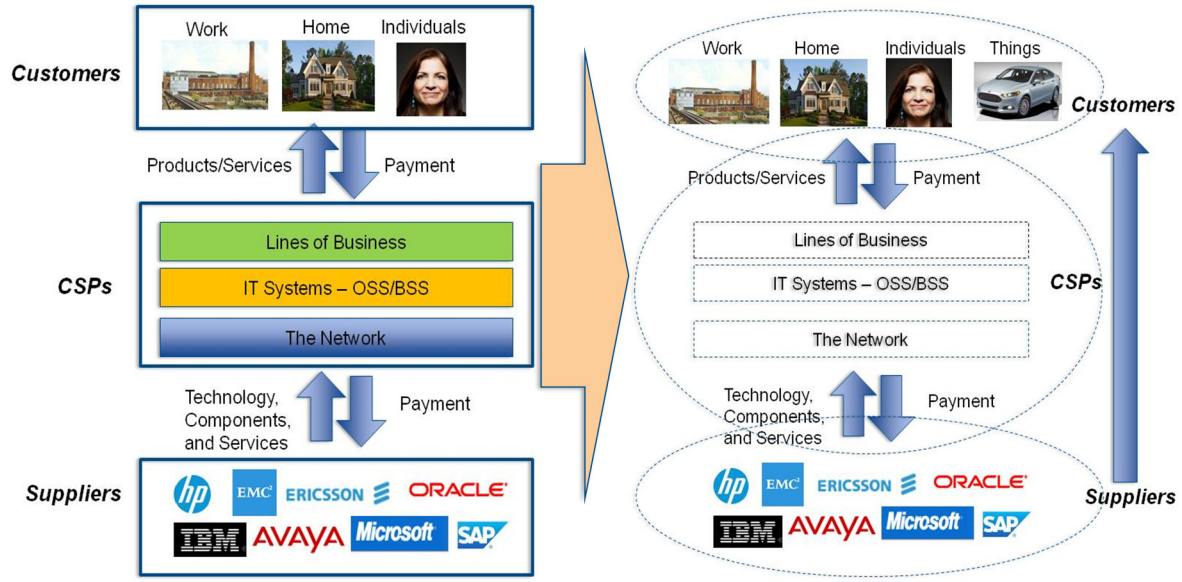
CSPs as businesses have three core elements:

- The network across which communications are carried from one point to another.
- IT systems such as operational support systems (OSS – for example order entry or trouble ticketing) or business support systems (BSS – such as customer billing or support).
- The lines of business (LoBs) that face into their customers (business, residential, and individuals).

The network and IT system layers are both built using technology provided by a range of suppliers, and the services provided by the CSP are offered to customers through the LoBs. In the past these three levels – customers, CSPs, and suppliers – were reasonably discrete; and commercially goods flowed one way and payments in the other thereby cascading from tier to tier. In response to the drivers noted above, this is also changing, and in a number of ways (see Figure 3).

FIGURE 3

The Changing Role of CSPs in the Market



Source: IDC, 2015

Customer/Market Changes

Customer groups are no longer as distinct as they once were. For example, it is not unusual for an individual today to expect to have access to business applications they use at work from their home using their own device rather than that provided by their employer. This has implications for CSPs in terms of the service and support they provide, as we will come back to later in this paper.

But there is more to it than just the blurring of the lines between work, home, and the individual. What connects to the network and IT systems is changing too. In addition to buildings (aka fixed communications) and people (aka mobile) we can now add billions of things (aka the Internet of Things, or IoT for short). Some say the emergence of IoT is the third age of telecoms following on from fixed and then mobile and has the potential to be the "killer app" for digital transformation[2]. Whether you subscribe to this or not the emergence of IoT impacts the design, build, and operation of networks in the coming decade.

Changes Within the CSP

The networks, IT systems, and LoBs within the CSP are individually changing and, just as importantly, so is the relationship they have with each other. To understand these more we need to consider these areas both separately and collectively.

[2] IDC's 10th prediction, "European Mobile Services and Strategies 2015 Top 10 Predictions", IDC, January 2015.

- **Networks**. At the heart of every CSP is the network, and software defined networks (SDNs) are initiating the most significant change since digital circuits replaced analogue. The importance of SDN – along with network function virtualization (NFV) – is that network infrastructure becomes more cloud-like. Rather than all the network tasks being performed within one integrated all-IP network operated by the CSP, some of these functions and tasks can now be performed elsewhere in a similar way to cloud computing in the enterprise. SDN/NFV/Service chaining are fundamentally changing the architectural decisions CSPs make about the future of the network. Being able to design a network so that some of these functions can be undertaken elsewhere is transformational.
- **IT Systems**. If we look at the IT layer in the CSP, programs to automate, integrate, and rationalize these IT systems have been underway for years (such as BT's OneIT program). Continuing with BT as an example, the company has saved £5 billion over the past 5 years through what it describes as a forensic approach to cost cutting and investment in continuous improvement[3]. Like any other enterprise IT system, both OSS and BSS can today be provided through cloud computing architectures too. The move to cloud-like architectures has been underway for some time but still amounts to a radical departure from the past when IT systems were often discrete, unconnected to other adjacent systems, and tied to a specific technology platform. Cloud architectures in OSS and BSS are every bit as transformational as those going on in the network space.
- **Lines of Business (LoBs).** The third layer in the CSP we have labeled as LoBs, although they are sometimes also referred to as customer facing divisions (CFDs). Typically LoB/CFDs face in to three customer groups – residential/consumers, enterprise (both corporate and small medium sized businesses [SMBs], and wholesale [other CSPs]). Their relationship with customers has typically been managed by customer service centers (CSCs) located in call centers supported by network operations centers (NOCs). Typically CSCs have been reactive – responding to customer issues/complaints – rather than proactive in reaching out to manage relationships with customers. This, at last, is beginning to change as we will see later in this paper. This in itself is transformational for an industry not renowned for great customer service.
- **Networks/IT/LoBs collectively**. It is fair to say that in the past the three layers in the CSP have not been as integrated or as consistent as they ought to have been. Many of us have experienced issues that suggest one part of the CSP is detached from the other. As part of the transformation the distinction between the three levels should disappear. For example, in the OSS and BSS there are extensive data storage requirements (such as billing data). In the network too, large volumes of data need to be stored (such as network performance). While there may be some regulatory restrictions on what can or cannot be stored elsewhere, the opportunity for a common storage repository (data farms) appeals to CSPs because of the potential cost saving and the opportunity the gain insight from Big Data and analytics. Similarly, the distinction between the LoB and IT systems and the network are far less stark than in the past. For example, CSCs and NOCs in the past were not necessarily co-located, so issues between the two were not uncommon. Today this distinction between CSC and NOC continues to fade. CSCs are often given the same diagnostic tools as those available internally – the purpose being to reduce internal barriers to providing good customer service to customers. This is a radical break from the past too.

Changes in the CSP Relationship With Customers and Suppliers

The distinction between the CSP and customers (particularly enterprises) has also been blurring for some time. The CSP providing hosted services (such email servers) on behalf of enterprises is a typical example, and there is evidence to suggest this type of approach is accelerating. It would

[3] Source: BT briefing December 9, 2014. IDC believes most of these savings will have come from the IT Systems layer.

be wrong to say this is only one way; CSPs have been adopting self-service approaches for both enterprise and consumers for some time. This approach has benefits for the customer (such as greater control and increased flexibility), and for the CSP as it drives costs out and facilitates process automation.

Turning to the relationship CSPs have with their suppliers, in the past network equipment providers (NEPs) supplied technology and equipment comprised of a mix of hardware, software, and applications. Although some NEPs (Ericsson in particular) also provided managed services options in which networks were managed on behalf of the CSP, they did not stray too far from their traditional model. But this is also changing, with some NEPs providing enterprise services on behalf of CSPs, such as Managed Service for Telefonica Altamira in South America. This approach is becoming far more common as CSPs seek to gain the business agility they need but struggle to realize through traditional structures. Hence the traditional customer/supplier relationship is changing into an ever deeper partnership that benefits CSPs, NEPs, and also customers too.

As a consequence of the changes noted above, the rigid boundaries between the CSP and its customers and suppliers, and between the silos within the telco itself, are breaking down. Within the CSP the shackles of the traditional silos – which some say have held telcos back for so long – are loosened. We also see the emergence of overlaps where functions can take place in more than one layer. This creates opportunities for CSPs to do things differently, and for suppliers to help them realize this potential.

HOW TO MANAGE A DIGITAL TRANSFORMATION

As we can see there is a lot to the CSP digital transformation. But understanding the changes is one thing; being able to manage and implement such a transformation is another challenge in itself. IDC's advice to CSPs is to:

- **Start with consulting services to work out your strategy.** With so many potential areas to address, it is necessary to determine what to focus on. This suggests an audit and the identification of priorities, and lends itself to a consulting project of some type. The challenge for the CSP will be how to avoid the temptation to create too large a program, and to ensure a good mix of "quick wins" and longer-term objectives, and a readiness assessment of the CSP[4].
- **Develop a plan**. The transformation discussed in this paper is a very substantial exercise and is not one that can be implemented overnight. This points towards a plan comprising a series of steps or a roadmap designed to take the CSP towards achieving the goal. Exactly what the goal will be will vary from operator to operator. In our view this type of plan should comprise elements that reflect the range of challenges facing the CSP as noted earlier in this paper, but also reflects the changes noted earlier.
- **Choose partners to help you on the journey**. CSPs need to source partners that can understand where they are coming from (i.e., the legacy) and a vision of where they need to go in the future. This vision needs to embrace not just the network and OSS/BSS, but also how cloud architectures or network-IT convergence can open up opportunities with both customers and their partners.
- **Focus on the areas that matter most to your business**. No two CSPs are the same in terms of the markets in which they compete, the customers they serve, or the nature of their business. Hence it is not possible to identify a generic "right" transformational path to

[4] "Digital Transformation is the new buzz phrase, but are organizations ready for the journey?" IDC, December 2014.

follow. To make a start we recommend developing a roadmap with trusted suppliers to focus on the areas that matter most to your business.

- **Invest in transformation.** The key lesson to learn from the BT example noted above is that its success has been not just been the result of a cost cutting program. Its willingness to invest in continuous improvement and the full commitment of the whole organization to make it real has also been important. So creating the right culture where transformation can take root is a key enabler.

HOW ERICSSON CAN HELP

Ericsson is one of the leading communications solutions suppliers in the world, with a century of history in providing capability to CSPs. Ericsson can help CSPs address the digital transformation at multiple levels. Looking at the model in Figure 3, this capability is centered around what it can provide to the CSP in terms of network and IT systems, but also extends to cover the channel issues between the LoBs and customers and the boundary between the telcos and suppliers. It can help CSPs drive a digital transformation through the following.

Consulting and Professional Services

In our view, a digital transformation of the type we have been describing in this paper should only start with the development of a plan based on an audit of where the CSP is today, and an understanding of where it wants to move to in the future. This should be undertaken in conjunction with partners that buy-in to the vision and deliver components. In this planning stage, a professional services engagement with the chosen partner is the logical approach. Ericsson has extensive professional services experience in terms of the full range of the design, plan, build, operate, and maintain functions. It also has a Digital Telco Transformation toolbox (including customer driven use cases, reference frameworks etc.) it uses for projects of this type to help CSP customers understand the interrelationship noted earlier in this paper.

The Ericsson Portfolio

Ericsson is best known as an NEP, but the portfolio it offers is far broader than this conventional label would suggest. In addition to the obvious (mobile broadband, communications services, fixed broadband and convergence), the company also offers extensive managed services, OSS and BSS (following the acquisition of Telcordia in 2012), and a television and media management business too. The Telcordia investment demonstrates Ericsson's preparedness to grow the company through M&A (if necessary), but also illustrates how it is having to change its business to reflect the changing market too.

This paper is too short to go into any detail on any of these divisions and their product portfolios, but we would highlight the following:

- At MWC in Barcelona in 2014 the company committed itself to developing service options for all its traditional kit-based portfolio[5]. This is important as it enables cloud-like architectures to be adopted in the network, thereby promising greater agility, flexibility, and the potential to integrate more closely with the IT systems. In our view it is the close integration of network and IT system functionality that offers the greatest transformational benefit through lower costs, faster speed to market, and increased efficiency and utilization.
- Ericsson's OSS/BSS portfolio is comprehensive, but it is the complementarity of this with the network portfolio that opens up synergistic opportunities for CSPs. Planning integrated networks and IT systems offer CSPs the potential to reduce costs, introduce new revenue

[5] Ericsson statement at MWC in Barcelona February 2014.

services more quickly, and simplify the operational part of the business. Ericsson has also invested to continue to boost its capabilities in this area – as the MetraTech acquisition[6] shows.

- The readiness and capability of Ericsson to support CSPs with its transformation programs has already been noted in IDC research. Last year, IDC published an insight article titled "Ericsson's Key Messages for Transformation"[7]. In this research we noted the company's work on cloud and virtualization, where you would expect it to be a leader, but also on areas such as customer experience, where you would not. IDC research suggests that customer care is a key priority for CSPs.[8]

Proven Experience in Digital Transformation Projects

Ericsson can demonstrate a track record of digital transformation. Examples include:

- **T-Mobile.** In June 2014, Ericsson announced it had won a contract with T-Mobile to upgrade its IT billing processes in both its T-Mobile and MetroPCS businesses through a managed services contract based upon its pre-integrated OSS/BSS billing suite. By doing so, T-Mobile expects to be able to introduce services more quickly, be more flexible and agile, and improve customer satisfaction. By investing in this area, T-Mobile is both upgrading its OSS/BSS and addressing the CSP/customer overlap noted earlier in this paper.
- **Telefonica Latin America.** Telefonica was concerned about revenue leakage across its 18 Latin American operations. Ericsson was selected to standardize the revenue assurance framework across the group based on the Altamira online charging system (OCS). Revenue assurance was the immediate issue, but Ericsson was also engaged to execute a much larger OSS/BSS transformation program.
- **Nedjma (Algeria).** The company was concerned that as networks developed it did not have the degree of control it needed to provide the right level of customer experience. This is an illustration of the necessity today to bond customer support to the network as noted earlier. Ericsson's solution was to build an NOC containing a unified monitoring system from products supplied by Ericsson, HP, SAP BusinessObjects, and BMC Software. This also illustrates Ericsson's willingness to partner in the interests of the customer.
- **Tier 1 North American CSP.** Ericsson is working closely with this carrier to transform the legacy video platform and operational model. The intention at the outset of this engagement was to create both a transformational blueprint and new operating model for the business.

[6] MetraTech is a U.S.-based metadata billing, commerce, and settlement solutions provider. The acquisition not only broadened the company's OSS/BSS capability but also strengthened its position in Big Data and IoT. *Source: Ericsson press release*

[7] "Ericsson's Key Messages for Transformation," IDC, September 2014

[8] "European Customer Experience IT (CXIT) 2014 Top 10 Predictions," IDC, February 2014.

About IDC

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