

Professional Services Answer the Imperative for Service Provider Digital Transformation

Huawei delivering end-to-end solutions with key partners

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Service providers face an imperative to transform

Without profitable digital services, service providers will remain caught in the negative cycle of spending on data capacity but recording lower subscriber revenue.

What is digital transformation? What does it mean for service providers?

Telecom service providers face the imperative to shift to business models that leverage digital services. Their customers — large and small enterprises and consumers — increasingly expect provider networks to deliver digital content, not only on-demand but also catered to their quality of service needs. The imperative is driven by customer demand, which is underlined by subscribers who will consume low-cost data bundles but switch premium services to select alternative providers, such as over-the-top (OTT) or internet players that can better meet their needs.

These market dynamics create a negative cycle for service providers if they do not transform. The cycle features a constant investment in capital for new systems and operating expenses to run the systems to maintain enough network capacity to manage the continued data growth. Additionally, subscriber revenue is declining as the lion's share of user spending continues to shift to third-party OTT services. To escape this cycle, service providers must find a way to monetize digital services.

Fortunately, there is an answer to the call to evolve. Service providers have a broad spectrum of technologies at their disposal that can be applied to increase revenue and lower costs. These technologies can increase service provider participation in the digital services ecosystem by improving developer and customer experiences and can help service providers lower costs through economies of cloud platforms.

Key drivers of digital transformation to service providers

Customer experience is the starting point for digital transformation for service providers. To participate in the value chain of digital service delivery, telecom service providers have to offer differentiated experiences compared to the experiences business users and consumers obtain from alternative or OTT providers. To deliver a superior experience, telecom providers must leverage the data they own across their domains. Telecom providers are in a

Opportunities for service providers:

- Grow revenue by providing digital services to businesses (e.g., Internet of Things, network on demand, cloud, CRM, supply chain)
- Grow revenue by providing digital services to consumers (e.g., interactive video, gaming, advertising, financial services)
- Partner with large and small developers to enhance their ecosystem plays or acquire content services
- Create increased service delivery flexibility and agility to improve customer experience

unique position to understand the behavior and needs of the subscribers and their interaction with the network. They must also delve deeper into analyzing the digital service ecosystem to determine which services can be catered to user requirements and what role the service providers should play.

The same new attention to the digital customer experience enabled by advanced analytics should be paid to digital service developers, which constitute the supply side to match the user demand. One approach to this is to own a digital service factory, such as a video content firm, which

some providers do or are contemplating. Service providers could also partner with developers, which enables small and midsize developers to extend their reach, or cater their service delivery to large developers and media firms.

The other key driver of digital transformation is the software-defined network, which includes the application of the economics of cloud technology applied across the key domains of service provider platforms, such as business

support systems (BSS); service delivery and video platforms; subscriber, service and channel management; and management information systems.

Implications for key software domains of digital transformation

To achieve the benefits of the software-defined network, service providers must transform stand-alone legacy systems that do not offer flexible programmability or upgradability. The expense and time to operate and maintain these systems have become prohibitive for service providers. These systems include BSS; service delivery and video platforms; subscriber, service and channel management; and management information systems. The market requirement is to shift from static, loosely coupled, stand-alone systems to seamless virtual platforms where modules for key functions become virtual applications services that can be manipulated instantly according to policy engines.

From data silos to big data platforms

Data is a key enabler of digital transformation as data must be extracted from isolated platforms and placed in a common repository. Using that data — through the application of analytics — unified policies can be implemented for more efficient execution. In fact, big data plays a role in determining both the attributes of customer experience that must be understood and monitored as well as the features and functions of services that should be customized to meet subscriber needs. Service providers' rich repositories of data about subscribers and networks reflect one of their primary competitive advantages over many OTT providers that deliver undifferentiated commodity services.

Migrating to cloud platforms

Staging key functions as virtual instances on-premises or via cloud delivery platforms is the next step to enhancing flexibility. The cloud platform, which is continually evolving in line with open-source and customer requirements, is the crucial underpinning of the new software-mediated environment. Each software platform must be based on cloud architecture, allowing the flexibility of integration, management and delivery methods.

From BSS to a unified service and revenue management process

Business Support Systems (BSS) comprises static, loosely coupled, stand-alone platforms, each with a process domain such as service fulfillment, order management, inventory management, revenue management and settlement management. Additionally, many of these systems are dedicated to different customer segments or service types. This expansion of systems for overlapping BSS functions for different domains has led to a complex, slow-to-change network of loosely coupled platforms, which provision the service, collect the revenue and track the subscriber, although generally not at the near-instant “cloud speed” users expect. The first step in changing from BSS to unified service and revenue management is to view these systems as horizontal processes rather than vertical silos. Staging key functions as virtual instances on-premises or via cloud delivery platforms is the next step to enhancing flexibility. The goal of BSS transformation is to reduce the time it takes to deliver a service and recognize the revenue from the service. The changes can also enhance revenue by supporting partner or multichannel services and revenue collection.

From service delivery platforms to DevOps

Service providers engaged in digital transformation can create services faster, test them in the market, and keep or withdraw them just as quickly, depending on the result. In short, they can operate like an OTT digital service provider. This capability is enabled by the implementation of development and operations (DevOps), which automates the process of software delivery within the infrastructure, essentially operationalizing the developer's application or service as it is created. This supports fast provisioning and enables service providers to engage with internal and third-party developers in a culture of innovation and experimentation rather than the slower, more time-consuming waterfall development process. The DevOps process and tool set align closely with the automation provided by cloud transformation. It can be targeted at internal applications to run service provider business processes, network processes or external revenue-generating services.

From video platforms to Video as a Service

Like BSS, video platforms have domain-specific silos. Introducing the flexibility of policy-driven analytics as a controller of catered on-demand video services can constitute another revenue stream. Moving from video platforms to Video as a Service is similar to creating a unified service delivery framework, with developer inclusion and customer experience the key focus, but due to latency and storage requirements, decentralized video service delivery will be required. This capability can also be enabled by virtualization and cloud management whereby decentralized delivery platforms are still controlled from a central point to support faster updates and increased flexibility in responding to customer demand.

These are just a few examples of the changes required to achieve a new model of agile digital service delivery. Ultimately, most service providers realize they are ready for this change but need help from third parties to bring digital transformation to fruition.

The role of professional services and managed services

Service providers increasingly forego in-house development of software systems' integration capabilities necessary to carry out digital transformation programs, as this can be a costly undertaking and a distraction from their core business. At the same time, most service providers are wary of leveraging multiple systems integrators for each domain, which can increase project complexity. In growing numbers, service providers choose to engage with a prime software systems integrator to shepherd their transformation from start to finish. Prime integrators should provide a single point of contact, bring a strong partner ecosystem, cater to multivendor environments, and have experience integrating and managing network and IT software.

Vendors are responding to demand for digital transformation by enhancing their software professional and managed services offerings. Information and communications technology (ICT) suppliers are adding systems integrators to their talent pools and expanding partnerships to include consulting firms with robust business transformation capabilities.

A prime software systems integrator must also provide a framework for digital transformation that will enable service providers to introduce new digital services quickly and efficiently. A prime integrator will lead with an assessment of the service provider's digital strategy, customer experience and revenue optimization systems before designing the digital architecture and cloud platforms necessary to drive software transformation. Creation of architecture enables solution implementation, whereby the vendor delivers a digital business ecosystem including convergent BSS and service delivery platforms. Throughout the process the prime integrator augments its portfolio with and integrates best-in-class, third-party software as needed.

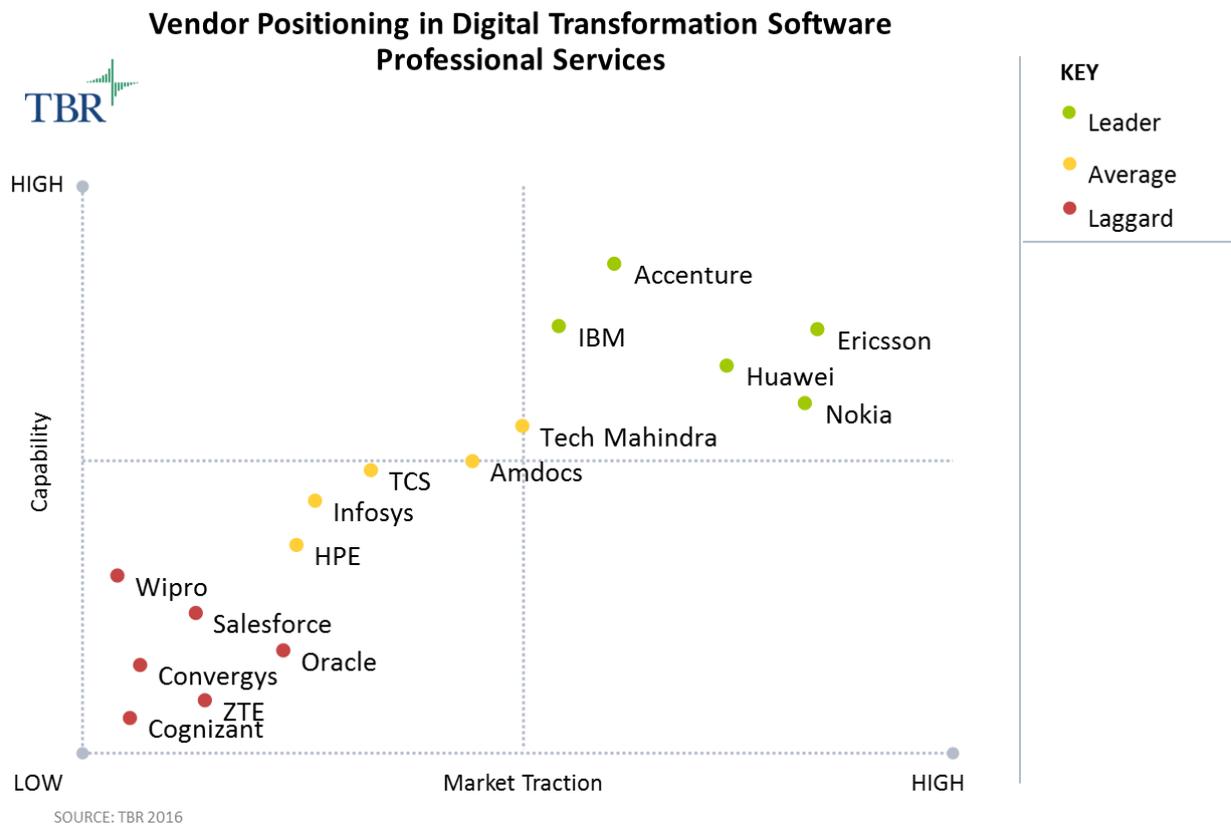
The digital service provider should also consider a prime integrator with strong operations and maintenance (O&M) capabilities. Managed services can be overlooked when selecting software services vendors, as this does not occur until the later stages of a project. However, the ability to implement, integrate and operate software platforms is key. Extensive experience in outsourcing and out-tasking of network and IT functions is crucial, as is the O&M partner's tool set. Leveraging a partner to run the digital BSS ecosystem frees the service provider to focus on creating digital services rather than implementing changes to billing or new service onboarding.

Vendor positioning in digital transformation software professional services

Vendors are conscious of the need for service providers to enlist a prime software systems integrator when embarking on an undertaking as complex as full-scale digital transformation. IT services firms and network solutions providers alike are investing in capabilities to provide these services at scale. Most players bring a distinct expertise and face certain challenges. For example, IT services firms such as Wipro, TCS and Infosys are at a disadvantage when acting as the prime software systems integrator due to their lack of insight into the

communications network, but they bring strong third-party software integration capabilities. IT services firms are ideally brought in as partners of the prime software systems integrator for multivendor architecture integration. Likewise, vendors without a long history in carrier software services, such as ZTE, lack the experience and partner ecosystem to act as the prime integrator in digital transformation engagements. The most capable firms are highly familiar with service provider network and IT environments, including integration and management of these platforms.

Figure 1

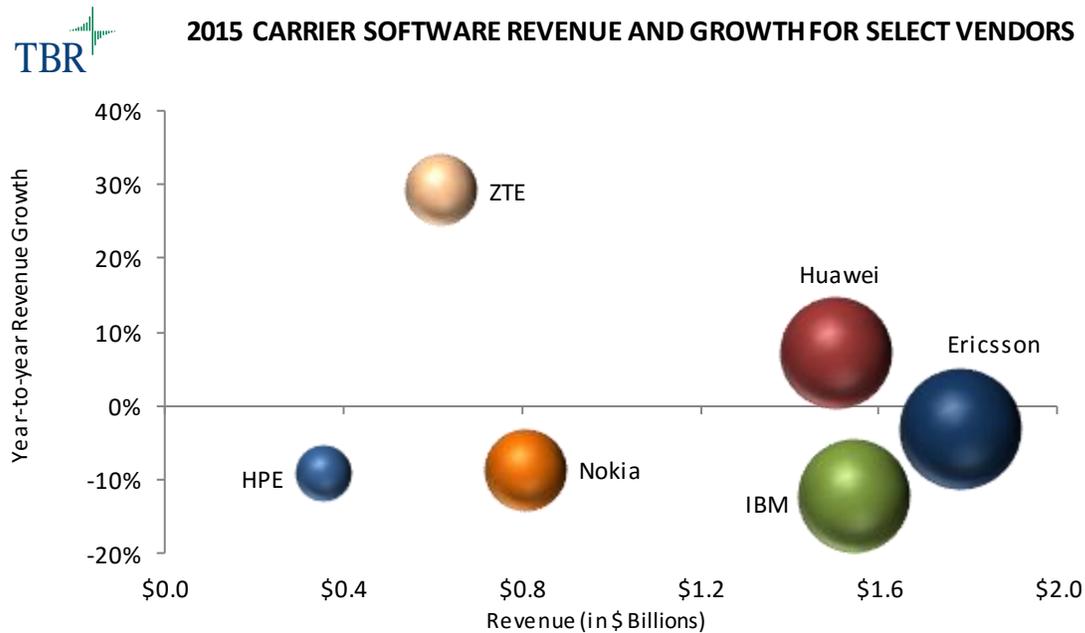


As shown in Figure 1, the short list of companies leading the way to digital transformation includes Accenture, IBM, Ericsson and Nokia. Huawei, though often overlooked, has greatly enhanced its service capabilities in recent years and is gaining traction rapidly.

TBR believes Huawei can help service providers transform into digital service providers. Huawei is a leading provider of carrier software and the professional services associated with these solutions. As Huawei is deeply familiar with service providers’ communications networks and back-office IT software, the vendor is positioned to drive transformation in multiple software domains. Huawei’s solution brings together its multivendor professional services expertise leveraging a long history in CT and IT, and best-in-class partner solutions. Huawei’s Carrier Software Professional Services organization has a team of 5,500 worldwide, with 3,200 of those located at headquarters. Huawei supports its services organization with four regional services centers in India, Malaysia, Dubai and China, and delivery centers in Mexico, Romania, Egypt, Malaysia and India. The vendor also operates four technical assistance centers in China, Egypt, Mexico and Romania.

Furthermore, Figure 2 shows Huawei ranks on the same revenue scale as Ericsson and IBM with higher revenue growth. This signifies strong software competency as well. Additionally, Huawei has transitioned to a multivendor player with strong partnerships with systems integrators and the ability to address solutions outside its portfolio as the prime software systems integrator.

Figure 2



Notes: Carrier software services revenue not shown. Sphere size reflects volume of revenue. Nokia revenue includes Alcatel-Lucent. Hewlett Packard Enterprise includes data from former Hewlett-Packard Co. (HP) prior to Nov. 1, 2015.

SOURCE: TBR

Huawei leverages a stepwise framework for digital transformation as part of its Carrier Software Professional Services program, which spans integration and managed services as well as network and service assurance. Huawei's C&SI service includes IT planning, business process reengineering, business operation consulting, prime systems integration (PSI) and solution implementation. Huawei leverages proprietary services and partner services in C&SI, primarily from Accenture. With its PSI service, Huawei acts as the glue among itself, partners such as Accenture and the customer to develop and implement multivendor digital architectures. Huawei also provides application customization and training as part of its C&SI services. Training enables the customer to upscale and certify its staff to work with the new solution.

Huawei is also leveraging its services organization to address cloudification and help service providers deploy clouds. Huawei can deliver cloud-based Internet of Things (IoT), video, service platforms and cloud-delivered software for its service provider customers through its Cloud Fabric platform, which is now in its fifth iteration. Huawei's private and hybrid cloud strategy is based on OpenStack, and the company is a top contributor to the OpenStack community. Huawei can provide the hardware to build a private cloud, the development layer, analytics, management and soon the "as a Service" cloud option. In cloud, Nokia is a strong competitor through its CloudBand platform, which it acquired from Alcatel-Lucent.

Huawei Managed Enterprise Cloud helps service providers reduce the risk of cloud deployment by planning, building and operating an enterprise cloud. At the same time the solution provides go-to-market assistance

through sales support and partner management and works in conjunction with operators in marketing efforts. Huawei's solution includes a strong ecosystem of partners offering collaboration, security, customer relationship management (CRM), enterprise resource planning (ERP) and more.

Additionally, Huawei recognizes the increasingly important role data will play in the digital ecosystem. The company can help service providers use their troves of vastly underleveraged data to improve customer experience and create revenue streams. Others vendors are also attempting to unlock the value of big data, including Amdocs, which brings together its Data Hub solution — which leverages open-source Hadoop code from partner Hortonworks for data extraction and processing — and advisory services to provide data management.

Huawei is well-equipped to operate newly installed software solutions and manage business processes following implementation of new software. Huawei brings to bear solutions such as its Managed Service Unified Platform (MSUP), which is an eTOM-, ITIL- and TL9000-compliant platform for telecom IT operations, and its Operation Web Service, which comprises a tool set to maximize automation and provides a unified service portal. Huawei will manage the BSS (i.e., revenue management, customer management, partner management, service management) and new digital services, provide O&M assistance and deploy its business operations service. Business operations service involves Huawei delving deeper into the service provider's business environment to manage the business process portfolio.

As part of its managed services capabilities for carrier software, Huawei adopted a partner-based service delivery ecosystem through its DSV and ISV programs to build platforms for transformation. These programs bring together world-class IT vendors such as Accenture, IBM, Hewlett Packard Enterprise and Infosys as well as niche vendors in domains including video and big data analytics, to provide tools to deliver and manage digital transformation for holistic outcomes. Huawei engages with partners for the cloudification of CRM, Business Enablement Suite (BES), and Service Delivery Platform (SDP) across multivendor digital platforms such as BSS/BES, Value-added Service (VAS) & SDP, video, and big data analytics.

Huawei's managed services for carrier software also span customer support. As part of the customer support service, Huawei provides maintenance to its and third-party software products and offers advanced support that guarantees upgrades. Special service includes business assessment and optimization; business security service, in which Huawei provides risk management; and service quality and customer experience improvement. Huawei is viewed as a digital service enabler, due to its service delivery platforms, mobile money solutions and IPTV platform, as well as a digital operation enabler because it provides revenue management, customer care, customer management and big data solutions. Together, these offerings help service providers develop, launch and capture new revenue streams from subscribers in a digitized world.

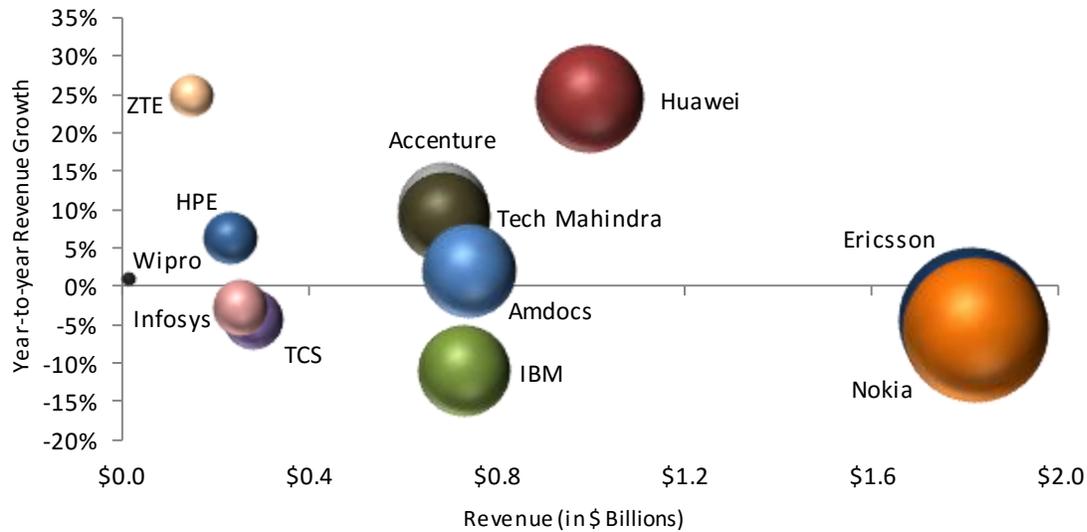
Huawei is developing its consulting capabilities to help service providers transform their businesses for the digital world, particularly in the areas of business process definition and optimization. Huawei is involved with TMForum in developing a Digital Maturity Model framework to provide a road map for success in digital transformation, and also offers business transformation services through its Business Process Design and Optimization solution.

Figure 3 shows Huawei is one of the fastest-growing carrier software professional services providers in the world, with revenue increasing over 24% in 2015. TBR expects high growth to continue as Huawei further expands its customer base globally and service provider demand for digital transformation increases. Huawei is positioned to capitalize on this trend with its carrier software service portfolio of C&SI and managed services.

Figure 3



2015 CARRIER SOFTWARE PROFESSIONAL SERVICES REVENUE AND GROWTH



Notes : Sphere size reflects volume of revenue. Nokia includes Alcatel-Lucent. HPE includes data from former Hewlett-Packard Co. (HP) prior to Nov. 1, 2015.

SOURCE: TBR

Conclusion

Service providers face the imperative to engage in digital transformation. Their financial health depends on it. Fortunately, technology and partners are available in the market to enable the journey. Huawei is one of the largest up-and-coming suppliers capable of providing these solutions and will be a strong choice for customers moving forward with digital transformation.

About Huawei

As a leading global information and communications technology (ICT) solutions provider, Huawei provides a complete solution of carrier software professional and managed services for digital transformation. Huawei's assess, design, implement, and operate framework incorporates the services expertise and platforms to help communications service providers in their transformation journey.

About TBR

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