A New Age of Innovation –
Global OSS/BSS *10 to Watch* in 2014

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Table of Contents

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Introduction[1]

For the communications service provider (CSP) global community, 2014 promises to be a year of business challenge and opportunity on several fronts. Change will continue based on multiple key business drivers, such as improvements in network technology, user device evolution, advancing ways to do business, and cloud-based services. In addition:

- Network data usage volumes will continue their exponential expansion, especially as mobile technologies improve the ability for customers to consume data content.

- Pressure to be more cost effective in the delivery of network access services will drive CSPs to work harder at exploring ways to do business better.

- Competitive forces will cause CSPs and cloud services providers to address enterprise customer needs through negotiated pricing offers and contract-based monetization strategies that tie CSP partner compensation with service consumption.

- Heightened focus on mobile device security and increased sensitivity to the use of mobile devices for mCommerce will garner the attention of criminals, cybersecurity analysts, service providers, financial organizations, and business solution suppliers.

- Every industry outside the communications services sector will continue the push to incorporate mobile connectivity into the goods and services they provide, as a way to deliver a better experience for their customers, especially within the transportation logistics, eHealth, telematics, and financial services markets.

Some drivers may cause little or no change, while others will bring major change. Still others, such as the technology refresh movement ushering in the era of virtual networking, may fully enable CSPs to flexibly respond to market conditions at the speed of market change. [2] The solution suppliers that provide systems, services, and IT infrastructure to CSPs must stay abreast of the business and technology redefinition that is now underway.

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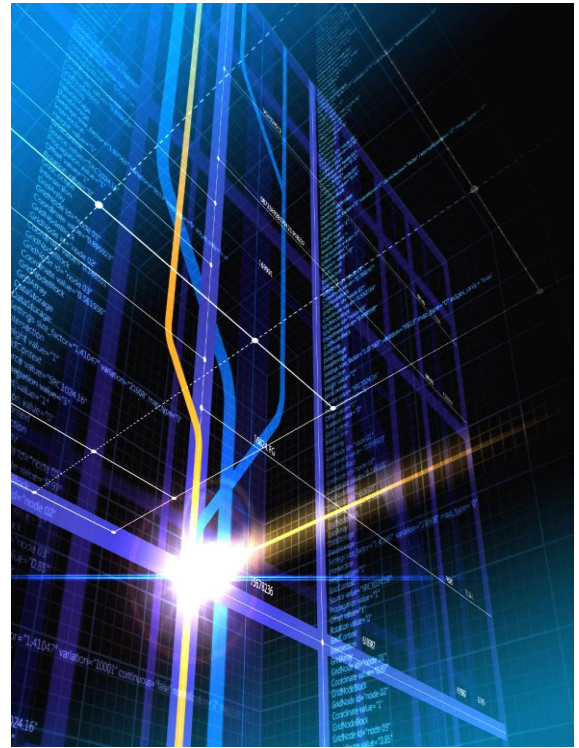
[1] Please note that the insights and opinions expressed in this assessment are those of Stratecast and have been developed through the Stratecast research and analysis process. These expressed insights and opinions do not necessarily reflect the views of the company executives interviewed.

[2] For a foundational perspective on the impact that virtualized networks (a blend between SDN and NFV) will have on the Operations & Monetization (O&M) functions, also known as OSS BSS, please see Stratecast report OSSCS 15-01, *The Virtual Future and its Relationship with OSS BSS*, February 2014.

As these market drivers shower their influence upon the communications industry business landscape, CSPs will continue to engage with trusted operations & monetization (O&M) suppliers—also known as OSS BSS suppliers—to deliver comprehensive service-enabling solutions. These solutions will need to perform in double-duty fashion for a time. First, to seamlessly interact with existing systems and numerous data repositories associated with previously implemented business management and network operations processes. Second, to deliver new capabilities essential to operate and manage the needs of new business models, new technologies, new services, and new types of customers.

In addressing these needs, some systems will be replaced, others augmented, and new ones will be added. This is where a new age of innovation is essential, and something Stratecast believes cannot be done by a handful of entrepreneurial startups alone. In fact, this year is the first time we have expanded the **10 to Watch** report to include all O&M suppliers, regardless of size. This is a significant redirection from the past, when **10 to Watch** mainly spotlighted smaller suppliers. We have seen innovation come from all sources over the past 24 months, including well-established market suppliers, some of which are featured in this 2014 edition of **10 to Watch**.

Our reasons for looking at all O&M suppliers are straightforward. While a smaller company may focus on specific or targeted business challenges for a smaller initial base of customers, larger suppliers hear the same needs magnified by many. In response, they commission internal work teams to attend to these needs—or risk losing such customers to the competition. Larger companies also commission advanced market strategy teams to prepare for challenges that lie ahead; in many cases, operating them as though they were small entrepreneurial startups in their own right.

Regardless of company size, 2014 will be a new era of innovation ushered in by companies that exhibit what Stratecast understands are the foundational attributes of all successful O&M suppliers: agility, alignment with market needs, product reliability, innovation, scalability, differentiation, vision, and strong partnerships with customers and with other suppliers.

TOP 10 2014 OSS/BSS COMPANIES TO WATCH

AGILE · MARKET SAVVY · PRODUCT RELIABILITY · STRONG PARTNERSHIPS · A CULTURE OF INNOVATION · SCALABILITY · THOUGHT LEADERSHIP · TIME TO MARKET · DIFFERENTIATED PRODUCT OFFERINGS · VISION

The answer to addressing many of today's new business problems lies in the right combination of capabilities from several parts of the global marketplace, in a way that produces results much better than if such assets were delivered independently. This means building ecosystems, and working with partners in ways very different than in the past. We believe that O&M companies will work to solve specific problems with unique technologies and approaches. These companies will take advantage of the most recent advances in interface definitions and computing resources, regardless of delivery model (license or virtual), and regardless of market position. **Most importantly, Stratecast believes that answers to tough business situations come from dedicated focus on problems, regardless of the size of the organization addressing them.**

The ten O&M companies that Stratecast has chosen as its **10 to Watch in 2014** are focused on meeting critical business challenges and technology enablement functions. These companies are included in our list because they deliver innovative solutions that help CSPs transform operations, address new business needs, and help to improve the customer experience.

Innovation is Essential Now More Than Ever Before

In the past, when CSPs were focused on delivering only network connectivity at a price point customers would bear, and at a revenue yield that maximized the return on all network investments, the OSS and BSS marketplace was different. Suppliers focused on specific operational functions such as billing, order management, network inventory, or service assurance. There were plenty of network operators within the global CSP marketplace; and a large pool of both network equipment manufacturers (NEMs) and OSS BSS suppliers sprang into existence. With consolidation of both the supplier and service provider markets over the past seven years, compounded with other global factors such as technology innovation and a multi-year global economic downturn, the communications marketplace has seen substantial change—slowly at first, and at a more accelerated rate more recently.

One change comes from the growing trend toward personalization of service offers. Personalization services have gained attention in the enterprise market through cloud-based offerings; especially for IaaS and PaaS data center capabilities such as storage, unified communication services, and computing capacity. The suppliers of such services, in many cases, are confounded by antiquated billing solutions that prohibit them from meeting the business-to-business (B2B) contract-based service negotiation requirements of their enterprise customers, and the complex compensation needs of their partners.[3]

Personalization services for consumers, made available through downloadable mobile apps, network functions such as location or mobile device security, and content from many SaaS providers, are similarly limited by traditionally defined OSS BSS solutions. New solutions will allow more refined pricing plans and, ultimately, the ability to offer negotiated service offerings and business strategies.

Another change facing the industry comes in the form of new business models. One that has piqued the interest of both Stratecast and the industry is called Cross-Industry 2.0. Cross-Industry 2.0

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[3] Convergent billing solutions used by CSPs globally are a powerful tool for handling the monetization needs associated with business-to-consumer (B2C) services; however, they are designed to address millions of customers subscribing to a relatively small number of service options. Addressing the personalized service and pricing needs of a single customer (as with a large enterprise customer) is a current limitation with most of these solutions. A different approach, engineered with the same functional components but with an alternative business orientation and architectural construct, is essential for meeting the needs of enterprise data services. For additional insight see Stratecast report SPIE 2014-01, *Monetizing the Enterprise Data Experience: Cloud Services Models are about Negotiable Contracts and Configurable Pricing Plans*, January 10, 2014.

services consist of multiple working layers, driven by both supplier relationships and strategic partnerships, to bring together the capabilities from one enterprise in one industry with those from another. For example, the real-time telemetry of data generated by driving an automobile is combined with the actuarial tables of an insurance provider to yield a metered driving insurance plan. This type of insurance has been in place for more than two years in North America; it is not the same as "drive as you go plans" unsuccessfully introduced in Europe a few years ago, which focus on paying for insurance only for the times an automobile is driven.

A "metered driving" insurance plan is a classic case of a virtual service offering in which a customer can improve the rate they pay for insurance by improving their driving performance. Such plans are made possible by companies in two industries working together to deliver a service not completely possible from one company or the other. Similar examples can be found within the publication and education sectors, healthcare sector, government services sector, certain retail stores, the financial services sector, and manufacturing. Central to the Cross-Industry 2.0 approach is a concept-to-cash monetization and management platform designed for the enablement of partner-based data, supported throughout various O&M business functions—which have an outward focus to support partners, rather than an inward focus to support CSP business processes.[4]

Virtualization of the CSP network, in a similar way that data center functions are virtualized and sold as cloud-based services, is yet another new business need that is redefining the business and operations requirements for the O&M industry.

There is a growing list of other business critical objectives that are beyond the scope of this report, but include such things as mobile device security, mobile data usage, integration of social networks with CSP networks, virtualization of network capacity, and mCommerce enabled by advanced mobile device transactions.

Stratecast believes that the growing list of new business models and the growing ecosystem of CSP partners will accelerate the need for O&M innovation in all business function domains, but especially those pertaining to customer experience management, the monetization processes, and service assurance. Most importantly, it is a lack of agile O&M solutions today that is holding back the marketing and implementation of many new digital lifestyle services. This should be a call to action for all O&M suppliers addressing the CSP and data services provider marketplace.

What Makes a Strategecast *10 to Watch* Company

10 to Watch companies have developed innovative solutions that address current and business-critical objectives. These companies come from a wide range of disciplines, business structures and motivations. Some are small, and others are well-established suppliers in their respective fields. All **10 to Watch**

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[4] Strategecast believes that the future of the communications industry depends on the cost-effective support of the Cross-Industry 2.0 model, which is a way for all industries to be more effective with their customers, and helps them to coddle new "virtual business" opportunities. CSPs are ideally positioned to satisfy this software and services-based business infrastructure requirement. The cross-industry 2.0 approach incorporates the business management needs of most new business models associated with M2M and cloud-based services, in addition to broadband services that will always be at the center of any 21st century business strategy. For additional insight please see Strategecast report OSSCS 14-05, *Global CSP Billing Part 1a - 2013 Edition: Market Drivers, Changing Strategies and New Business Models*, July 2013, pp 21-28.

companies are organizations with proven solutions through revenue-bearing customer installations. Additional characteristics of a Strategic **10 to Watch** company are:

- **Market Focused and Aware of What Is Next** – To be recognized in a very crowded operations and monetization (O&M) environment, **10 to Watch** companies must be up-to-date on all current business challenges and O&M needs. Such companies, small and large, must always be mindful of how the industry is changing, and what will be critical business requirements 12-18 months from the present.

- **A Culture of Innovation** – A **10 to Watch** company must be innovative, possibly not in every functional area the company may address, but surely within the functional domains for which the company is recognized in this report. Most have fundamentally changed their strategic approach to the market several times in an effort to meet on-going business challenges. These companies must be able to continuously change as the industry or industries they target evolve. **10 to Watch** suppliers rely on their leadership to recognize trends or impending market conditions. They then adjust to meet those conditions through either organic development or acquisition of assets. When such assets are blended with a company's existing solutions, they should yield a better approach or improved outcomes to new business requirements.

- **Support Rapid Change in Business Climate or Technology Approach** – **10 to Watch** companies must remember that the rate of innovation is accelerating; and thus, solutions to address new business needs, which took several months to deliver in the recent past, must now be done in approximately the same number of weeks. Evidences of such capabilities are appearing with increased regularity, as documented in various trade publications and Strategic reports.[5]

- **Business Savvy** – **10 to Watch** companies are attentive to market issues, and understand trends relative to both CSP needs and the competitive landscape. Company executives are constantly talking with current or potential partners, customers, sales prospects, analysts, and consultants. Using this radar, **10 to Watch** vendors can also recognize patterns of unmet market needs; and rapidly translate these opportunities into strategic and marketing initiatives.

- **Market Savvy** – To match the market reputation of an entrenched supplier within a market, geography, or functional discipline, **10 to Watch** companies must establish buzz and a viral reputation tied to the business problems they address. Key needs include partnership development, sales leadership, marketing, and communications functions that must be clearly aligned around business problems at hand. This market savviness requires discipline within each organization from individuals well-connected in industry and financial circles, who are well-spoken, and have a solid knowledge of both the CSP business problems and the solutions offered.

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[5] One example, documented a few months ago, concerns the privatization of the San Paulo Guarulhos International Airport, and the need to conduct all airport operations billing and retail monetization functions from a centralized system. Contract signing to operational readiness, including certification by the Brazilian Government with regard to airport operations billing, was finalized in nine weeks. For more information see Strategic report SPIE 2013-11, *Agreements-Based Billing and Settlement Enables Multi-Industry Complex Business Models Including Airport Operations in Brazil*, March 22, 2013.

- **Well-defined, Clearly Differentiated Product Offering** – *10 to Watch* companies offer products that are not just technically differentiated but often are geared to address an evolving set of business needs or process inadequacies. Software systems and business expertise tied to the solutions they offer must target a set of pain points regularly experienced by CSPs and data service providers. These solutions must also show an easy-to-use approach, appeal to a specific customer audience, instill confidence in a better way to address an existing problem, or satisfy a new business need.

10 to Watch status does not excuse these companies from the usual requirements that CSPs place on their network infrastructure and O&M suppliers including:

- Carrier-class scalability
- Product reliability
- Interoperability
- Financial stability
- Ongoing research and development
- Partnerships for pre-integration and global support

For vendors new to the telecom sector, there is also the expectation that they will possess the necessary resources, partnerships, and knowledge of the industry required to integrate their products with existing O&M solutions, customers, and network data.

Strastecast believes there is a quickly growing list of business opportunities that will return better solutions to the marketplace, and that will ultimately yield improved revenue, if the fundamental concepts driving the O&M functions are upheld.

Year Seven and Going Strong

This is the seventh year for this report. Many of the O&M (OSS BSS) suppliers identified over this period continue to grow and thrive, or have been acquired by larger solution suppliers to satisfy a growing list of business concerns. Strastecast views the *10 to Watch* business model as a source of innovation for the industry; and, as such, one that will not be threatened by consolidation, regulation, technology evolution, or changing business strategies.

There will always be startups that bring new ideas and innovation to market ahead of the mainstream. These companies are important and play a valuable role in the changing communications marketplace. Pockets of innovators within the large O&M suppliers will be challenged to deliver solution strategies for the same new business problems that drive the startup companies. But, many of the larger organizations have the foresight to either apply what they do now in a different way in order to meet the needs of new business challenges, or they acquire the innovative capabilities from other organizations to help complement what these suppliers now deliver to a varying number of CSPs and data services providers. Large or small, the classic "1 + 1 = 3 or more" mentality is the driving force of all O&M suppliers in meeting the needs of the expanding communications marketplace in 2014.

Global Operations & Monetization *10 to Watch in 2014*

Stratecast believes that 2014 will be the year for accelerated innovation through software definition and orchestration. At the network infrastructure level, most global CSPs are pushing forward with virtualized network plans, through continued discussion and proof of concept (POC) trials associated with Software Defined Networking (SDN) and Network Function Virtualization (NFV).

As Stratecast noted earlier this year, the SDN and NFV transformation effort will begin to materialize as virtualized networks—in the form of proof of concept trials—which will grow to full geographic or market sector trials over the coming months.[6] This core network technology refresh from today's mesh of multi-vendor network elements, addressing multiple network technologies (voice, mobile, data), is one of several key business drivers that are shaping the **10 to Watch** companies included for 2014. They, along with their unnamed counterparts throughout the network equipment, operations, and monetization solution sectors, will collectively be companies to watch, as virtual networks become a business reality the same way that virtual data centers started to take shape more than three years ago.

Further driving the 2014 *10 to Watch* is the fine line forming between what is the network and what is a support function, the focus of which will be the subject of upcoming reports from the Stratecast Operations & Monetization (O&M), also known as OSS BSS, practice. In a virtual network environment, special attention must be paid to partnership management, compensation, and revenue management, including service and revenue assurance. Next generation rating & charging systems could become more than support systems for back office operations; they could become services themselves, which CSPs offer to ecosystem partners or enterprise customers.

The need to do business differently applies to all levels of solution suppliers, and is a key reason for why Stratecast now believes that the following set of small startups and well-established suppliers deserve to be recognized in the 2014 **10 to Watch** list.

Omniware Solutions (Contract-Based Billing and Partner Compensation)

Founded in 2004, Omniware Solutions is a private software and services company based in Toronto, Canada. The company provides billing and analytics solutions to the communications industry, as well as numerous other industries.

Stratecast, in its recent report series on CSP billing, identified over 80 global suppliers; yet, the vast majority of these focus solely on the much simpler task of consumer billing in a business-to-consumer (B2C) sense. A billing platform that can automate the increasingly complex needs of business-to-business (B2B) relationships must show extreme flexibility; and rapidly address changing customer needs relative to service package definition, pricing agreements, and consumption tracking. Flexible B2B systems are critical for the success of data services suppliers and network operators alike. This is especially important if, or when, a single operator provides an enterprise with both network bandwidth and hosted services as a consolidated services supplier.

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[6] For a foundational perspective on the impact virtualized networks (a blend between SDN and NFV) will have on the Operations & Monetization (O&M) functions, also known as OSS BSS, please see Stratecast report OSSCS 15-01, *The Virtual Future and its Relationship with OSS BSS*, February 2014.

The solution capabilities to address the monetization flexibility concerns of enterprise data services are currently provided by a small number of global suppliers. Omniware is one such supplier; and Stratecast believes the company is one to watch in 2014.

Shown in Figure 9 below is the company's **Omnibill** functional architecture. Omnibill was built to accommodate an unlimited variety of billing scenarios for not just the communications industry, but any industry that uses measurable units to monetize its business needs. This includes, for example, the transportation sector, financial services market, digital media content segment, mobile roaming marketplace, wholesale advertising, and utilities industries.

Omniware explained to Stratecast that **Omnibill** is driven by a billing engine with user screens designed to provide product managers and sales agents with a simplified means to view and build their own unique service offerings and price bundling. Ramping up to meet the needs of today and tomorrow, multi-industry monetization requirements were iterated through the engine from 2004 through 2010 to deliver a dynamic and flexible platform, without predefined industry assumptions. This approach made the software solution flexible and agnostic to the unique business monetization needs of any industry. Through deep analysis of a supplier's business requirements and data definitions, **Omnibill** can be customized through configuration (not through coding) to address any pricing or billing scenario that a data services supplier, or any other industry provider, needs.

After the data services supplier defines its business policies and service pricing details within **Omnibill**, sales representatives are given access to negotiate customer requirements and pricing contracts. They construct service offers and pricing sheets that are tailored to each enterprise customer they have been assigned. Upon arrival at the enterprise customer site, interactive negotiation with regard to services needed, pricing discounts, and payment terms are defined directly within **Omnibill**, using a Web browser, or through a client app that resides on the sales person's tablet. If Internet access is not available, the offline capabilities of **Omnibill** will allow the sales rep to capture all data locally, and then automatically sync when back online. When an agreement is reached, a complete copy of the contract, with all the negotiated billing and pricing provisions, is automatically created and delivered to the customer for final agreement authorization. Stratecast believes this is a significant differentiator for the sale, and agreement to terms, of enterprise data services.

As shown in Figure 9, **Omnibill** provides multiple business functions including a business rules engine, rating & charging calculations for each consumption event, invoicing capabilities at any time during the billing cycle, contract negotiation and agreement capabilities; fully integrated with CRM solutions for customer notifications and interactions, partner settlements and compensation processing, taxation, process workflows, scheduling, product catalog, offer management, and an auditing function.

Figure 9: Omnibill Functional Architecture
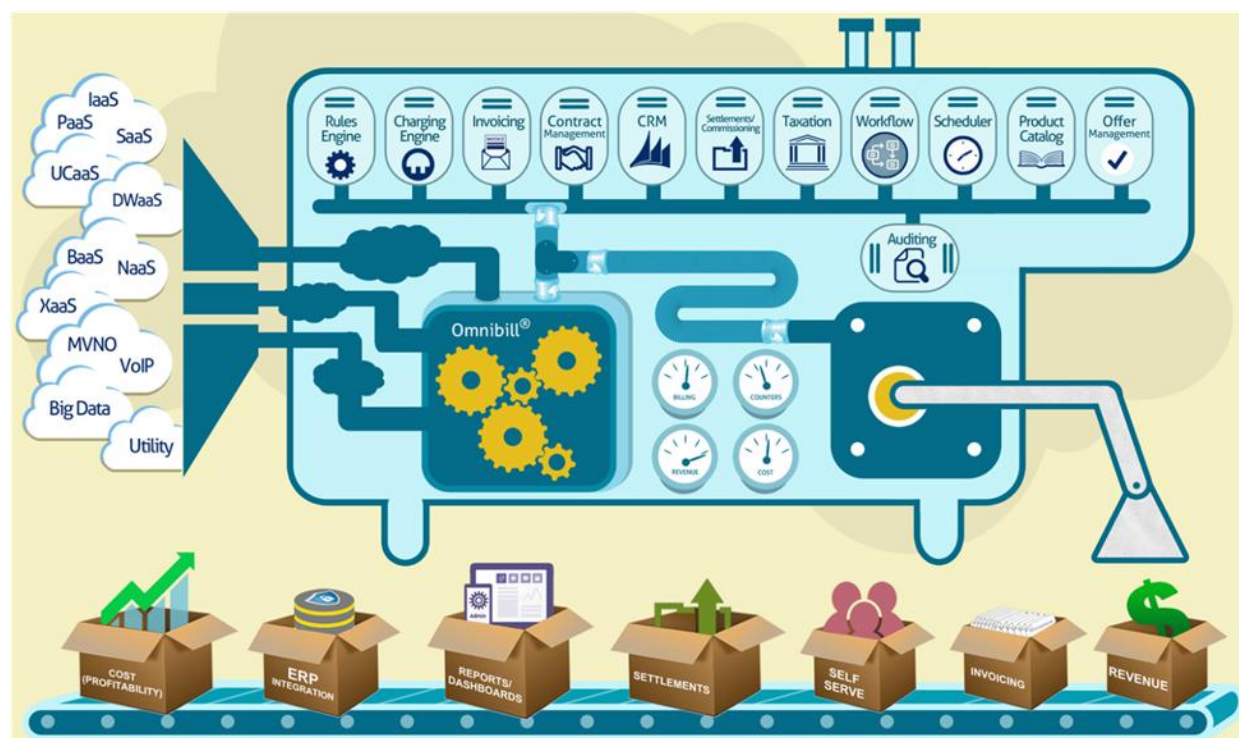
The functions of **Omnibill** address all types of virtual services, according to the unique needs of an enterprise customer. As the virtual services marketplace continues to expand and grow, the future success of any enterprise data services supplier rests with its ability to negotiate customer service needs and pricing terms, accurately bill for consumed services according to those terms, invoice customers, collect revenue with minimized dispute, and settle with partners under the unique terms of each partner agreement.

Stratecast believes that Omniware is well positioned to address the needs for any industry that must satisfy the above-mentioned customer requirements. We expect Omniware will be a recognizable name for the enterprise data solutions marketplace in the months ahead, and that it is certainly a business support solutions supplier to watch in 2014.

Stratecast
The Last Word

Network connectivity has evolved from Convenience → Necessity → Productivity Enhancement → Critical Infrastructure. For customers, there is no longer fixed or mobile, voice, data or video—only devices and digital content. Smartphones, tablets, PCs, a landline phone, TVs, appliances, and now automobiles are devices that channel to us an enhanced digital lifestyle. Consumers and business customers expect integrated digital content from whatever device they choose, including public portals. Indeed, the very core of what makes digital lifestyles better is quickly becoming a cloud-based everyday occurrence. With this dependence on the cloud, connectivity is now as critical to users as electricity and transportation. However, for CSPs, changing the culture, changing business processes, and incorporating the needs of a partner ecosystem, while managing costs and complying with regulators, is a formidable task.

Businesses in adjacent industries to the communications marketplace—telematics, energy, finance, and mCommerce—now require O&M functionality, also known as OSS BSS, to be more innovative and faster to respond to new ways of doing business. They seek new ideas and alternative approaches to transform their operations and monetize their infrastructure investments. CSPs are engaging in O&M solutions that embrace new business models and partner ecosystems such as:

- An enhanced real-time customer experience
- Evolution to consumer and enterprise customer service personalization
- Simultaneous real-time B2B and B2C business management
- Cross-Industry 2.0 interaction

The key challenge for each of these opportunity areas, along with others, lies in not saddling these business needs with the limitations of already-implemented systems that were never designed to address the flexibility and real-time aspects the global marketplace now demands. The ability of CSPs and large enterprises of all types to use innovative technologies, processes, and O&M solutions to understand and deliver customer-focused products, services, and support is essential to maintain relevancy with their customers and profitably compete in this changing marketplace.

CSP transformation is an expensive, painful and time-consuming effort that is never over. The necessary changes will not happen overnight, but CSP transformation is happening, and key solution suppliers are an increasingly important part of it. The vendors named as **10 to Watch in 2014** are innovative, but also embrace solid business and marketing strategies. Each delivers practical solutions that solve pressing problems in open, interoperable ways. This combination of innovation and practicality enable **10 to Watch** companies to continue on a solid path of growth and success.

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