

BSS in the Cloud

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Today's operators have spent decades building their networks and upgrading their IT systems to support more and more users looking for an increasing number of data-driven applications. At the heart of these systems is the BSS, the IT infrastructure managing the business processes that support the customer-facing applications. These include billing, CRM and customer analytics – all the touchpoints that can drive differentiation and have a direct impact on an operator's brand value. So it's understandable that operators perceive a high risk in transforming their BSS systems. And yet, that's exactly what is needed as operators seek to respond to the threats and opportunities of the new digital economy.

Behind the scenes, a potential solution to reduce the risk and increase the speed of BSS transformation is starting to emerge. Most IT-literate consumers are already familiar with cloud-based services, from Office 365 and Salesforce to iCloud and Dropbox. Now many operators are taking note of the benefits of cloud computing as a potential way to transform their BSS systems faster and with less risk. Network operators are increasingly looking to virtualize both their networks and their IT systems utilizing cloud-based solutions. But is it riskier for telcos than for other industries to use public cloud for mission-critical IT systems? Are there extra telco-specific considerations to factor in to decisions about using the public cloud, particularly for mission critical IT applications?

Based on a global survey, AsialInfo carried out an analysis of operator views on the future of BSS. We wanted to know whether operators are ready to deploy cloud-based BSS and what they saw as the benefits. We also wanted to gauge operator perspectives on the need for BSS transformation and their preferred approaches to upgrades. Our analysis revealed some intriguing insights into current industry thinking on IT transformation and, in particular, cloud-based BSS.

The headline statistics are that 73% of operators agreed that all telco business IT systems will be cloud-based in the future, and that 71% of operators are ready to deploy cloud-based BSS services, with the majority of respondents saying they are already doing so or plan to do so in the next two years.



These numbers may seem surprising, but the results are in line with the current industry trend for operators to deploy overlay projects, implementing specific BSS applications in their own private cloud infrastructure to support new services or enable new digital channels. Operators are introducing virtualization and other technologies associated with cloud computing into their own data centers, and adopting public cloud-based BSS for some specific applications.

The primary motivation for pursuing cloud-based BSS is, perhaps not surprisingly, cost reduction - particularly IT infrastructure and operating costs. However, after cost reductions, the benefits attracting the most interest are on-demand scalability of IT infrastructure, the rapid introduction of a new BSS system, and the consolidation of the BSS environment. Overall, there is strong operator belief in the ability of cloud-based BSS to not only reduce IT operating and infrastructure costs but to also scale flexibly according to demand.

Operator benefits of cloud-based BSS

Our analysis highlighted some interesting regional variations. For example, operators in Asia and Europe were more interested in the ability of cloud-based BSS to scale up or down on demand. In the Asia Pacific region, although comprised of both mature and developing markets, there is much room to grow subscribers and service revenues in many countries. It makes sense that operators in this region would want more flexible scalability of back office IT systems that can expand with the introduction of new subscribers, services and tariffs as needed. In Europe, where most markets are mature, operator interest in on-demand scalability may be due to the anticipation of having to process a variety of new connections with the expected growth of the Internet of Things (IoT) market.

It is also worth noting that different types of operators

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see different advantages of cloud-based BSS. For example, fixed-line operators had the highest interest in consolidating the BSS environment, possibly reflecting a larger amount of legacy back office systems compared to other types of operators. Similarly, cable and satellite operators are most interested in being able to introduce a new BSS system quickly, as well as lower IT infrastructure costs. This could also indicate a prevalence of legacy systems as faster deployment times and lower infrastructure costs would improve the inefficiencies of older back office systems.

So the enthusiasm is there. What about the barriers? Well, unsurprisingly, concerns about security and data privacy are universally perceived to be the biggest barrier to moving BSS to the public cloud, and are top of mind for network operators and service providers worldwide. Tough data privacy laws make operators reluctant to move back office IT systems outside their own jurisdiction, and high-profile data breaches have created a perception among consumers that their data is not safe with any kind of large company. With heightened customer sensitivity, it is understandable that operators and service providers would adopt a cautious approach to moving IT systems that process customers' personal data. Of course there are also other potential hurdles in moving BSS to the public cloud, including the availability and reliability of public cloud platforms, internal hesitancy towards change, and local data regulation issues.

Europe is a good example of these local issues. EU regulations require customer data to be kept within EU countries, while Germany mandates that customer data cannot be removed from the country at all. Therefore, any cloud-based deployment has the potential to not comply unless it is designed correctly and the public cloud provider can support those requirements.

Specialist cloud providers can help operators get to grips with those data privacy and security issues. Operators need the absolute guarantee of data security, privacy compliance and disaster recovery, and specialist providers have data centers which are arguably more secure than some operator data centers – we have seen that some of those are not hack-free.

Accepting BSS-as-a-Service is a big step for operators, but we're not talking about a dumbed-down, one-size-fits-all system. Cloud BSS can be fully sophisticated on the public cloud, highly-configurable and essentially "owned" by the operator. It's not a case of sharing a service, or breaking down an existing offering and making it fit into a cloud environment. To work effectively, cloud BSS must be a fully-integrated system. Deploying cloud BSS

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considerably reduces the time needed to commission the system and adapt it to local market requirements. Deployment on a public cloud makes the system almost immediately ready to use, avoiding the need for a lengthy infrastructure procurement and software installation project.

The licensing model is also transformed, from the traditional upfront licensing fee to a per subscriber usage fee where everything is included – all infrastructure, all system upgrades. BSS-as-a-Service reduces infrastructure costs and avoids a piecemeal approach to complex legacy overhaul, while the pay-as-you-use commercial model enables the operator's digital transformation costs to be directly aligned with service success.

So is it worth the risk? As one might expect, operators are generally conservative in their approach to major IT system upgrades. Most operators and service providers globally prefer to take a gradual approach, whereby one component is replaced at a time, such as a charging platform or CRM system. A step-by-step approach, combined with "digital overlays" is often the preferred way to upgrade telco IT systems.

In practice however, introducing one new part and integrating it with the rest of the old IT system can be quite complex and constraining. One of the dangers with the traditional approach to IT transformation is that the first 18 months can be spent rebuilding what already exists, but in the new environment. More radical approaches, such as a complete IT system overhaul, or adopting cloud-based BSS-as-a-Service (BSSaaS), can ultimately be more productive and efficient ways of upgrading BSS.

With a cloud-based approach, operators can be experimental, testing out overlays and greenfield approaches. But rather than taking successful cloud-based experiments back into the home IT environment, it's time to take the in-house systems out to the cloud. In purely economic terms, it makes no sense for

operators to own their own data centers in the future.

A cloud-based BSSaaS provides a low risk, highly cost-effective approach to providing a new transformational next generation BSS. Whether the operator plans to ultimately replace a legacy BSS, or run a cloud-based BSS alongside it, implementing cloud BSS provides a means to quickly launch and trial new services at greatly reduced cost and time to market. This strategy minimizes the risks, the costs, and the complexity. It reduces the risk of interruption to business and core revenues, and establishes a foundation for subsequent safe migration of the operator's existing business at whatever pace is required.

Based on our experiences with our own customers, cloud BSS can lower the total cost of ownership by 35% compared to traditional BSS commercial models – and out-of-the-box set-up means it can be production-ready in as little as seven months. Best-practice processes and capabilities mean 55% less manpower during system design and implementation, and the flexibility of configuration means new products and services can be launched to market without customization or change requests.

The business case for cloud deployment

Open partner interoperability immediately enables new digital business, IoT and Operator-as-a-Service models – while the SaaS approach means cost transparency, optimal resource management and lower budget commitment.

In our survey, 60% of operators believe that existing BSS platforms are not capable of supporting future telco business models, which further underlines the need for IT transformation. More than 80% believe BSS transformation is central to enabling telcos' future business strategies, and more than 90% say that flexible BSS systems are critically important for delivering an optimal customer experience and delivering competitive differentiation.

The need for change is clear, and a new approach must be taken in order to support this business transformation. While the telco industry is traditionally conservative, new options such as cloud-based BSS are becoming increasingly attractive as important agents of change for operators. Indeed, there is increasing confidence in the public cloud's readiness for mission-critical telco IT applications and nearly all operators involved in the survey agree that the future of telco IT is in the cloud.

Whether motivated by cost savings, IT infrastructure

scalability or the streamlining of back office environments, operators recognize the advantages of cloud-based BSS. High levels of configurability enable business processes, offers and customer channels to be re-designed to enable a new approach to business. Cloud-based BSS will be a key enabler for operators to achieve competitive differentiation and deliver the best experience to their customers.