



CommsMEA: What kind of evolution have you witnessed in the realm of OSS/BSS? How do you see the market for the same shaping up in the region?

Ashish Singhal: Like most other regions, operators in the Middle East have also undergone OSS/BSS transformations with a special focus on CRM and Billing. In more recent years, the focus has been on analytics.

OSS/BSS market in the region has been quite active, with several multi-hundred million USD transformation programs underway. Operators are driving these programs primarily to enhance customer experience, and apart from the usual IT system integrators, and COTS product vendors,



“ The use cases in the digital, virtualised world will be hard to predict, thereby requiring OSS/BSS, arguably the heart of the network, to be adaptable.”

Ashish Singhal, principal, CMT practice A.T. Kearney Middle East

the network vendors have also been engaged.

Dr. Riad Hartani: OSS/BSS has been evolving to be less in-house developed, to using 3rd party solutions, using new software development models, and more interoperable than it has been in the past. This includes the use of NFV solutions and the evolution towards models where OSS/BSS is seen as an application development platform for telcos. The same is happening in the region, but relying way more on turnkey solution providers.

Farid Faraidooni: We are currently witnessing an evolution in supporting cloud applications, enterprise mobility and security solutions, adoption of rich and automated digital channels and network virtualisation. In the days ahead, the introduction of disruptive technologies and non-telco players are expected to grow. Another trend now is for vendors to get into multi-vendor approach to compete in the market and to be more attractive to operators from convenience and cost perspectives.

Indranil Das: Convergence of telecom and IT along with the introduction of new digital native players in the market created a different level

of demand and push the evolution in OSS/BSS ecosystem. Some of these evolution aspects are including but not limited to extreme operational efficiency, real-time, configurability, re-usability, self-service, modular architecture, instant TTM, cloud readiness/virtualisation and finally artificial intelligence/analytics. What we see more and more these days is that the boundaries between OSS and BSS are melting and we are evolving into one unified digital framework covering both.

Globally, there is a shift in the architecture moving away from traditional solution stacks and monolithic giant blocks to smaller pieces of easily configurable, interchangeable and re-usable solution bits. The tendency is to develop smaller functional pieces and deploy them as they get ready (Dev-ops model).

Atul Madan: BSS now needs to support and manage a vast network of interconnected partners and the growth in digital. As the services provided by MVNOs continue to evolve, BSS/OSS technology is also evolving with it. Within the past couple of years, the focus has shifted away from infrastructure enhancement and integration to improving the business side of things. Today, BSS/OSS technology is being actively used by MVNOs to drive customer experience.

CommsMEA: How are the legacy OSS/BSS systems posing a hindrance to implementation of new technologies?

Singhal: It's not as much a question of hindering new technologies, as is a question of hindering customer experience. Customers expect to be able to start a transaction at one channel and complete it at another. This has necessitated legacy OSS/BSS systems to be upgraded.

Moreover, with 4G networks widely prevalent and customers' exploding demand for data, OSS/BSS systems have had to upgrade to mediate billions of XDRs instead of just millions of CDRs. VoLTE is driving another set of upgrades.

Dr. Hartani: This is a challenge, as the software can hardly be ported towards more modern virtualised/cloud architectures, and leading to a higher support cost structure. Moreover, the goals of aiming toward OSS/BSS solutions with a higher degree of agility/adaptability become difficult with such legacy architectures.

Faraidooni: With the rapid change and introduction of 'ICT' and periphery technologies and services, there is a necessity for operators to evolve, adapt and embrace challenges and turn it



“The most important areas of investment are those that would evolve the OSS/BSS to become an application software development platform, which sits at the heart of telcos’ strategies of augmenting their services offering capabilities to their customers.”

Dr. Riad Hartani, partner, Xona Partners

into an opportunity. In general, legacy OSS/BSS systems offer the following challenges: existing BSS/OSS systems are stretched to their limits in meeting procurement, design and deployment for traditional telco services. Customers demand new services which in turn requires rapid service onboarding. T2M (Time to market) is key in this dynamic industry whilst keeping OPEX exposure at a minimum. The fact that it has to go through several upgrades and expansions to cater the new technologies could lead to delays. Major system customisations accompanied with ineffective development lifecycles are hindering the implementation of new technologies and services.

Das: Legacy and silo OSS/BSS systems create additional challenge in the current ecosystem from both technical and commercial point of view. Their limitations in terms of rigid/proprietary interfaces, non-industrialised HW dependent architectures, continuous SW/services requests

and adaptations with the need of heavy systems integration projects are the biggest hindrance today. That need to be changed into more seamless, cost efficient and open OSS/BSS architectures as part of their future roadmaps.

Instead of big transformation projects, constant change towards new technologies should be made possible and legacy systems should be the source to start from.

Madan: Inflexibility of existing systems is a major inhibitor for the implementation of personalised, real-time offers to drive upsell opportunities. There is a need for more real-time functions, better customer engagement and faster product development, but legacy BSS systems are not allowing operators to move to digital services.

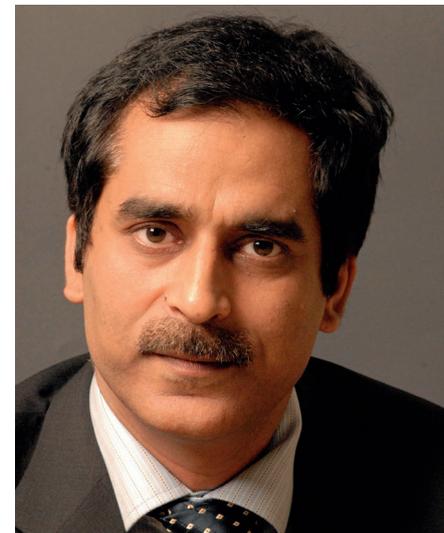
It is anticipated that the most lucrative new revenue sources will come from providing multi-play offers. This is closely followed by selling digital life services, provided BSS can keep up and monetise new offers.

CommsMEA: What is the kind of OSS/BSS solutions that service providers need in the digital, virtualised age?

Singhal: In two words: Scalable and Adaptable. Exponential data growth is here to stay, and the number of devices will continue to explode as trillions of IoT devices are thrown into the mix. OSS/BSS solutions thus will have to scale rapidly. Furthermore, the use cases in the digital, virtualised world will be hard to predict, thereby requiring OSS/BSS, arguably the heart of the network, to be adaptable. They will not merely be switching a VoLTE phone call, or delivering the billionth YouTube video without buffering delay, but rather ensuring almost zero latency networks so self-driving cars are not bumping into each other.

Dr. Hartani: The most important aspects relate to the use of a different generation of software in designing the OSS/BSS software, leveraging virtualisation, cloud and DevOps development models. Moreover, integrating 3rd party applications on top of the OSS/BSS becomes key for differentiation vs the competition.

Faraidooni: With the blurring of boundaries between telcos’ IT services, ICT and network solutions, there is a need, more than ever, for vendors to address a diverse range of solutions. Legacy solutions need to evolve to support a wide-range of digital self-service channels, cloud-based solutions, along with the ability to orchestrate



“The next-generation OSS/BSS should be able to reduce OPEX through increased automation and optimised business processes; have a higher modularity and openness in application architecture as well as a simplified architecture with harmonised platforms”

Atul Madan, senior VP and head of digital lifestyle solutions, Mahindra Comviva

and fulfil a combination of hybrid legacy and virtualised services, enterprise mobility services, security and cloud services.

In addition, in order to better leverage the operators unique position and infrastructure investment, solutions need to expand, for example, into IoT, Smart-city, robotics processing automation, chat-bots with embedded artificial intelligence, analytics and cognitive assurance solution. With the advent of carrier neutral connectivity and e-SIM, even core telco solutions such as SIM management and OTA provisioning need to be addressed.

Das: “Business as usual” type of offerings shall



“Globally, there is a shift in the architecture moving away from traditional solution stacks and monolithic giant blocks to smaller pieces of easily configurable, interchangeable and re-usable solution bits. The tendency is to develop smaller functional pieces and deploy them as they get ready (Dev-ops model).”
Indranil Das, head of digital services, Ericsson Middle East and Africa

not be good enough; they need to come up with agile, future-proof, “one-click”, self-served and omni-channel OSS/BSS solutions that shall help.

Some service providers prefer subscription based services (even micro services), with agreed revenue sharing models with the vendors. This also needs to be shaped according to regulations of different countries, as can be easily seen in the regulatory limitations posed in MEA region.

From architectural aspect, natively cloud-enabled, smaller, configurable, interchangeable functional blocks which can easily be assembled as a parts of different configurations & compositions, those would prevent re-engineering a giant, costing multi-months and multi-million

dollar projects for every change in business behaviour. Using these components, operators will need to adapt to changes fast while staying close to their customers, and providing intimate & personalised service to them.

Madan: To help service providers gain an optimal competitive position it is important to focus on following essential elements:

- Centralised product catalogue
- Monetisation through digital services
- Creation of engaging customer experiences through 360 degree view
- Omni-channel service and support capability
- Convergent billing approach.
- Adoption of cloud delivery model

CommsMEA: What kind of OSS/BSS solution are you using currently? Have you upgraded these recently?

Faraidooni: We use several tools for each domain, these are different based on technologies and vendor. They go under periodical updates and upgrades for hardware and software. Most of the TMF TAM is covered by our solution stack and the majority of systems are COTs based products. A small minority of systems are developed in-house catering to specific tactical needs. Every year a certain section of COTs systems require some form of upgrade due to support reasons or product evolution.

CommsMEA: What’s the latest innovation you have introduced in OSS/BSS solutions for service providers?

Das: Ericsson’s vision is to merge OSS/BSS into one via a unified and best of suite framework called Digital Support Systems (DSS), which was introduced during MWC-2017. This pre-integrated and industrialised suite comes up with several value packs that shall be focusing on top-down business processes and will also follow the common platform design principles by addressing the entire customer journey.

Madan: Comviva DRB (Data Revenue Booster) creates new sales opportunities for the operator through diversified channels (like, YouTube, Spotify) using its contextual selling capability.

CommsMEA: Which aspects of OSS/BSS are going to drive maximum investment from operators in the coming years in your opinion?

Singhal: Billing and CRM (Customer Care) will continue to drive maximum investments, just

as they have in the last few years. We estimate Billing and CRM to drive 50-70% of all OSS/BSS investments. These two are the most ‘visible’ to the customers, and they define the customer interaction, which drives the overall customer experience.

Dr. Hartani: The most important areas of investment are those that would evolve the OSS/BSS to become an application software development platform, which sits at the heart of telcos’ strategies of augmenting their services offering capabilities to their customers.

Das: OSS/BSS systems are key for monetisation of the platforms and services. Some of these aspects are CEM/analytics to take action based on the network insights and create personalised offers; service delivery/enablement layer for creating multi-sided business models via digital and omni-channels; NFV/cloud ready architecture to be able to use the advantages of cost efficient, open infrastructure; and revenue management to centralise core functions of the operator.

Operators will go for risk-free but affordable and easily operable solutions. Also, we expect that specialised products and solutions which can easily plug in to these centralised core solutions will take a good portion of the market.

Faraidooni: On one end of the spectrum there is the decision of whether to invest in the legacy stack, and on the other end of the spectrum there is the option to diversify and acquire a complete new stack. Telcos usually follow a balanced approach, but this is heavily influenced by OPEX optimisation requirements. Nevertheless, you will still see investments addressing some emerging industry trends such as embedding artificial intelligence, robotics process automation, blockchain, NB-IoT, 5G, network function virtualisation and cloud ready solutions.

CommsMEA: Do you see much innovation coming in from incumbent OSS/BSS vendors or are newer vendors coming up with promise?

Singhal: I see both happening. The traditional OSS/BSS players such as Ericsson, Oracle etc. of course have the largest install base at operators and hence are better placed to influence upgrades with incremental innovations. However, other players have thrown in their hat in the ring e.g. the large investments being made by Huawei develop their own OSS/BSS platforms, or the acquisition of players such as Comptel by Nokia or the partnership between Samsung & IBM



“ The last few years has witnessed an introduction of a number of new ‘pure play’ niche vendors introducing and competing not only against incumbent vendors but also attacking operator typical revenue streams.”

Farid Faraidooni, chief operations officer, du

to deliver OSS offerings. These newer players are showing promise and willing to change the rules of the game by embedding offerings such as analytics in the OSS. New gen IT providers such as ItsOn, Matrix etc are providing hosted/cloud-based BSS almost like an OTT overlay over traditional Telco technology, to improve operator agility and digital experience.

Faraidooni: This is a particular risk for incumbent vendors and also indirectly for operators who have sunken substantial investments in products offered by such vendors. The last few years has witnessed an introduction of a number of new ‘pure play’ niche vendors introducing and competing not only against incumbent vendors but also attacking operator typical revenue streams.

Das: New OSS/BSS vendors with their use case driven/cloud ready solutions are creating a lot

of disruptions especially for business/marketing units of the service providers. These are very innovative, but also brings a lot of challenges in terms of the country specific regulations and systems integration aspects that are remaining still not fully answered. On the other hand, incumbent OSS/BSS vendors are constantly adapting themselves with innovative, telco process specific and best-of-suite offerings.

CommsMEA: Changing OSS/BSS solutions can be quite a tricky affair for operators. How can the process be made smoother?

Singhal: There’s a need to develop an unwavering end-vision for the OSS/BSS upgrade and get the organisation to rally behind it. Another important point is to select the supplier(s) carefully and then treat him as a partner.

Dr. Hartani: The evolution towards new architecture has to be carefully crafted via first modularising the OSS/BSS solution, and integrating new solutions progressively, as new services are deployed. It’s primordial to do so, while ensuring that the solutions leverage state of the art compute/storage infrastructure over which it runs, and adopts open interfaces / APIs in its deployment strategy.

Faraidooni: Telcos need to be prudent in their choices, be pragmatic of the on-the-ground realities and understand if there is a realisable business benefit; there should be no compromise on the business case. Large solution swaps should be positioned as a transformation programme linked to corporate balance score-cards with a clear governance structure covering financials, KPI targets, key milestones, RoI and there must be named sponsors, Mandatory buy-in from both business and technology units with a commitment to succeed.

The execution of this initiative should encompass both governance and delivery. Governance teams must establish an effective steering committee to track financial expenditure, continuous assessment against KPI targets and business value.

Delivery teams must adopt an agile approach with a focus on delivering immediate and incremental business benefits. While addressing T2M and quality, there is now a shift from traditional waterfall SDLC to an agile dev-ops approach.

Das: If the business processes are created and documented with all the OSS/BSS technology touch points; it will be easier to re-use them and

make the changes on the platform/technology side as seamless as possible. Also, we need a very structured planning and follow an agile methodology by identifying quicker-wins and phases rather than following a big-bang approach. So, the number of huge transformation projects which will go on for years, is expected to drop. Instead, our customers will opt for constant delivery of easily configurable products or solutions.

Of course, the capabilities and experience of the system integrator will also play a huge part to make the change smoother. Another factor we should never forget is the championing of these changes within the operators. I would expect C-Level sponsorship and close follow up of these type of changes to make them success stories.

From an architectural point of view, Micro-services and Dev-ops have evolved - and are still evolving- to address the challenge of ever-changing solutions; adopting these may help greatly in reducing risks and increasing agility.

Madan: In the process of transitioning, telecom operators are opting for an integrated approach wherein the OSS/BSS platform seamlessly links three main solution sets (customer management solutions, billing engine and revenue enablement) together.

CommsMEA: Could you give an example where OSS/BSS transformation yielded measurable change in ROI for an operator?

Faraidooni: The enterprise segment is typically seen as the growth area. One such transformation is the adoption of a private cloud solution leading to an increase in T2M, customer base and uptick in revenues.

Singhal: There have been a few successful OSS/BSS transformations in the region, where the benefits have started to show in the form of reduced IT bills of maintaining legacy systems, measurable improvements in customer experience. The drivers of success in these cases have been consolidating multiple platforms into one there by reducing IT OPEX by 20-30%, and reducing time to market of new products by up to 70%.

Das: We implemented Ericsson’s latest Catalogue Driven Order Management suite in one of the global operators complementing the existing charging and billing platforms. Along with many aspects of success, the operator reduced the product and offer creation significantly from



months to few hours; it was also able to monetise its converged offerings and brought tangible ARPU increase of 4-5% accordingly.

Another good example is, one of the largest telcos in our region implemented a new CRM on the service side (the call centre). After the initial phase of the project, they achieved a remarkable drop in the average call handling time, which helped save to millions of dollars in operations, as every second counts in the customer service front line.

Madan: A green field operator in the African region deployed our turnkey iPACS BRM product which has resulted in smooth on-boarding, service support and recurring revenue earnings for the operator. This new service has become mainstream revenue generating service for the operator.

CommsMEA: Is it true that operator customers are choosing to build, not buy, when it comes to major B/OSS transformation projects?

Singhal: In the region, I am not seeing any big OSS/BSS transformations where operators chose to build rather than buy. Most of the recent and ongoing transformations have been with COTS products. There is obviously a tendency to customise the off-the-shelf product to suit an operator's needs and to make it fit with the legacy IT and network systems landscape. However,

limiting such customisations to product configuration changes and not altering the product's architecture is important.

Faraidooni: This is not necessarily true. Telcos must be more selective in their engagement models and carefully analyse the capabilities and roadmap required for the service. This will influence whether to buy or build a solution. There is no one size fits all approach. Among many telcos, the trend is to build big data platforms that can correlate different sources of data together, however this is not going to replace the traditional tools. Data analytics as a science is still new and needs long time before it can be considered as a true replacement.

Das: There is no silver bullet when it comes to buy or build; where some of the operators are fully relying on the external vendors, some of them are innovating in-house and finally few of the players are following hybrid approaches. It all depends on the maturity, long term strategy, budgeting and internal capability of their IT/R&D teams, where we also started to see a lot for operators to outsource the technology/product parts to vendors and taking the overall prime integrator/design authority roles to themselves as part of the major transformation programmes.

Madan: No this is not true as we are seeing operators moving from their home grown legacy systems to COTS product from OSS/BSS providers.

CommsMEA: What's your opinion on the adoption of a managed service model for OSS/BSS solutions?

Singhal: Operators increasingly want to differentiate by customer experience, and are adopting Managed Services models not just for OSS/BSS solutions but even for the network. If executed well, Managed Services model can help operators leave the 'factory' to the experts while focussing on the customer interaction at the 'shop'. Such models also provide Operators' access to latest best practices that vendors cross-pollinate from other regions and telcos.

Dr. Hartani: Telcos will keep going down the path of managed OSS/BSS services. However, the most advanced telcos are likely to take the OSS/BSS in their own hands, and leverage it as an application development platform, that directly ties up to their differentiated services offering strategies.

Faraidooni: This model typically focusses on low-cost, high-volume repetitive tasks, where there is a business case to outsource these as managed services. Where the tasks for delivering these services are comprehensively documented (including OLAs) with clear roles and responsibilities, then it becomes a lot smoother and effective to adopt a Managed Services model.

Needless to say, this is a new approach in the market. Vendors are looking now for rentals in addition to sales, this can accommodate the needs for operators with limited time needs or limited budgets and can bring a new business cases. However due to many information security restrictions this is difficult to scale up significantly.

A relational contract with clear win-wins for both parties, maintaining a strategic partnership and focusing on value generation is seen as the best approach in structuring a MSP engagement; however unfortunately this is typically overlooked and thus decreases the effectiveness of a managed service model. Execution and a well-managed transition is the key to having an effective MSP.

Das: Considering the risks and complexity of the OSS/BSS transformation programmes, we also see an increasing trend from operators to also outsource the operations and maintenance parts of the entire IT ecosystem including multi-vendor platforms via managed services models. This is also applicable even within the ADM area. ◻