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BPM and what it means for Mobile Network Operators

**Orchestration of Processes, Services &
Devices**

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Introduction:

Mobile Network Operators (MNOs) are busy creating an integrated eco-system of services that is meaningful and useful to human beings. However with rapidly changing business dynamics, vast array of point-services and an ever increasing base of mobile devices it remains challenging to realize a working integrated eco-system of services. The key forces of change in Mobile Network Operators industry are:

1. Disruptive technologies – Example Mobile Voice over Wide Area Network (using IP)
2. Disruptive business models – Example Notion of Free Mobile services and direct to consumer
3. New players - Internet (Google, Microsoft), Retail (Tesco) and Media players (Paramount Pictures, NBC)
4. Changing Consumer behavior – young multi-tasking generation using social networks, games, always-online means of interactions
5. Rapidly increasing device types and number of services

Orchestration of business processes in a continuously changing Telecom environment is one of the key milestones in formation of an integrated eco-system of services. This white paper discusses BPM and how Mobile Network Operators can benefit by using BPM orchestration. It also provides an overview how business process orchestration can extend further to orchestrate devices and services that are made available in the field.

In the process, the paper makes an attempt to answer the following questions:

- Is there an opportunity amid changing industry landscape to build sustainable competitive advantage?
- How can the business operation managers monitor business performance indicators and act rapidly to changing business environment?
- How can Mobile Network Operator (MNO) orchestrate a vast array of devices, applications and services rapidly based on an over-arching layer of business processes management?

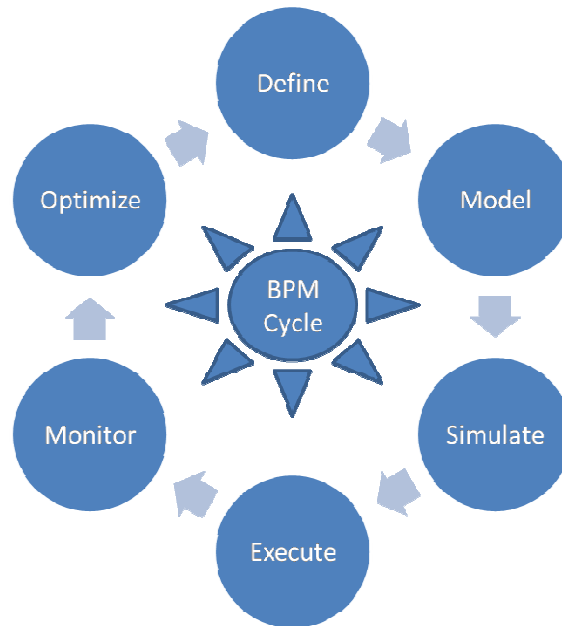
The benefits to MNOs from BPM and framework explained below are:

- a. Optimization of existing investment in infrastructure, application, people and process
- b. Ability to launch and support new services rapidly
- c. Manage diverse array of consumers, devices, and services
- d. Increase brand awareness across all categories and stakeholders
- e. Create high entry barriers for new players

Business Process Management and its key benefits:

Wikipedia defines BPM as: “Business process management (BPM) is a method of efficiently aligning an organization with the wants and needs of clients. It is a holistic management approach that promotes business effectiveness and efficiency while striving for innovation, flexibility and integration with technology. As organizations strive for attainment of their objectives, BPM attempts to continuously improve processes - the process to define, measure and improve your processes – a ‘process optimization’ process. According to Gartner “BPM is structured approach that employs methods, policies, metrics, management practices and software tools to manage and continuously optimize an organizations activities and processes.

Starting with a key (and focused) business driver, BPM offers a proven approach to iterative optimization of the business processes as shown in the figure below



The key benefits to this iterative process optimization is

1. Clear view of operational inefficiencies with ability to remove identified inefficiencies
2. Process automation and control
3. Business performance monitoring from individual and holistic process level
4. Agile business structure allowing rapid changes in client offerings
5. Ability to respond to less-frequent, un-controlled and un-usual events

Current and Future requirements from BPM

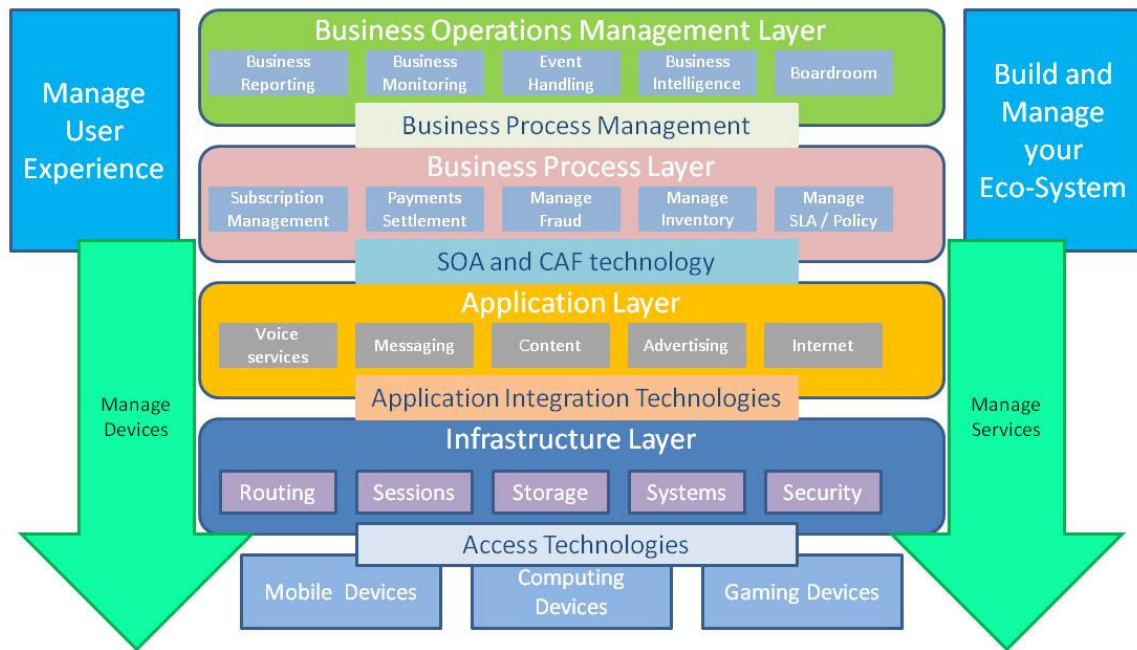
Certainly process automation and in turn BPM automation are seen to be the key requirements going forward. The question is what if we can do more with BPM? One good example is to make sure that while business process achieves agility the IT applications and infrastructure achieves agility too. Why is this true? Mobile Network Operators have painfully witnessed that both IT applications and infrastructure does not keep up with the changing business environment. This creates a massive barrier for business growth and sometimes even forces operators in to a period of massive restructuring of IT applications and infrastructure, leaving competition to gain market share. Examples include the massive shift to Next generation networks, IP Multi-media sub-system and many more to come. Some restructuring provides successful results while other fail – example the shift to Asynchronous Transfer Mode (ATM) technology or the massive fiber overcapacity built in late 1990s.

In summary, a true BPM not only allows organizations to control, automate and increase business process maturity but also enables organization to optimize current IT application and infrastructure environment. How do MNOs achieve synchronization between business and IT is the key question? Let's consider a framework that allows Mobile Network Operators to not only achieve business process orchestration but also devices and services orchestration. The Framework aims to meet the goals of Mobile Network Operators in creating an integrated eco-system of services. In the process of meeting this goal, the framework is intended to enable innovation of new services at a rapid pace in the foreseeable future.

BPM and what it means for Mobile Network Operators (High Level View):

If we want to see the results of BPM, we also need to look at the entire framework within Mobile Network Operator. The figure below makes an attempt to present a very high level framework incorporating technology layers (i.e. application and infrastructure layer), the business process layer and business operations management layer.

Figure: Framework incorporating technology and business layers in a Mobile Network Operator



Infrastructure Layer

The Infrastructure layer provides access to mobile, computing and gaming devices. Network complexity is increasing dramatically as more network technologies (PSTN, ISDN, Cable, Fiber, 2G, 2.5G, 3G, 4G, WiMax, WiFi etc) become available. Shielding this complexity through a common technology layer is a key factor in facilitating service creation and delivery. Market leading commercial-off-the-shelf software suppliers offer standard integration and service models to seamlessly offer services through multiple access technologies. These integration technologies hide the networks from the applications. It takes care of handling sessions, routing of (SIP/SS7) messages and scheduling delivery of messages. It also provides functions that support the end-user service such as location, presence, storage, authentication, rating and charging. It does not contain any service specific logic, but it handles sessions and messages under control of the application layer

Application Layer

The application layer facilitates creation and deployment of services. These services can be operator services or third party services. Services make use of Infrastructure layer for common and basic functions, but they are no longer embedded in the network layer. For

example, a ring-back-tone (RBT) service is an application that runs on an application server and only executes RBT specific logic. It relies on the technology layer to deliver a ring-back-tone based on caller and user preference. The Infrastructure layer may change over time, new notification bearers become available such as IM, but that should not affect the basic RBT application or the RBT service. The application layer performs services based on the Business Process Layer that handles key business functions like Subscriber Management, Service plans management, payment and settlement, fraud management and service level management.

Business Process Layer

The business process layer is designed to support generic business as well as service specific processes. The business process layer also allows design and optimization of business processes. It allows business managers to rapidly design process models, deploy changes and manage organizational policies independent of the application and infrastructure layers. This layer offers an easy to use human interface technology to organize and employ corporate governance and policies. Using service oriented architecture (SOA) the service applications are orchestrated using BPM technology. An overall control of business process means business manager can develop, execute, monitor and enhance business processes based on up-to-date business requirements and independent of the various service applications. The business process management layer offers a consistent and clear view to business operations management. Agile business process management software improves productivity, offers greater ability to adapt to market opportunities and enhances competitive advantage due to rapid change handling capabilities.

Business Operations Layer

Finally, the business operations management layer is designed to monitor business processes, provide up-to-date business reports, optimize business processes and handle exceptional events. The Business operations management layer enables business owners to make and implement decisions rapidly across part-of or an entire organization. The key benefit for business owner is the ability to instantly view a high level business performance indicator and drill down for finer granularity; if required. Business owners can test and adapt their strategy by conducting market, profitability and correlation analysis enabling perfect alignment between strategic plans and operations. With constant improvement carried by business managers business owners can have achieve an end-to-end view of entire value chain. In addition, core business functions can be standardized to build up on existing capabilities by composing additional business processes based on changing business landscape

Can we do more? The answer is: You are required to do more!

The need for orchestration of Devices and Services in-tune with Business Processes:

Mobile Network Operators are witnessing a vast array of new devices in to the field. At the same time number of services that are offered is increasing rapidly. The quest for Mobile Network Operators is to maintain or increase control on the devices and services that are made available in the field. After all there is no business justification for Mobile Network operators to turn in to mere bit-pipes like Internet Service Providers. As a result, managing devices and services is becoming an increasingly business critical requirement. Most Mobile Network Operators have initiated some form of device management program which manages standard (a limited set of) mobile services across top XX number of mobile devices. Few are partially successful while many others are trying harder to correct mistakes or re-initiate failed projects. For example for mobile device management MNOs use MDM applications and for services it is Service Delivery Platforms. While standards are still evolving it becomes increasingly difficult to merge vendor protected device libraries or achieve a single SDP for services across the value-chain.

While most standard services are managed using one or two applications, a vast array of new services are built with their own service management application. This is because not all devices in the field are just mobile devices. There are computing devices, gaming devices and many more coming. The need for an over-arching layer of device management and also for service management is growing rapidly. Can BPM offer such an over-arching functionality? Perhaps yes, but only over certain period of time – the time it takes to attain process maturity for both managing devices and services. Remember that BPM optimizes and builds up on existing IT investments. The only change is that rather than looking from only device and service perspective, Mobile Network Operators should look at it from business operations perspective. BPM allows masking the complexity of device and service management from business operations and enables business manager and owners to focus on the business.

Conclusion:

Mobile Network operators recognize the need to have an integrated ecosystem of services backed by an agile business operations environment. Creating agile business operations requires further investment in BPMS. Today's BPM solutions can rapidly assess, model, deploy, and optimize processes, devices and services needed to meet the current and future business demands.

To learn about real-life examples on how BPM enables orchestration of processes, devices and mobile services please contact us. We will be glad to be at your service.

Further Correspondence: info@krishinfocom.com

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