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BUSINESS PROCESS  
MANAGEMENT

An Oracle Solution Brief  
October 2012

## Increasing Operational Agility

*BPM in Telecommunications*

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## Introduction: Adding Agility to OSS/BSS systems

Business processes are at the heart of what makes a business successful and differentiates it from the competition. This is especially true in the telecommunications industry, where Communications Service Providers (CSPs) face declining voice revenues, excessive competition from new types of service providers, and rising demand for integrated telephony, mobile communications, TV and internet services. Ensuring a robust revenue stream requires CSPs to simplify operational processes, coordinate existing functionality, and improve productivity while reducing costs. In many instances, it is the internal Operational Support Systems (OSS) and Business Support Systems (BSS) that give market leaders an edge by enabling them to conduct business in a low cost, dynamic way.

Customers demand consistency—online, on the go, and in the store. Unfortunately, many OSS/BSS systems are too rigid and disjointed to adapt to these demands. For example, if your systems for capturing and fulfilling orders aren't integrated across channels and systems, and if the associated business processes can't access up-to-the-second data about each customer's history, then you will most likely experience revenue leakage from purchase abandonment midway through the sales cycle.

Meeting customer needs requires innovative technology that extends beyond the most comprehensive packaged or custom-built business applications. Processes that originally resided within an application now extend beyond traditional application boundaries. These business processes are not confined to one set of data or one discrete information system. They are better described as multifaceted implementations of real-world activities—logically organized into steps that span multiple IT systems, departments, channels, and touch-points. Some activities are automated and performed by machines; others are manual and performed by people, both inside and outside of the company.

To create new business processes that accommodate these complex implementations, many CSPs are deploying Oracle Business Process Management (BPM) Suite, a complete set of process management tools that enables the efficient management of all types of business processes. This paper explains how Telco business processes can be improved and process gaps can be closed with Oracle BPM technology.

## Use Case #1: Cohesive Customer Experiences

The telecommunications industry is well aware of the need for carefully managing the customer experience. The TM Forum published the Wireless Services Handbook back in 2004 as a foundation for the Telecom Operation Map (TOM) and Business Process Framework, both of which include process models supporting customer experience management. In recent years service providers have made a more decisive move towards establishing customer experience management CEM as a fundamental aspect of their operations.

The motivation is clear: ensuring positive customer experiences is what enables a business to attract, retain, and delight customers. The stakes are higher than ever. Previously if a customer was not happy with your product or service they could call you back or ask for a refund. Now they can amplify their dissatisfaction with a post on Twitter, Facebook, Yelp, and other social networks. Astute CSPs earn a reputation for excellent customer service by transforming their online self-service processes into highly interactive, branded customer experiences. They emphasize customer-facing business processes such as ordering, online support, returns and field service.

Social BPM allows people within an organization to collaborate to design exceptional processes—not just on resolving issues but to engage with the customers on their terms. For example, when customers open a new account they should be able to pick up the phone, send an email message, visit a website, or start a chat session to initiate the process, and then check the status of that process from any one of these channels. If the goal of process design is better customer experience and more active engagement, then these processes must be flexible and agile.

CSPs also need to monitor the customer experience within public forums and social networks. If a customer is tweeting about your products, posting on Facebook and Yelp about their experience with your company, you need to gather and analyze the customer's feedback and use that information to improve the processes and products. BPM is not just about improving back-office process efficiency, but also about improving frontline customer-facing processes.

Most CSPs install packaged applications that focus on the data surrounding customers and the company's interaction with those customers. However, these apps don't always address the process elements associated with predicting and taking action, automating those actions, integrating with social networks, and a host of other activities. Process inconsistencies across lines-of-business, customer channels and product/service offerings make it difficult to offer a unified customer experience that enforces standardized methodologies.

While many customer-facing activities are automated with modern software applications, agile business processes necessarily extend outside of application boundaries, such as when a supervisor needs to approve a return of wireless handset or a field service technician opts to replace rather than repair on-site equipment. It is precisely at these hands-offs between applications and overlaying processes that BPM technology can help by structuring an alternate workflow, escalating an issue, or triggering a related business process.

Customers want simple, consistent, and relevant experiences across all channels, touch-points, and devices. Online, mobile and social commerce paradigms have empowered consumers to make organized and informed purchase decisions while enabling anytime, anywhere transactions. Creating a great customer experience means delivering quality and consistency across the entire lifecycle, from initial contact to lifelong support. Exceptional customer experiences create the loyalty, advocacy, and repeat business that drives success.

Oracle BPM Suite removes complexity from process design, development, deployment, monitoring, and execution with a unified process engine and pre-integration of process subsystems. It enables CSPs to integrate new business models with legacy systems (without cost prohibitive “rip-and-replace” techniques), ensure consistent underlining processes across channels, and trigger automatic alerts if an unusual situation arises or an issue gets delayed. Built in audit capabilities let you record and review multi-step workflows, so you can make sure all customers receive exceptional treatment, and no service request goes unresolved.

## Use Case #2: Agile Order Cycle Processes

Order-cycle processes have become progressively more complex due to service bundles that include multiple products and services in a cohesive bundle. In order to differentiate themselves and win new business, CSPs must enforce timely and accurate provisioning of these converged services. At its most basic level this is an order decomposition and data integration problem. The order fulfillment lifecycle spans numerous enterprise systems—including billing, shipping, and workforce management—while also managing and tracking service fulfillment activities across activation and inventory applications. Efficiently servicing customers entails harmonizing order-cycle processes across traditional OSS/BSS silos. Whether in the call center or a retail store, agents must seamlessly orchestrate service orders across multiple domains (television, internet, mobile, and landline), co-ordinate the design and turn up of service bundles, and arrange for subsequent field service and follow up.

Customer orders can be delayed by inconsistent product and service definitions and incomplete orchestration plans that make it difficult to manage orders throughout the creation process and the order-to-activate lifecycle. By some industry estimates, order fallout rates can be as high as 25% as a result of errors and delays in order management, capture and provisioning. An agile order management system can alleviate these delays by coordinating activities among multiple orders, systems, processes and work centers, irrespective of the current infrastructure.

To achieve this goal, order design and delivery processes must be automated, integrated, easily configurable, and consistent. The traditional gaps between the OSS and BSS must be bridged via active inter-application and inter-process communication. CSPs need visibility into these processes in order to take corrective action quickly. BPM technology can reduce revenue leakage by streamlining order-cycle processes across customer-interaction channels, lines of businesses, and service bundles, simplifying the processes associated with creating an offer, capturing an order, and delivering products and services to customers.

BPM makes it easier to create, maintain and reuse business processes as well as integrate order management systems with other OSS/BSS solutions. In addition, BPM adds visibility so CSPs can provide more consistent, personalized experiences for customers. Agents know precisely what channels customers have used in the past, which products they have researched, and what they have purchased—and can leverage that knowledge to provide relevant information during each new interaction, whether on the phone, in the store, or online.

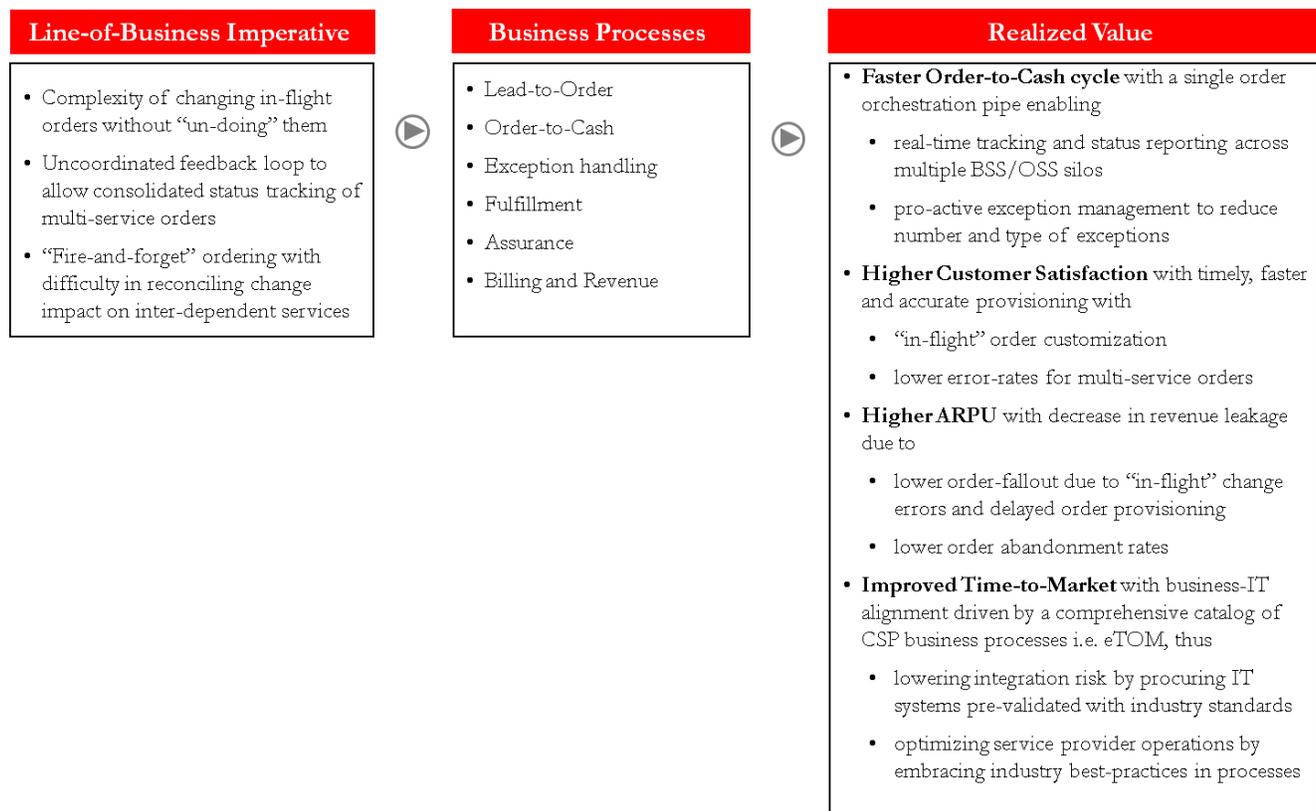


Figure 1. BPM can drive improvements in Lead-to-Order, Order-to-Cash and other fundamental business processes.

Dynamic order management systems quickly become a gateway to offering more agile and advanced telecommunications services. In summary, Oracle Business Process Management helps CSPs to unify order management and drive agility across the order-cycle. Benefits include the following:

- Faster order-to-cash cycles thanks to centralized orchestration across data silos
- Higher customer satisfaction as a result of timely and accurate provisioning
- Decrease in revenue leakage due to lower order fallout and abandonment rate
- The ability to design and implement new offers quickly
- On-demand order status visibility for all channels across the order lifecycle, including jeopardy and exception management
- Automatic decomposition of sales orders that generate unique orchestration plans for any offer or bundle

### Use Case #3: Revenue Assurance

Revenue Assurance (RA) relies is a business activity that uses data quality technology and process improvement methods to identifying errors and streamlining processes related to billing and collection activities. Both wholesale and retail business units embark on revenue assurance projects to boost efficiency and improve profit margins. Given the tremendous volume of activity associated with daily subscriber activities, even small recurring errors can have a large impact on revenue. From provisioning new services to collecting cash to renewing contracts, there are many potential “leaks” in the revenue

flow. These leaks are especially difficult to find when customers utilize converged services available through telecommunications partners. The goal of Revenue Assurance is to improve financial performance by eliminating mistakes in business processes and transactions.

Identifying and systematically fixing errors entails tracking and auditing a tremendous volume of data, often derived from cross-functional information systems. Revenue assurance personnel commonly examine data from both retail and corporate sales. They consider interconnect and wholesale contracts and analyze the profitability of infrastructure investments. This level of scrutiny is important in many industries, but especially in telecommunications due to the rapid pace of change, the complexity of interactions among back-office systems, and the tremendous volume of business activity, which amplifies the financial implications of process errors.

For example, CSPs that offer mobile services based on pre-paid calling cards must have systems in place to disconnect those services as soon as the card balance is consumed. Subscribers should be able to quickly purchase another card, yet there must be checks and balances to prevent fraudulent activity. To instigate seamless card activation and account management, CSPs need to monitor many different operational processes, systems, and data. BPM technology enables these organizations to be more efficient, proactive, and responsive to change by plugging the leaks in OSS/BSS processes and providing a means to model, analyze, automate, and monitor those processes.

## Oracle BPM enables eTOM Processes

The Enhanced Telecom Operations Map (eTOM) Business Process Framework is the current standard for business process mapping in the telecommunications industry. The model is the most widely used and accepted standard for business processes in the industry. It describes the full scope of business processes required by a service provider and defines key elements and how they interact. Whether you are onboarding new customers, fulfilling orders, routing payments, or any other number of common business functions, eTOM standards can help to structure the associated systems and processes to simplify development.

The eTOM model consists of Level-0, Level-1, Level-2 and Level-3 processes. These levels form a hierarchy, with each level encapsulating a group of processes at the next level of detail. The graphic representation of an eTOM model consists of rows and columns, the intersections of which denote specific business processes. The top row includes customer-facing activities such as marketing, while the bottom row includes supplier facing and support activities. In this manner the eTOM map covers the whole value chain. The map also indicates the interaction between processes.<sup>1</sup>

eTOM processes fall into three broad sections: Strategy, Infrastructure & Product, Operations, and Enterprise Management, as shown in the following diagram.

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<sup>1</sup> Source: eTOM standard by TeleManagement Forum :  
<http://www.tmforum.org/BestPracticesStandards/BusinessProcessFramework/1647/Home.html>

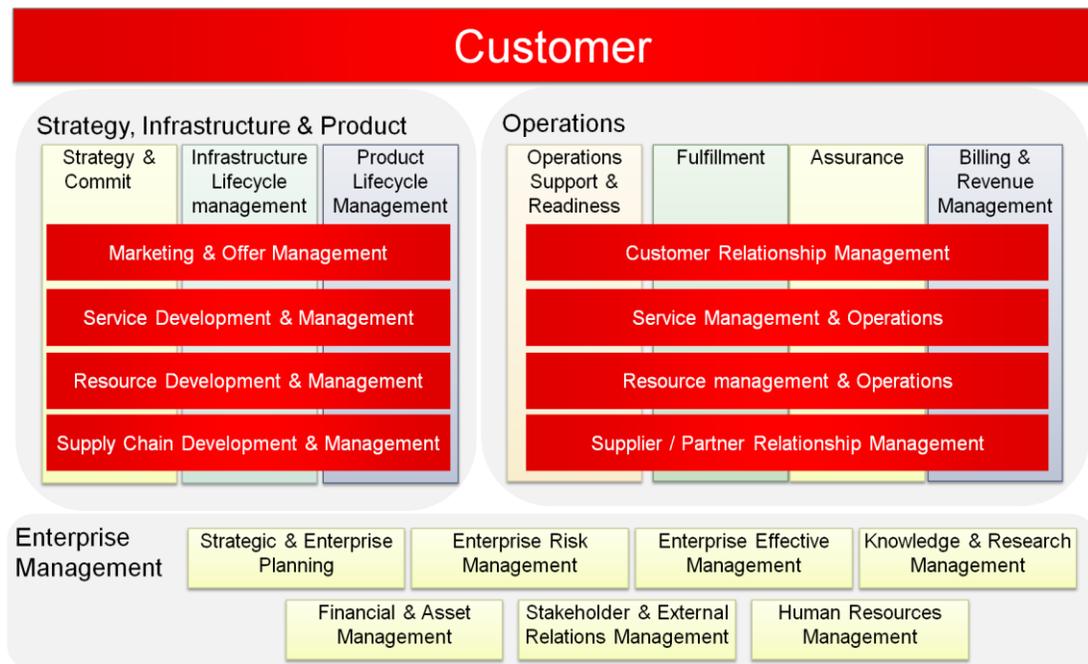


Figure 2. Essential eTOM business processes.

Oracle Business Process Management helps retailers to build shared processes that leverage eTOM standards. For example, processing payments has become more challenging due to increased numbers and types of payments, operational challenges such as complex systems and organizational silos, and a lack of visibility into semi-automated processes. By modeling payment processes as a succession of events that are triggered and invoked by different systems, business analysts use BPM to establish a chronological view of the payments flow and unify payments systems across internal and external interfaces. Oracle BPM Suite 11g is very conducive to these top-down, business-driven process models since it includes both a business modeling tool (Business Process Composer) and an IT-oriented tool (BPM Studio). Support for the BPMN 2.0 standard makes it easy to break processes into sub-processes and tasks.

For more strategic business processes, eTOM can help carriers roll out new services or map out infrastructure upgrades. Defining and mapping business functions using these standards establishes a common language and reusable set of business processes to support new ventures. The eTOM framework has steadily gained momentum as a way to map business processes and link them together with standardized terminology.

## Applying Oracle BPM Suite

Cohesive business processes achieve the following:

- Leverage customer information from all channels and systems
- Manage interactions across all channels
- Unify commerce, merchandising, marketing, and service across all channels
- Integrate with related processes for supply chain management, order orchestration and fulfillment
- Enable Revenue Assurance by catching errors and reducing fallout rates

CSPs commonly use Oracle BPM Suite to model, simulate, execute, and optimize, business processes across divisions, systems, and applications. The suite includes the technology CSPs need to create, document and modify business processes quickly and drive process changes in a nontechnical, business-friendly manner, along with technology for implementing, executing, and monitoring end-to-end processes.

Oracle's comprehensive BPM technology enables complete introspection into business processes so analysts can predict, architect, and enable interactions through multiple channels and touch-points. They can model processes by defining the logical structure and sequence of events, rather than its underlying technical implementation—without any knowledge of SOA, Web services, or XML.

Oracle developed a unified process foundation that simplifies and removes complexity from process development, deployment, monitoring, and execution. In addition, Social BPM interaction simplifies collaboration by incorporating the latest in social computing technologies and enabling a wide choice of communications channels, enabling continuous improvement, as shown below.



Figure 3. Continuous improvement across multiple channels via Oracle BPM Suite.

Oracle's unique BPM toolset enables CSPs to lower the risk of process "gaps" within common business processes including order-to-cash, returns, account creation, and customer support. Over time, the toolset enables developers to shift their focus: from managing individual functions to integrating activities into interconnected processes. In addition, it helps the entire organizations to share information and optimize visibility as stakeholders create, manage, and audit these end-to-end process activities.

## Integration with SOA

Service-oriented architecture (SOA) has become a popular method for linking legacy applications across many different departments, thereby enabling a single end to end process and improving efficiency. SOA interoperates with all parts of the IT architecture to integrate business applications, moving them on to a common service bus and a common workflow engine. It brings reusability to the IT infrastructure, but how can you leverage this IT infrastructure efficiently while accommodating human intervention and introspection at key junctures within the business process?

This is where BPM technology comes in. It is the vehicle that business analysts use to optimize a process, improve visibility, check statistics, perform activity monitoring, combine elements of social collaboration, and a host of other tasks.

Oracle BPM Studio works with Oracle SOA Suite to create end-to-end business processes that can be triggered, executed, and monitored from browser-based Web interfaces. Another browser-based application, called BPM Composer offers insight into BPM process definitions and enables business analysts to document and edit these definitions online.

Analyzing and modeling business processes with these Oracle tools can lead to a seamless implementation of process activities through services and human tasks. Execution of process instances is centrally coordinated and monitored—allowing for real-time insight into exceptions and bottlenecks as well as on-the-fly intervention and improvements within the process flow.

The combination of Oracle Business Process Management Suite 11g and Oracle SOA Suite 11g provides everything organizations need to implement, execute, and monitor end-to-end business processes as well as individual sub-processes and tasks. As part of the Oracle Fusion Middleware family, these products are based on industry standards and provide “design time at runtime” support to allow for dynamic, business-driven, on-the-fly reconfiguration and restructuring of business processes.

## Conclusion

Today’s Communication Service Providers (CSPs) must serve an increasingly sophisticated and demanding customer base that expects to create its own content, define its own preferences, and freely interact across multiple channels, networks and touch points. They expect a personalized experience that is consistent and instantaneous, whether they communicate with your organization via the web, meet with a retail store representative, or chat with a call center agent.

These consumer expectations are forcing CSPs to revamp their OSS/BSS infrastructure and the associated applications that handle ordering, fulfillment and support services. Many CSPs are integrating customer interaction channels to ensure a seamless experience. Oracle BPM Suite structures and orchestrates these interactions.

- A unified process foundation reduces complexity while pre-integration of process subsystems brings together existing applications, enabling you to react quickly to new business requirements.
- A user-centric design simplifies process modeling, execution, and participant interaction and provides tools for both business and IT.
- Social BPM interaction encourages collaboration in the context of BPM and adds the richness of modern social communication tools.



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