

# Pipeline

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[www.pipelinepub.com](http://www.pipelinepub.com) Volume 4, Issue 8

## Service Delivery Platforms and the Evolving Role of OSS

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### Introduction

As Service Delivery Platforms (SDP) for IMS-based services are gradually embraced by providers, the role of operations support systems (OSS) is rightly being re-examined. Most SDP vendors are positioning their offerings as encompassing service creation, orchestration, and execution, as well as back-office functions that traditionally have been handled by OSS solutions. Despite this overlap, there remains an ongoing need for scalable, standards-based OSSs that can complement the flexible service delivery model defined by the SDP vendors and help providers get new services operational quickly.

### Today's Back Office Realities

As a result of the ongoing process of circuit-to-packet migration, service provider back offices have become enormously complex. To meet the market requirements for legacy services and the rapidly growing list of IP-based services, the vast majority of the world's leading providers have each implemented dozens (and in some cases, hundreds) of OSS systems.

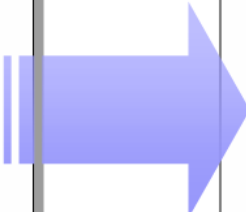
The result in many cases is a hodgepodge of systems that has the potential to cause major operational headaches, including frequent operator interventions, high error rates, intricate transaction rollback scenarios, complex system integrations, painful upgrade scenarios—and, ultimately, ballooning operations costs.

The rapid rollout of VoIP and other IP services, combined with the widespread acceptance of the IP Multimedia Subsystem (IMS) standard as the architecture best able to support a wide variety of voice, video, and data services, is putting even more strain on this already taxed service delivery environment. By definition, IMS services are complex to operationalize, as they promise increased mobility, personalization, contextualization, and multimedia interaction. In an IMS environment, bundles will not simply be based on price, they will be made up of complementary "blended" services targeted at specific user communities, as shown in the following figure.

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## Atomic Services

- ▶ **Voice**
  - IP Centrex
  - Hosted PBX
  - Business Trunking
  - Residential VoIP
  - Messaging
  - Conferencing
  - Call Center
- ▶ **Security**
  - Anti-virus
  - Anti-Spam
  - Secure Remote Access
  - Managed Firewall
- ▶ **Desktop Applications**
  - Email
  - PC Backup
  - Instant Messaging



## Blended Bundles

### Combined to Form Bundles

- ▶ **Small Business Bundle**
  - VoIP + vmail + Email + PC Backup + conferencing-on-demand
- ▶ **Teleworker Package**
  - VoIP + Internet Access + Managed CPE + Secure Access + Personal Firewall
- ▶ **Household "Standard" Package**
  - VoIP + Messaging + Email + Parental Controls
- ▶ **Household "Enhanced" Package**
  - Household "Standard" + Digital Media Storage

### Blended Bundles of IMS Services

The most significant back-office challenge for providers with the advent of these new services is to continue to meet the ongoing service delivery requirements of their legacy services, while simultaneously scaling up their operations to handle the complexities inherent in delivering IMS service bundles.

#### Enter the SDP

Into this complicated amalgam of homegrown and third-party solutions that make up the service provider back office comes the Service Delivery Platform—an all-encompassing architectural framework that promises to speed the creation of new IMS and SIP-based services, as well as manage their orchestration, execution, and provisioning.

The key advantage of the SDP approach is its reliance on a single flexible architecture for all aspects of IMS service creation and delivery. Rather than many service-specific "vertical" solutions, the SDP provides a "horizontal" approach to service delivery, in which the SDP framework is able to handle the creation and delivery of any service, including blended IMS services that combine elements of voice, video and data into a single end-user experience.

Numerous telecom players and traditional IT vendors have entered the SDP arena and are currently engaged in defining and positioning their solutions with the leading providers. While each SDP vendor is approaching the architectural complexities differently, there is general agreement on the fundamental role and capabilities of the SDP. These are:

- The rapid creation of new SIP- and IMS-based services using reusable

service elements available out of the box

- A Common execution environment for voice, video, and data services that attempts to eliminate vertical service delivery “silos”
- An open, telecom-specific architecture that leverages service-oriented architecture (SOA) principles
- Rapid integration capabilities, including the integration of OSS and BSS platforms

### **OSS in the SDP Environment**

The move to an SDP framework will not be immediate for most providers. As with most complex and large-scale IT systems, adoption will occur over time—likely several years—and in the meantime providers are faced with the task of planning the transition to the new environment, and doing everything they can to optimize the result, including significant back-office consolidation.



In many cases, the back-office makeover involves a significant OSS rationalization project, as carriers attempt to consolidate and streamline their systems. Whether providers choose to integrate SDP functionality gradually into an existing service delivery environment or elect to start from scratch with an SDP implementation, it seems likely that they will continue to rely on their best-in-class OSS partners.

One of the main benefits provided by the leading OSS vendors is that they have solved complex operational problems effectively for carriers in the past and, as a result, have formed strong business relationships with providers. Furthermore, in many cases providers have made substantial investments in their OSS solutions and will look to leverage these investments and tailor the systems wherever possible to the needs of an IMS service delivery model. Carriers will undoubtedly look to leverage these relationships as they proceed with implementing their SDP strategy.

These vendor-provider relationships in the OSS space likewise represent a boon to the SDP vendors—particularly those approaching the market from the IT side. Partnering with experienced OSS vendors will help these vendors substantially in

their quest to secure a strong foothold in the back office.

### **Service Operationalization with SDP-Ready Provisioning Systems**

As the lead service in the first wave of subscriber-centric IMS-based services, voice over IP (VoIP) requires new and sophisticated provisioning and activation capabilities, including:

- end-user self-service
- provisioning workflow definitions best practices
- CPE management and configuration
- updates for emergency services, number portability, and VoIP peering databases

The anticipated introduction of many new and innovative IMS services—which blend elements of voice, video, and data—brings with it an exponential increase in service delivery complexity and a corresponding need to extend existing OSS capabilities to manage this complexity.

For SDP vendors who want to help their customers operationalize these services and get them to market quickly, establishing productive partnerships with innovative provisioning vendors—who are in the process of enhancing their product offerings to manage these complexities—is essential.

#### ***Open, Standards-based Interfaces***

To ensure simple and rapid integration with a Service Delivery Platform, a provisioning and activation system must support open, standards-based, interfaces and employ service-oriented architecture principles.

One desirable option for an SDP-ready provisioning platform is to expose an order management interface that fully complies with the Service Activation standard from the OSS through Java™ initiative (OSS/J). This interface allows third-party OSSs—and in particular Service Delivery Platforms—to pass create, modify, and cancel activation requests to the provisioning system.

A key advantage of using a standard interface such as OSS/J is that regardless of the service being provisioned, the SDP is aware of only a single ordering abstraction.

#### ***Market-Proven, Multi-vendor Provisioning Flows***

In addition to the use of open standards, SDP-ready provisioning systems require out-of-the-box provisioning flows that encapsulate best practices for the delivery of a wide range of high-value IMS services.

Provisioning workflows for IMS services can be extremely complicated and can encompass literally thousands of individual activities. Because of their extensive experience with back-office processes and practices, the leading provisioning vendors are uniquely positioned to capture this valuable domain expertise based on actual service provider deployments.

Provisioning flows for IMS services define the business rules and logic required to perform the complete range of activities needed to activate a service for a business

or individual user, for example:

- creating enterprises, sites, and end users
- reserving network resources
- managing user entitlements
- activating users on application servers
- managing transaction roll-backs

Because of the varied needs of individual providers, the provisioning component of any SDP solution must be as flexible as possible and lend itself to ready customization.

Similarly, a modular and repeatable methodology for implementing these customizations is needed so that providers can choose the approach that best suits their business model.

Finally, for the Service Delivery Platform to be able to maximize the value of these standard provisioning flows, the flows must be compatible with the appropriate business process modeling languages employed by the leading SDP vendors, such as the Business Process Execution Language (BPEL), Business Process Modeling Notation (BPMN), etc.

### ***Service Bundling and Blending***

Service bundling is central to the successful rollout of IMS services. As a result, in an IMS service provisioning environment, there is a strong need for an application that can help providers take services from diverse sources—SDP vendors, IMS vendors, and third-party developers—and bundle or blend them in a way that enables providers to successfully take them to market.

### **Conclusion**

A service provisioning and activation platform architected according to SOA principles, and making use of currently accepted standards such as the OSS through Java initiative (OSS/J), can complement the core strengths of Service Delivery Platforms by facilitating simplified and rapid integration, providing out-of-the-box workflow definitions for a variety of IMS services, and offering a critical bundling capability that speeds the process of service operationalization.

By adopting an SDP framework that features these key provisioning and activation capabilities, providers will streamline their back-office processes, reduce costs, and get new revenue-generating services to market quickly.

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