IBM

A blueprint for growth for telecom service providers

Contents

Executive summary

Recent economic and technology trends are fundamentally reshaping the telecom industry. With the economic downturn putting severe pressures on telecom, many service providers embarked on a strategy of reducing OpEx and CapEx (operating and capital expenditures). But reducing investments is not a sustainable business model when subscribers are clamoring for innovative new services, even when switching to alternate service providers or seeking content providers directly.

Days of the monopoly telecom operator are over as the industry has become an increasingly competitive marketplace. Innovative new services are required to increase revenue and profit, differentiate service from competition and reduce churn. At the same time, new services must be introduced quickly and cost effectively.

The 'service delivery' value chain is also going through significant change. For traditional telecom services, development was typically done by the preferred network equipment provider or the service provider themselves. This is no longer the case. With the difficult economy of the past several years, the service development staffs of service providers and network equipment providers have been cut back significantly, or eliminated entirely. In addition, the value chain for next-generation services now includes device manufacturers, third-party content and application developers, content aggregators and network service providers.

Next-generation converged services require a different set of development skills. The Internet Protocol (IP)-based next-generation network is replacing the traditional voice-oriented public switched telephone network (PSTN) with service enablers based on information technology (IT). Converged services leveraging voice, messaging, location and presence require IT skills more than traditional voice-centric telecom knowledge.

This executive brief discusses how a business strategy focused on leveraging network assets through a service delivery platform — based on IT and telecom standards — can create new opportunities for growth, and enables service providers to:

- *Create brand differentiation by leveraging multiple device and application support capability*
- *Implement innovative new services quickly and cost effectively*
- *Deliver new services on legacy and next-generation networks*
- *Reduce operational costs in your service delivery environment*
- *Leverage third-party content and application developers.*

These capabilities can solve the pressing business demands of today — and adapt to the needs of the next generation of telecom services.

Leveraging your most critical assets

For years, telecom networks only supported voice services — and services platforms that were proprietary. Today's emerging next-generation network, as described here, is evolving. In addition to traditional Intelligent Network (IN) platforms, telecom service providers have implemented:

- *Messaging platforms that support voice (VoiceXML), text (SMS) and multimedia messaging (MMS)*
- *Positioning platforms that support location-based services (LBS)*
- *Presence servers to determine if subscribers are connected to the network and available.*

The challenge is how to make these network service enablers available to third-party developers to implement innovative new services, and generate new revenue streams by monetizing the service enablers. You can allow these developers to leverage your network assets by implementing a service delivery platform based on open telecom and IT standards.

A standards-based service delivery platform allows telecom service providers to tackle today's most pressing challenges. Benefits include:

- *Increase revenue by simplifying and accelerating the introduction of innovative new application and content services*
- *Support future growth by providing a scalable infrastructure that abstracts the complexity of the telecom network and devices for third-party content and application developers*
- *Improve customer retention by improving time to market for innovative services by leveraging standard IT software development toolkits (SDKs), and by providing a middleware infrastructure that supports network and device independent services*
- *Reduce operations costs by leveraging a vendor supported platform common across your service environments – consumer and enterprise, voice and data, applications and content*
- *Protect your existing network and IT investments, while providing a smooth path to next-generation devices and networks*
- *Manage large number of services, subscribers and devices efficiently and cost effectively*
- *Support new business models including wholesale, virtual operators, managed operations, dynamic services and on demand pricing.*

The existing services platforms in many telecom service providers' networks cannot readily accommodate the new capabilities required to deliver compelling next-generation telecom services. The IBM Service Provider Delivery Environment (SPDE) was developed to meet these requirements.

IBM Service Provider Delivery Environment (SPDE) — a blueprint for success

SPDE is an open standards-based architecture to support the consistent management and delivery of application and content services. This Service Provider Delivery Environment platform is not built around a specific application, network or service. Rather, it is an open, standards-based blueprint to quickly and cost effectively support the development and deployment of new revenue generation services. Within SPDE, all the elements required for optimal service delivery — network elements, devices, service enablers, applications — can be brought together seamlessly, rapidly and cost-effectively.

The basic infrastructure of SPDE incorporates two core elements:

- *Application Delivery Environment (ADE) — streamlines the delivery of content and applications*
- *Integration Hub — incorporates a suite of documented business processes, products, tools, techniques and methods specific to the telecom market.*

Together these two core elements of SPDE blueprint supports the multiple dimensions across the value chain of participants required to deliver the next generation of telecom services. Applications, processes and data all work together seamlessly, leveraging open standards. The result is an environment built for speed to market, combined with cost-effective delivery.

SPDE is all about improving the design and delivery of solutions
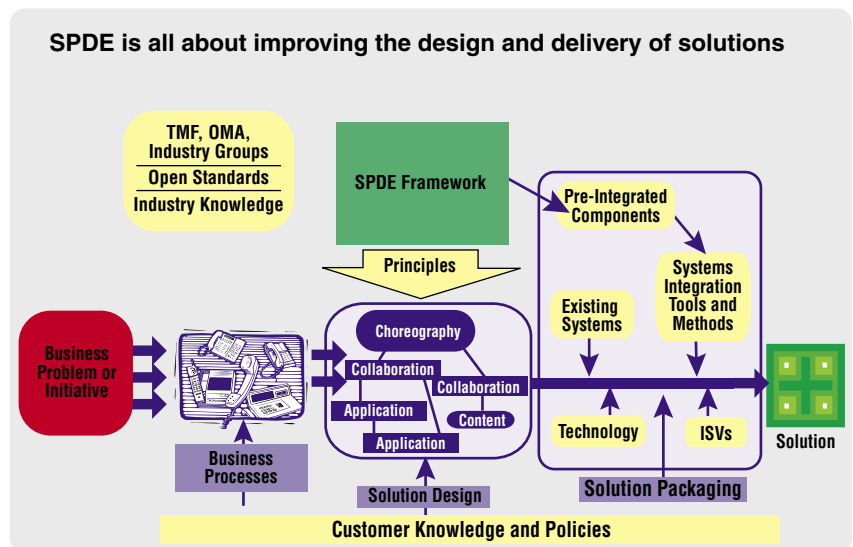
### IBM WebSphere Everyplace Service Delivery — the benefits

To support the implementation of service delivery platforms based on the IBM SPDE blueprint, IBM has launched the WebSphere Everyplace Service Delivery initiative. WebSphere Everyplace Service Delivery offerings are designed to provide key software components required for the implementation of the SPDE Application Delivery Environment. The many benefits of these components include:

Cost-effective service development and delivery

- *Provide a common services environment that supports content and applications, voice and data, and consumer and enterprise services. This common environment reduces complexity and operational costs.*
- *Allow service providers to leverage third-party content and application developers, reducing the cost of implementing new services. The development environment for WebSphere Everyplace Service Delivery is designed to reduce costs relative to the traditional proprietary and highly specialized telecom service creation environments.*
- *Reduce the costs to manage large numbers of services, subscribers and devices by providing a vendor developed and supported environment for subscriber and device management.*

Differentiate service from competition

- *New services are developed and deployed more quickly by leveraging toolkits based on widely adopted technologies, familiar to large numbers of Java and Web developers in the IT industry. A common services platform based on open telecom and IT standards speeds the deployment of new services with seamless integration to developers, network resources and operational support/business support (OSS/BSS) systems.*
- *Deliver a more compelling user experience to differentiate your brand by taking full advantage of specific device characteristics, and personalizing content to the user.*
- *Provide access to a broad range of network services – call control, voice and data messaging, location, and presence – to support differentiating voice, data and converged services.*
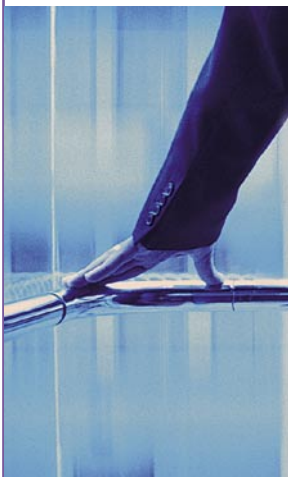
Introduce innovative new services

- *Integrate third-party application and content services by leveraging a software platform that supports voice, data, and converged services – for enterprise customers and consumers.*
- *Leverage the tens of thousands of third-party developers already familiar with a widely used IT development environment based on open standards.*
- *Be at the forefront of technology innovation by leveraging leading device independent content service and Web services based application services development and deployment.*
- *Support targeted and personalized value-add services (subscription and on demand) to specific customer segments and communities.*

Create and maintain customer loyalty

- *Implement a consistent and differentiating user experience across your portfolio of content and application services.*
- *Take advantage of opportunities to leverage the capabilities of more sophisticated devices.*
- *Implement 'sticky' services that integrate tightly with your network and device management infrastructure, reducing opportunities for churn by your most valued customers.*

Opportunity to leverage the expansive application development community with WebSphere Studio

- *Leverage the WebSphere Studio toolkit familiar to thousands of developers who build WebSphere applications, as well as millions of Java and Web developers.*
- *Access IBM's content and developer ecosystem through participation at our premiere event, PartnerWorld.*

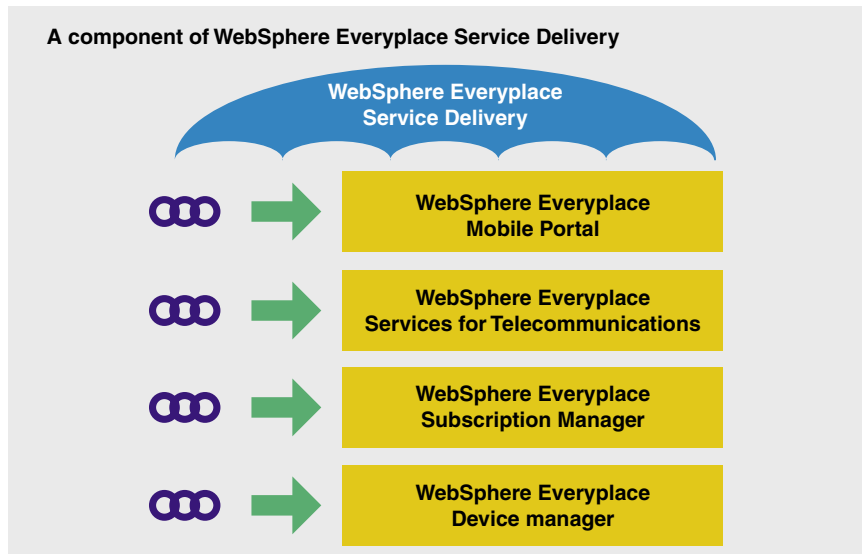### Opportunity to become part of the on demand value chain

- *Integrate processes end-to-end with key partners, suppliers and customers.*
- *Deliver services through a variable pricing model.*
- *Provide and manage an advanced communications infrastructure to support the on demand business.*

IBM WebSphere Everyplace Service Delivery — a family of offerings

WebSphere Everyplace Service Delivery consists of a family of offerings designed to facilitate content aggregation and presentation, network service delivery, and scalable and personalized management of large numbers of subscribers and devices.

WebSphere Everyplace Service Delivery offerings build upon the WebSphere software platform, the market and technology leading Web application environment. They build on this base by extending WebSphere Application Server and WebSphere Portal Server software to meet the specific requirements of telecom service providers. By building on the base of WebSphere software, WebSphere Everyplace Service Delivery offerings inherits a mature platform designed for scalability and availability, as well as a leading platform in the implementation of Internet standards, including Java and Web services.

A component of WebSphere Everyplace Service Delivery

WebSphere Everyplace
Service Delivery

WebSphere Everyplace
Mobile Portal

WebSphere Everyplace
Services for Telecommunications

WebSphere Everyplace
Subscription Manager

WebSphere Everyplace
Device manager

WebSphere Everyplace Mobile Portal — differentiating content services

WebSphere Everyplace Mobile Portal software is designed to implement compelling and personalized content with maximize flexibility by supporting a broad range of devices. It improves time to market by providing a Mobile Device Update service for the introduction of new devices and a development environment based on standard IT tools. WebSphere Everyplace Mobile Portal extends IBM WebSphere Portal Server software with technology to meet the requirements of mobile and wireless service providers.

With WebSphere Everyplace Mobile Portal, content services are developed independent of the specific device. Therefore, content developers can implement content services once, but the services can be presented on many different devices. This is accomplished by high performance rendering technology that translated the device independent content to the presentation capabilities of the specific device. Device independent content services are quicker and more cost effective to develop, resulting in differentiated services that get to market before the competition.

WebSphere Everyplace Mobile Portal supports the mobile portal navigation model that enables more usable and flexible navigation on mobile devices. It also offers additional capabilities to develop and manage a compelling and differentiating user experience across your content and application services.
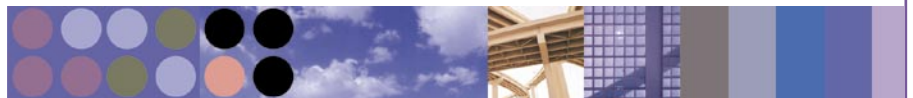
WebSphere Everyplace Services for Telecom — leveraging third-party developers

WebSphere Everyplace Services for Telecom software provides open, standards-based programming interfaces based on Java and Web services that enable telecom service providers to partner with third-party application developers on the delivery of innovative new application services. WebSphere Everyplace Services for Telecom extends IBM WebSphere Application Server software with an open programming interface to enable next-generation telecom services.

Through WebSphere Everyplace Services for Telecom, third-party developers gain access to network service capabilities like call control, voice messaging, text and multimedia messaging, location and presence. These network services can be leveraged by third-party developers to enhance existing applications or implement compelling new applications. Application services are implemented quickly and cost effectively by leveraging familiar IT tools for service creation.

With WebSphere Everyplace Services for Telecom, applications are developed independently of the underlying network and can support the PSTN, mobile, and IP networks. As a result, converged services leveraging fixed and mobile networks or voice and data networks can be seamlessly developed and deployed. The services are developed using industry standard interfaces, such as Parlay, Parlay-X Web services and Open Mobile Alliance (OMA).

WebSphere Everyplace Services for Telecom includes a flexible framework for service delivery, protecting your network assets while providing facilities to manage service levels, protect privacy, and report usage for billing and marketing purposes.
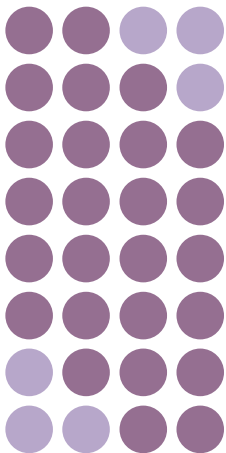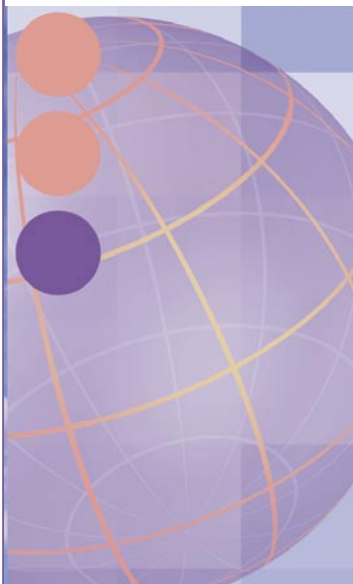
WebSphere Everyplace Device Manager — managing the device complexity

One of the biggest barriers to the adoption of innovative new data services is the complexity of provisioning and continuously managing devices. There are typically over 30 steps to configure a mobile phone to support Multimedia Messaging Services (MMS). WebSphere Everyplace Device Manager software is a platform designed to reduce the cost and complexity of managing mobile devices.

Through WebSphere Everyplace Device Manager, telecom service providers can manage a wide variety of devices, including mobile phones, personal digital assistants (PDAs), smart phones and notebook computers. Management functions provided by WebSphere Everyplace Device Manager include initial provisioning, device reconfiguration, real-time device inventory, software distribution and remote problem determination.

WebSphere Everyplace Device Manager is an integration platform designed to support existing devices, as well as the more sophisticated devices coming to market. It is a standards-based platform, supporting OMA, Open Service Gateway Initiative (OSGi), and Web services standards.

With WebSphere Everyplace Device Manager, time to market for new services is reduced through the ability to provision, distribute and manage the necessary software and configurations on the device from a central platform. In addition, your customer care costs are reduced by ensuring the devices have the appropriate supporting infrastructure required for the service. The result is increased customer confidence in your ability to support data services.

WebSphere Everyplace Subscription Manager — managing next generation services

WebSphere Everyplace Subscription Manager software is designed to support personalized services to large numbers of subscribers. It supports Internet, public wireless LAN, and mobile and broadband services. Pre-integration with leading access servers and aggregation devices allows service providers to extend the life of their network investments, and offer next-generation value-add services over multi-vendor networks.

WebSphere Everyplace Subscription Manager offers a mature, scalable, industry-proven subscriber and service management infrastructure. With the ability to support value-added fee-based services, it provides the infrastructure to increase revenue and profits, while improving customer service at a reduced cost.

WebSphere Everyplace Subscription Manager collects and stores customizable subscriber information, associates subscribers with their chosen services, initiates the provisioning process for service delivery, and automatically de-provisions services. In addition, it records usage information for delivery to your billing systems.

Features include the subscriber self-care to reduce customer support costs, pre-tested integration with leading NEP access servers for multi-vendor service mediation, Java™-based flexible service provisioning engine for customer extensibility, documented integration toolkit based on WebSphere programming model, integration with WebSphere Portal Server for personalization services, and support for authentication, authorization, and accounting systems through industry-standard interfaces.

Concentrate on a business strategy that allows you to expand your participation in the new value chain — without moving too far from your core competency. Learn where to focus and where to partner, and who to partner with. With WebSphere Everyplace Service Delivery, you can seize new growth opportunities, increase customer loyalty and maximize operational efficiencies.

Summary

Telecom service providers require innovative new revenue generating services to be successful in today's competitive marketplace. The right strategy for the implementation of a next-generation service delivery platform can help you become more responsive to your customers — enterprise and consumer — while reducing the cost and time in the development and delivery of new services. You can manage your service delivery environment as a common platform — and respond to your subscribers needs for voice and data services, for applications and content.

With WebSphere Everyplace Service Delivery, you have the opportunity to leverage the world's leading Web application platform. And with extensions designed to meet telecom service provider requirements, you can deliver personalized services to large numbers of subscribers, effectively manage large numbers of devices, and support open network interfaces based on open, industry standards.

The delivery of next-generation telecom services is not just about technology. It is about the process of participating in an expanding value chain for innovative new services — services that leverage the convergence of the world of telecom and IT.

For more information

To learn more about how your business can benefit from the next evolution in on demand business, contact your IBM representative or visit: **ibm.com**/pervasive

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