Overview

Helping Providers Capture the Promise of Fixed-Mobile Convergence

The world of business is no longer conducted within the four walls of an office building. You can conduct business while waiting for a flight at London's Heathrow Airport; driving on the Kennedy Expressway in Chicago; or sitting in a Starbucks in Guangzhou, China. Today, business is mobile and whether at home, in the office, or on the road, Mobile Office significantly increases employee accessibility and productivity.

With the introduction of the Cisco® and Accenture Fixed-Mobile Convergence (FMC) Mobile Office solution, operators can now provide seamless mobility to their enterprise customers by integrating mobile and enterprise voice and data networks into a single communications environment. Subscribers can quickly and easily set up customized profiles to specify how they want incoming calls to be treated, regardless of location or device.

Mobile operator benefits may include increased revenue in the enterprise market; new innovative service offerings, such as presence and location; flexible service bundles with unified billing; and lower support costs through user self-provisioning.

Single-Number Reach with Midcall Pickup

Mary, an employee of an enterprise that subscribes to the wireless operator's FMC Mobile Office service, calls Jose, a colleague in her company, by simply dialing his short extension number. The call generates a signal to the Personeta TappS software and identifies the call as belonging to Jose, a subscriber. TappS routes the call through the mobile network to the appropriate Cisco PGW 2200 Softswitch, checks Jose's profile and associated calling rules, and determines that the call should be sent to both his desk phone and his mobile phone simultaneously. The TappS server then instructs the Cisco PGW 2200 to initiate two new calls: one to the mobile phone and another to Jose's private branch exchange (PBX) extension in his office. Jose takes the call on his desk phone in the office. After a while he needs to leave for an appointment but wants to continue speaking with Mary. He presses ## on his desk phone, which instructs the FMC Mobile Office solution to hand over the call to his mobile phone. While Jose continues to talk to Mary on his desk phone, the solution instructs his mobile phone to ring. He answers the call on his mobile phone and continues to speak with Mary uninterrupted, while the solution automatically disconnects the desk phone from the call.

Fixed-Mobile Convergence

The concept of fixed and mobile convergence applies to devices, applications, service control, and networks. Converged devices can range from mobile phones with video cameras to dual-mode handsets supporting both Wi-Fi and cellular network connectivity and mobilizing applications such as e-mail, instant messaging, and customer relationship management.

At the service-control layer, platforms for policy, identity, session control, and billing management converge, creating an open framework to enable quadruple play (data, voice, video, and mobility). Fixed and mobile service provider access network types converge onto a common IP/Multiprotocol Label Switching (MPLS) infrastructure extending out to the access edge with technologies such as Wi-Fi, wireless mesh, and IP Radio Access Network (RAN). The "fixed" part of FMC is typically a wireless extension to a broadband access network, such as a Wi-Fi access point in a variety of settings, including home networks; enterprise IP networks; and hotspot access points in a coffee shop, airport, rail stations, and so on.

Accenture Service Architecture Extends to Dual-Mode Devices

Accenture's dual-mode service architecture enables subscribers to seamlessly use voice services from 2G/3G mobile networks, as well as Wi-Fi private and public networks, delivered with both IP Multimedia Subsystem (IMS) and IP PBX-based architectures. The FMC Mobile Office solution can be further extended by dual-mode handsets, which can provide the most convenient tariff to subscribers while preserving the existing PBX feature set.

Primary Elements of the Cisco and Accenture FMC Solution

- Cisco Service Exchange Framework for Mobile: Cisco PGW 2200 Softswitch, Cisco MGX® 8880 Media Gateways, Cisco AS5000 Universal Gateways, Cisco IP Transfer Point (ITP), and Cisco Session Border Controller.
- Application functionality is enabled by Personeta TappS Network Service Controller (NSC).
- Service architecture includes Accenture's planning, design, integration, and operational services for FMC.
- FMC Mobile Office applications include auto attendant, number translation, find-me/follow-me, midcall pickup, location-based routing, private numbering plan, abbreviated dialing, and Sim-ring.

Dual-mode devices enable the user to connect with the best access network with a single device, which is visible and accessible by the network as a single or multiple identity in a controllable manner. The target convergence architecture model, which enables the same services to be delivered on IP PBX-based architecture, has the following characteristics:

- **Devices:** Multimode devices with Session Initiation Protocol (SIP) clients. Device can be either site-based (i.e. PC, Set Top Box, game stations) or mobile (handheld, integrated in cars, etc).
- **Access:** 802.11/16 for LAN/campus areas and mobile (2G/3G) for outdoor areas.
- **Transport:** IP quality-of-service (QoS)-enabled network with border elements to manage quality and security.
- **Control:** SIP-based (IMS or IP PBX) implementation for fixed network; Global System for Mobile Communications/Universal Mobile Telecommunications Service (GSM/UMTS) circuit switched for mobile network.

Accenture will be setting up a showcase of the FMC Mobile Office in its Accenture Broadband Innovation Center (ABIC) located in Rome. As part of the solution, Accenture is using the Cisco PGW 2200 Softswitch, a voice-over-IP product created for service providers, and the TappS application provided by Personeta.

Accenture, Cisco, and Personeta Joint Agreement

The Cisco and Accenture FMC Mobile Office solution is the result of collaboration from Cisco, Accenture, and Personeta. The alliance was formed to create enabling technologies for service providers that offer value-added services within the emerging service delivery platform standard.

FMC Dual-Mode Device Support

Razia arrives early to a customer meeting and stops at a nearby coffee shop that has a Wi-Fi hotspot coverage area. While she waits, she uses her mobile phone to call Mike, the project's systems engineer, on her dual-mode mobile phone to discuss some critical points of the presentation. Razia's call is routed over the Wi-Fi network through the operator's VoIP network, which is facilitated by the Cisco Session Border Controller, the Cisco PGW 2200 Softswitch, and the Personeta TappS mobility application. Her call is routed to the mobile TDM network to Mike's mobile phone. When it is time for the customer meeting, Razia leaves the coffee shop still talking with Mike. As she is leaving the Wi-Fi area, a new call is established by the Cisco PGW 2200 and the Personeta TappS application over the mobile network, and TappS correlates the mobile call with the Wi-Fi call. After the mobile call is established, the Wi-Fi leg of the call is disconnected, and the phone conversation continues uninterrupted on the mobile network.

For More Information

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About Cisco

Since its founding in 1984, Cisco (www.cisco.com) has been a global leader in IP-based networking and video technologies. Today, the Cisco name is firmly associated with the Internet, as well as with the productivity improvements that Internet business solutions provide. With more than 48,000 employees worldwide, this tradition of innovation continues with industry-leading advanced technology products and solutions, generating US$28.5 billion in fiscal year 2006.

About Accenture

Accenture (www.accenture.com) is a global management consulting, technology services, and outsourcing company. Committed to delivering innovation, Accenture collaborates with its clients to help them become high-performance businesses and governments. With deep industry and business process expertise, broad global resources, and a proven track record, Accenture can mobilize the right people, skills, and technologies to help clients improve their performance. With approximately 140,000 people in 48 countries, the company generated net revenues of US$16.65 billion for the fiscal year ended August 31, 2006.

About Personeta

Personeta (www.personeta.com) is a leading developer of converged service creation and application solutions. The company's flagship product, TappS NSC, is a standards-based converged service creation and execution platform that enables service providers to rapidly implement FMC and multimedia services. It is currently deployed at leading service providers worldwide, delivering FMC and IP-enabled IN services over legacy and packet-based infrastructures. These solutions enable service providers to improve profitability by delivering IMS-ready converged services while using existing infrastructure. Additional information can be found at www.personeta.com.

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Printed in the USA

C22-402396-00 04/07