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Service Provider Enhanced Services Using the Avaya MPS 1000 Platform

Introduction

The Avaya Media Processing Server 1000 (MPS 1000) is a versatile, carrier-grade, next-generation enhanced services platform offering a range of revenue generating possibilities for service providers. Featuring rich application functionality, the Avaya MPS 1000 supports T1/E1, SS7, VoIP, SIP, along with other protocols, and is complemented by a full suite of user friendly service creation and management tools.

The Avaya MPS 1000 is designed to deliver non-blocking performance, mission critical resiliency and has been deployed and proven by leading service providers worldwide.

This product brief describes Avaya MPS 1000 applications designed to enhance the revenue streams of service providers.

Premium Rate Solutions

Information Services

The Avaya MPS 1000 is commonly used by service providers to offer information services. Examples include:

- Information Services/Audiotext – news, traffic information, stock quotes, sports results, and location based services
- Personal Information Management (PIM) Services – calendar/schedules, address book, reminders
- Surveys/Outbound Notifications/Billing/ Community alerts
- Speech Portals/Personal Concierge – speech activated services/front end to various information services/PIM information
- Televoting

Custom Ringtone Services

Custom Ringtone Services enables subscribers to define the ringtones callers hear when they make a call. Initially introduced as a mobile service, Custom Ringtone Services are now gaining popularity among wireline networks as well. And, while Ringtone was initially positioned as a consumer service, service providers are beginning to offer it to corporate customers who use it as part of their branding efforts.

Video Ringtones

As an extension of Custom Ringtone Services, the MPS 1000 can also be used to deploy Video Ringtones. This applies mainly to next generation/3G deployments where callers can initiate calls using SIP-enabled video phones or any 3G phoneset via a video gateway. With this service, subscribers can define a Video Ringtone to be sent to callers using appropriate devices each time they are called.

Lottery

Special offers can consist of a service or an add-on to existing services. For example, every 50th caller could receive a top-up of 100 free local calls. Callers who do not win can be directed to other services.

Avaya Hosted Solutions

Network/Hosted Self-Service

Many enterprises have deployed advanced self-service solutions to ensure timely call answering and to enable customers to engage in self-service transactions. Some businesses, however, cannot justify investment in their own self-service system. They consider owning a self service systems

to be expensive and difficult to manage and implement. Businesses such as these prefer to subscribe to network-based hosted self-service solutions and to use self service solutions to accelerate time to market for new services.

Flexible Call Manager

Flexible Call Manager enables hosted self-service to be delivered through a simple process of configuration rather than through traditional programming options that require self-service skill sets. Self service capabilities, ranging from basic to moderately sophisticated, can be made rapidly available to enterprise customers through this process and the enterprise customer can deploy and manage these capabilities using a Web browser. Without having to invest in a self-service infrastructure, the enterprise customer benefits by offering self-service and the carrier benefits because the enterprise customer can administer their own individual services.

Hosted Speech

Given the advancements in speech recognition technology, and increasing customer acceptance of self-service, many businesses are deploying speech-enabled self-service applications. To avoid the cost of initial investment in this technology, many businesses, such as service providers, have chosen to offer hosted speech services in conjunction with their own hosted self-service.

Speech Enabled Corporate Dialer

The Avaya Speech Dial solution is a speech-enabled call routing service that enables increased productivity and reduced cost through directory dialing. Its capabilities include a fully automated reception or personnel lookup function through which users can connect to any person or department within a corporate directory by speaking commands, including requests to be routed to the mobile or desk phone of the person they wish to reach.

Using centralized corporate directories, the system provides uniform first contact for customers, which reinforces corporate identity and branding. For the network operator, Directory Dialing enables the same service to be offered to multiple large corporate customers and provides potential revenue streams such as:

- Fee-for-service levied on corporate customers for service provision and administration. Their incentives include cost savings realized by not having to provision of their own staff and the ability to deliver a new and innovative service to customers and employees
- Increased revenue opportunity achieved by routing callers who fail to connect with the person they seek to an agent who manages the call based on branding requirements of the business the caller wishes to contact
- Retaining calls on the service provider's network as opposed to involving another network operator

Contact Center Solutions

Natural Language Routing (NLR)

Natural Language Routing enables enterprises, carriers and service providers to offer a new level of service through single number access versus a multitude of free phone numbers that correspond to different internal departments or services. Using Open Grammar Natural Language Speech Recognition, an organization can initiate an interaction by asking *"How can I help you today? Please tell me in a few words what you would like."* Key words and phrases are detected and the caller is routed to the appropriate destination. For example *"I want to pay my bills"* could direct a caller to a self service session during which the caller makes a payment. Or, the phrase *"My phone won't ring anymore"* could route a caller to a service agent along with a screen pop displaying the calling CLI or the customer's account number.

Network Routing

Network Routing enables service providers to direct calls to the contact center best able to handle the call. It load balances across contact centers and, because the call is handled in the network, it puts the service provider in a position to manage self-service requests on behalf of the company and to assess fees for network pre-routing.

Flexible Call Queuing

The Avaya Flexible Call Queuing solution delivers a range of advanced contact center queuing options including:

- Queue calls on self-service system until destination available

- Call-distribution strategies including round-robin (RR), last recently used (LRU), longest idle agent (LIA), priority, nth call, and percentage
- Maximum queue size/wait-time handling
- Limited support for agent-like destinations (each destination represents one agent) like login/logout, cleanup time after call, membership in multiple queues
- Support for queue announcements (music, queue position, etc.)
- Can be independent of telephony environment
- Real time statistics and call detail records (CDR)

Flexible Call Director

A caller to a contact center can be tracked for the duration of the call using the Avaya Flexible Call Director. This enables enhanced services such as:

- Cradle to grave CDRs, recording the call from where it started in the network to where it terminates (typically at the enterprise-level PBX by an agent)
- Post-call services that redirect callers to a self-service system for post-call announcements, surveys, or additional self service options
- Network follow-on call and call failure handling, enabling a caller to be returned to the self-service system for any event or condition

Flexible Call Director works by loading IN triggers on the network switch. It also enables the self-service system to do control transfers without tromboning.

PrePaid Solutions

PrePaid Services Platform

The Avaya Prepaid Services Platform (PSP) delivers a comprehensive, turnkey prepaid calling solution. With PSP, service providers can launch and manage multiple prepaid or postpaid multimedia products such as Internet, video and voice. Each service can be customized for a particular market segment with unique features, rating and recharging options. In addition to a broad range of standard capabilities, the PSP can be easily extended to adapt to unique business needs.

The data-driven architecture of the PSP offers unmatched application flexibility and enables customization and rapid deployment of new prepaid services. PSP runs on the Avaya MPS 1000 enhanced services platform, an open-systems based, robust and scalable service creation environment deployed by leading telecommunication organizations worldwide.

A sampling of the many advantages PSP offers includes:

- Turnkey solution for fast service deployment
- Fraud and security protection
- A wide range of administrative functions and reports
- Ability to offer a variety of enhanced services
- Utilization of standard OSI protocols to interface with external systems
- High availability options for database and telephony servers
- Standards based signaling – SIP, MFCR1/R2, SS7, ISDN, etc.
- Standards based data communications – TCP/IP, X.25, SDLC, etc.
- Scalable architecture
- World-wide service

Video Services

The addition of video to the Avaya MPS enables a range of new revenue generating services. For example, the MPS system can stream video to a caller or act as the controlling application to a video content server and, through speech controls, can enhance interaction with video services.

VideoMail

Avaya MPS VideoMail enables subscribers to record their own video greeting. When the subscriber is unavailable, the video call is terminated on the MPS. The MPS can store video mail into any email server for later retrieval via email, MMS or the subscriber ringing into the MPS for playback of video messages. This value-add service can terminate all video calls to increase call minutes.

Video Content Streaming

The Avaya MPS 1000 can provide streaming access to video stores by interfacing with video content providers like Real Networks. Whether it's watching the latest video music clips or highlights of last night's match,

the MPS can act as the access mechanism, checking the customer's CLI to ensure accurate billing and presentation of menu options and play controls.

Video Ringback or Branding

During ringing, the service provider can provide branding advertisements to the video caller. (Alternatively, see the Video Ringtones section.)

Video FAQ/Video Gallery

Enterprises are looking for creative ways to provide customer sales and services using video and Avaya MPS 1000 enables service providers help achieve these goals. For example, technical support provided in a video clip could "show and tell" how to assemble a chair or how to set up a server.

Note: The MPS 1000 video engine is SIP-compatible making it directly accessible from any SIP client. Today's 3G network can interface to the MPS through a video gateway. Based on the IMS standard, the Avaya MPS will be a core part of the next generation mobile network.

Service Activation Solutions

Central office switches offer a number of services such as call waiting, call forwarding, voicemail, last number redial, etc. Many of these services must be activated by a subscriber calling the service provider and an agent manually making this change. The MPS can automate these procedures by interfacing directly to the provisioning interfaces of multiple switches. A caller could, for example, say *"Can you please call forward my phone to my work number."* The MPS can store frequently used numbers and immediately use the caller's CLI and their previously-stored work number to complete this call forwarding request.

Services on other platforms (e.g., voicemail platform or Internet access subscription database) can also be activated, enabled, disabled, or configured via a customer-friendly speech application on the MPS through any MPS interface mechanism. Interfaces include XML, Java, Corba, HTTP, Socket, TCP/IP, Telnet, FTP and SQL + ODBC, among others.

Security Solutions

The MPS can use secure interfaces to subscriber databases to verify a caller's identity through background questions, password or PIN and/or Speaker Verification. Speaker Verification adds a level of security beyond that provided by Internet or live agent. Automated PIN activation, PIN reset and password changes can reduce costs. The MPS supports certain financial institution interfaces (e.g., for credit card transactions) and can enable purchasing or bill payment options.

Automatic Collect Call Solution

Collect call services are offered by many international carriers and telephone network service providers. To use this service, a caller from abroad first dials a local access number. Typically this call is routed to one of the service provider's operators who gathers required information, such as destination number, caller name, and name of called party. Next, the operator makes a separate call to the destination number, asks for the appropriate person and informs the person that a collect call has been requested. If the called party accepts the collect call, the operator connects the caller to the called party. Otherwise, the operator informs the caller that his collect call request has been rejected. If the destination number is busy, or the called party is unavailable, the caller is advised.

As collect call volumes increase, the number of operators must be increased which raises costs related to hiring, training, extra equipment and space. The ACC service helps businesses avoid such costs. While the ACC application is able to fully automate a collect call service, it is flexible enough to integrate with human operators by providing assistance to callers, as required.

Automated IDD Call Retry

Service providers lose potential revenue when callers hit a busy tone and do not attempt to retry or retry only once or twice. The Avaya MPS 1000 platform offers a network-based automatic redial feature enabling a caller to stay on the line while a retry is made. Alternatively, the caller can hang up and, once a ring tone is detected, the system can dial out to connect the caller.

Missed Call Notification

Avaya Missed Call Notification enables mobile subscribers to receive SMS notification of calls made to their phone when the phone is switched off or out of range -- without voice mail enabled. Missed call information is stored and combined until the customer's phone is accessible so that information about all missed calls can be sent in a single SMS.

Callback Solutions

Avaya Callback solutions are used by individuals while traveling for both mobile and fixed line access. For mobile callers, Unstructured Supplementary Service Data (USSD) technology can provide a more seamless user interface. While away, mobile callers will send a USSD message to "*111*6563808803#" for example, where "*111*" is the service identification and "6563808803" is the desired destination number. The Avaya MPS 1000 platform receives this request and makes the connection to both the destination number and the mobile subscriber. This saves the mobile subscriber money on otherwise expensive roaming IDD charges.

VPN Dial Plan

VPN Dial Plan is commonly requested by corporate customers. It enables customers to configure their private dial plan, which may include foreign destinations, to simplify communication between employees. The MPS 1000 platform can be used to provide complex number translation and routing rules.

International Toll Free Service (ITFS)

Within the Asia Pacific region, many companies operate their regional hotline/helpdesk in a major city and offer it as a toll free service within other countries in the Asia Pacific region. Advanced routing and number translation features are required to implement such services and can be effectively hosted on the MPS 1000 platform.

Personal Productivity Solutions

Operators are now targeting the SME market to replace their PBXs with centrally managed or hosted solutions. To make this an attractive proposition, hosted services need to surpass PBX features and applications. Speech driven services have been particularly successful in demonstrating to SMEs the value of hosted services. The services in the "Hosted Services" section combined with Personal Productivity Services give businesses the features and flexibility needed to make offices truly virtual.

Personalized IDD

Both fixed line and mobile users can subscribe to Personalized IDD. Subscribers begin by nominating a CLI as a means of identification then dialing the access number for the service and connecting to the Avaya MPS 1000 platform. Caller verification is accomplished via CLI and an optional password. Thereafter, the subscriber can use short codes or personalized network-based speed dial positions to dial out to desired locations. Codes can be provisioned over the World Wide Web. Discounts can be offered on a list of frequently used numbers.

Personal Call Manager

The Avaya Personal Call Manager consists of Call Divert and Call Screening functionality. Call Divert enables subscribers to divert calls to any number in a personal address book or a number the subscriber specifies. The self service system sends a MAP SS7 protocol request to the mobile network to forward the incoming calls to the defined number.

Call Screening enables the subscriber to take calls selectively. When the subscriber activates Personal Call Manager Call Screening, the self-service application asks the subscriber whose calls they wish to accept. The subscriber can choose to accept calls from anyone in their personal address book, or a number the subscriber specifies. The self service application also asks the subscriber where rejected calls shoud be sent. Rejected calls can be sent to mobile mail box, home answering machine, etc.

The self-service system sends a MAP request to the mobile network to forward all incoming calls to the self-service system. The application asks the subscriber if they wish to accept the call or reject the call. If the subscriber rejects the call, the self-service system routes the call to the subscriber's mail box or home answering machine. It is assumed that in the mobile mailbox scenario, the IVR will send a release code to the mobile switching center (MSC) and mobile operator will route the call to the subscriber's mailbox.

Personal Contact List

Avaya Personal Contact List offers speech activated dialing using the caller's personal contact list. The contact list can be an address book stored on Outlook, on a PDA, or on a Web server.

SpeechMail

The Avaya SpeechMail solution enables users to access email over the phone. The body of the email is read to the caller using text-to-speech. Audio attachments can also be played back.

SpeechCalendar

Avaya SpeechCalendar enables users to check appointments and can be synchronized with the company's Exchange calendar service. Users can choose to receive appointment reminders via phone call or SMS at or before the scheduled appointment.

SpeechConference

Avaya SpeechConference offers a speech enabled conference bridge facility that can work as an add-on module for SpeechDial or a standalone application. A caller can set up a conference bridge on an ad hoc basis from anywhere and with anyone within the company directory.

Caller ID is used to identify authorized SpeechConference users. Once authenticated, the user is prompted to speak the name of conference participants. SpeechConference places the user on the bridge then contacts each participant and transfers them into the bridge. Barge-in is enabled throughout the application.

The application can dial into any conference bridge facility using predefined DTMF pass codes for the chairperson and the participants. By default, the caller acts as the chairperson for the bridge. The application supports Corporate Directories of up to 50,000 entries. A self-service Web-based administration application is included.

Directory Assistance

Directory Assistance enables users to find a telephone number by speaking a name and address.

PostCode Finder

To find a zip or postal code, a user speaks an address by suburb and street.

Self-Service Library

Additional applications available from the Avaya Self-Service Library include:

- Auto Attendant
- Mobile Personal Assistant
- Speech Enabled Corporate Dialer
- Office Locator/Office Hours
- Frequently Asked Questions
- Full Automation for Change of Address (Speech Enabled)
- Schedule Appointments
- Forms Request
- Brochure/Catalogue Request
- Automated Fax-back of Forms/Brochures
- Voice Forms
- Voice Surveys
- Event-triggered Notification
- Order Placement by Product ID
- Order Status Inquiries
- Field Service Automation
- Fax on Demand Automation
- Outbound Campaign Automation
- Eligibility Verification
- Claim Status
- Benefits Information
- Prescription Refill
- Staff Scheduling
- Confirmation of Reservations
- Package Pickup
- Package Tracking
- Cargo Tracking and Tracing
- Pricing Inquiries
- Customer Account Inquiries
  - Account balance(s)
  - Pay by telephone
  - Request payment extension
  - Payment history
  - Request duplicate statement
  - Government
  - Motor vehicle registration
  - Driver license information
  - Road conditions
  - Video Services
  - Video messaging
  - Video portal (business or consumer)
  - FAQ video demos and tutorials
  - Video support services

Learn More

To learn more about the Avaya MPS 1000 contact your Avaya Account Manager, Avaya Authorized Partner, or visit us online at www.avaya.com.

About Avaya

Avaya is a global leader in enterprise communications systems. The company provides unified communications, contact centers, and related services directly and through its channel partners to leading businesses and organizations around the world. Enterprises of all sizes depend on Avaya for state-of-the-art communications that improve efficiency, collaboration, customer service and competitiveness. For more information please visit www.avaya.com.

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