

## Avaya Voice Portal

### Harness the Power of Self Service to Connect with Your Customers - and Lower Costs

#### Overview

A new paradigm in customer service is emerging – being defined by new generations of customers, social networking technologies, and historic economic challenges. Businesses face mounting pressure to do more with less, yet meet these rising customer expectations. In these times organizations need to deliver exceptional service to customers everywhere they appear. Every call, video, and message must be handled appropriately across the enterprise with tracking and reporting to guide business decisions.

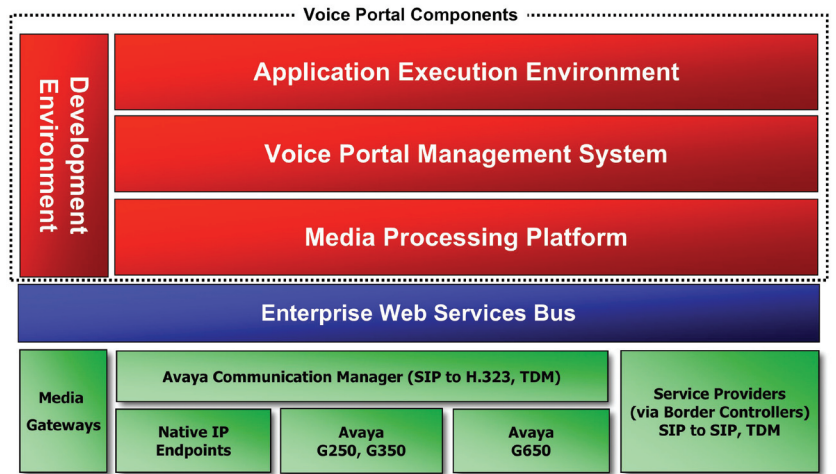


Figure 1: Key components of Voice Portal software. Voice Portal software was specifically designed for Service Oriented Architectures (SOA) running across today's IP Telephony based architectures.

Avaya is uniquely qualified to help businesses evolve to the next necessary step in enterprise communications. Avaya Voice Portal is a key enabling platform that can help you gain competitive advantage by;

- Empowering customers to connect to your enterprise whenever and wherever needed
- Increasing automation of services and support from a simple inbound inquiry to streaming video self help
- Optimizing use of enterprise self and assisted service resources to better serve your customers global
- Connect to customers with outbound automated calls for reminders, affinity marketing, and critical notification, all through discoverable Web Services interfaces.
- Improve caller satisfaction with natural language speech services
- Differentiate the customer self service experience with interactive voice and video services
- Lower management costs through IP Telephony based architectures that support high availability deployments without over provisioning and “failover” licenses typical in IVR deployments
- Lower integration costs through the support of IT Web Application Infrastructure with standards such as VoiceXML 2.1, CCXML, J2EE, Web Services and MRCP.
- Lower application development and lifecycle costs through support of touch-tone and speech application development based on Eclipse

#### Business Benefits

- Lower services costs with convenient 24/7 speech automation of routine call center and online transaction and inquiries like account balance, order status and inventory availability.

#### Components

Voice Portal supports Voice and Self Service applications within the enterprise information technology (IT) environment. The Avaya Voice Portal includes three primary software components:

- Media Processing Platform
- Voice Portal Management System including application reporting
- Application Execution and Design Environment

### Media Processing Platform

The Media Processing Platform (MPP) is a key component of the voice portal architecture and performs the following functions:

- VoiceXML 2.1 Voice Browser collects touch-tone, speech recognition, and video events, plays pre-recorded phrases and interfaces to support generation of synthesized text-to-speech, processes events, and generates events for call records.
- Interfaces to Avaya IP Telephony. Supports integrations to Avaya Communication Manager version 2.1 and later. Terminates SIP and H.323 integrations from Communication Manager and SIP servers and supports SRTP/RTP/RTCP (bearer channel) via the G.711 codec.
- Supports any TDM or IP infrastructure including ISDN, T1, E1, R2 and SS7 through SIP/RTP standards and through intelligent SIP gateway options.
- Interfaces to Avaya Contact Center infrastructure. Passes data such as Queue Position, Expected Wait Time, Dialed (Entered) Digits, etc. from Call Center Vectors for more intelligent and personalized self service response.

- Supports dynamic provisioning of concurrent VoiceXML sessions, IP Endpoint Registrations, ASR and TTS resources, and application data.
- Supports Media Resource Control Protocol (MRCP) to external Automatic Speech Recognition (ASR) and Text-to-speech (TTS) Resources from leading speech technology partners.

The Media Processing Platform runs on Red Hat Linux Enterprise Certified Hardware Platforms provided either by the customer or orderable through Avaya as the CSAD Common Server or Avaya Communication Manager Servers.

### Voice Portal Management System

The Voice Portal Management System (VPMS) provides an easy to use Web-based interface for all management functions.

VPMS provides centralized operations, administration, management and provisioning interfaces for the voice portal system. The VPMS supports management of multiple Media Processing Platforms to support virtually any number of concurrent VoiceXML “IVR” sessions across an enterprise. The VPMS also manages VoIP, application and Speech Resource provisioning across the Enterprise.

The Voice Portal Management System performs fail-over in case of loss of a media processing platform by reclaiming VoiceXML licenses and registrations from the affected MPP. It automatically redeploys those licenses and registrations to spare capacity (on provisioned server) or to a spare server offering businesses the highest levels of availability of mission critical customer self service applications.

VPMS includes a Simple Network Management Protocol (SNMP) Management Information Base (MIB) to external Network Management Systems such as IBM Tivoli or HP OpenView.

### Application Reporting

Voice Portal collects a rich set of call, session, and application record detail that can be presented within fully customizable web-based reports. Reporting includes detailed application reporting, automatic “breadcrumb” reports of a caller’s experience at every step of a self service interaction, plus transactional roll-ups. Application and caller information can be combined in unique ways with other external resources (“Web mashups”) such as overlaying caller detail report data with mapping data to see the geographical distribution of caller information for visual trends analysis.

Voice Portal also includes centralized reporting for multiple Voice Portal clusters to get an “Enterprise View” of all self-service capabilities whether across town or around the world. Multiple system management and reporting allow a single “cockpit” view into all live systems with operational indicators. Reports can extend across systems to create a holistic view of operational and business focused data.

Records are accessible through an open interface for integration into virtually any existing enterprise reporting system (such as Cognos, Crystal Reports, etc.) or information can be conveyed through Avaya IQ or Avaya Operational Analyst for cradle-to-grave reporting integration.

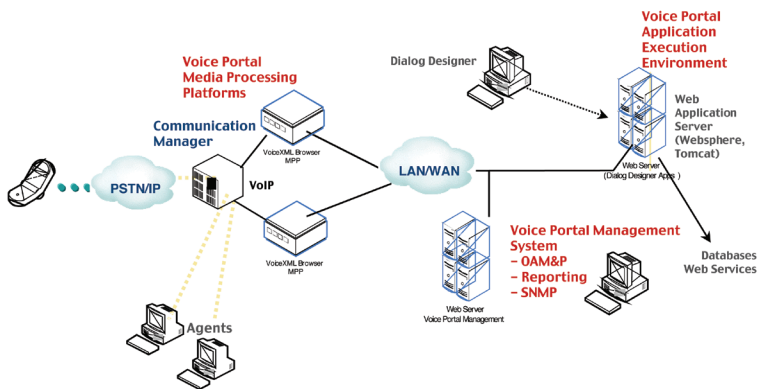


Figure 2: Unlike traditional Interactive Voice Response platforms, Voice Portal was specifically designed for deployment across distributed IP telephony based networks allowing businesses to more flexibly design, deploy, operate, and manage applications where there are existing skills and resources.

## Application Execution and Design Environment

Avaya Voice Portal working in conjunction with Dialog Designer offers application developers one of the most flexible, open, and cost effective application platforms today. Applications can be written in a number of ways based on the standard VoiceXML 2.1 and CCXML specifications. Businesses and independent software developers can create applications by hand-coding VoiceXML/CCXML, by using a custom code environment to write static VoiceXML, or can use an Integrated Development Environment to generate dynamic VoiceXML 2.1.

Avaya Dialog Designer is a complete Integrated Development Environment (IDE) allowing faster and less costly application design, coding, debugging, testing, simulation and deployment. Applications are designed using a graphical “drag and drop” metaphor allowing for rapid application development. Dialog Designer includes an embedded VoiceXML/CCXML browser allowing simulation of applications; the same VoiceXML browser is integrated within Voice Portal and Interactive Response offering developers an additional level of assurance that applications deployed will operate as expected.

Voice Portal combined with Dialog Designer offer advanced functionality in the following areas;

- Programmable Web services for outbound applications
- Fax and Answering Machine detection with “live person” and “beep” indications
- Multiparty conferencing
- Interactive Video and Voice response
- Advanced Call Handling

**Programmable Web services** — Outbound and event Web Services using CCXML support outbound notifications, alerts and confirmations. Web Services support provides a simpler integration point to other contact center applications including

Proactive Contact and Interaction Center. More important, the ability to publish Web Services and not just consume Web Services means that Voice Portal can be integrated in a enterprise application suite. Any Enterprise, Web, or ad-hoc application can include Voice Portal services. For example, a business process can acquire people (like a technician, field services technician, or resident expert) to accomplish a supporting task. Additionally, a simple Web Page (ASP, JSP, or PHP) might trigger applications such as notifications or trigger applications like dynamic conferencing. Services can be designed to dynamically adjust customer experience based on any information passed during the Web Service invocation.

**Fax and Answering Machine Detection** — Developers can design inbound and outbound self service applications so that faxes can be redirected to a designated fax server or outbound faxes or SMS messages can be delivered in support of the Self-Service experience. For outbound applications, developers can create self service applications that dynamically personalize call handling and

messages based on whether a person or answering machine is detected. By providing “beep” detection, a message can be left based on the initiation of message recording.

**Multiparty Conferencing** — CCXML based conferencing capabilities provide the ability to develop self service applications that can dynamically establish adhoc multi-party conferences based on self service or CEBP monitored events. Self service applications can be designed to gracefully bring in live assistance into a self service transaction when a caller may be having difficulty or even provide conferencing services on behalf of an assisted-service or business process event. (For example, providing a multi-party conference when a consultation is required)

**Interactive Video and Voice** — New devices and video media are changing communications and media expectations leading corporations to consider adoption of video. Voice Portal supports deployment of video self and assisted service including video kiosks, video self help, and interactive voice and video applications like

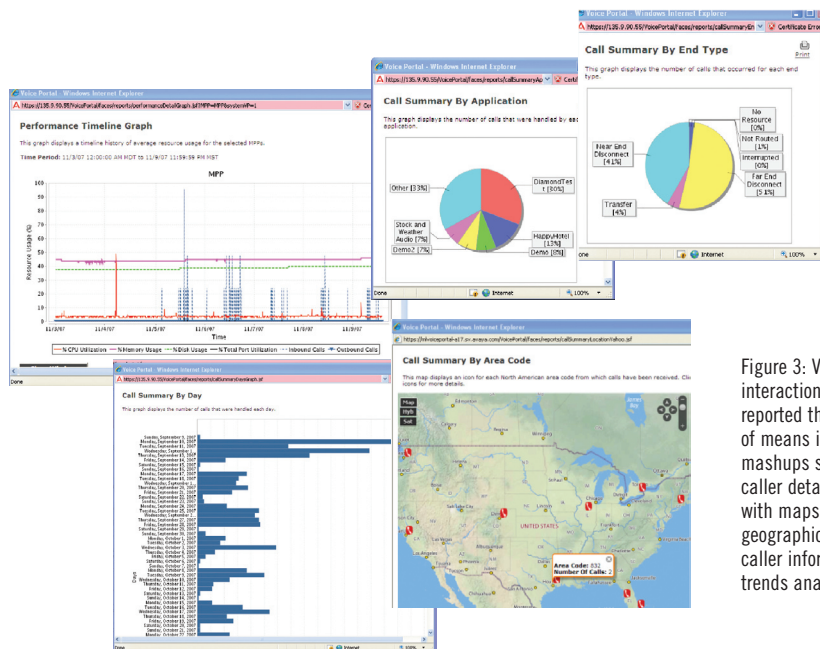


Figure 3: Voice Portal interaction data can be reported through a number of means including web mashups such as overlaying caller detail report data with maps data to see the geographical distribution of caller information for visual trends analysis.

personalized streaming video advertising to video enabled mobile devices. Applications include “store within a store” applications, delivery of Video Content and Self-help to Video Capable Mobile phones.

**Advanced Call Handling** — Allows advanced contact center functions to be delivered in a software platform for the first time. The latest Voice Portal enhancements allow platform deployment alongside Avaya Communication Manager ACD functions as a peer advanced routing and treatment options include:

- Terminate calls ahead of Communication Manager treatment with guaranteed Universal Call ID (UCID) generation consistent between Voice Portal and other Call Center elements

- Caller identification, determination of intent, and ability to select from multiple Contact Centers using real-time information for routing
- Treatment ahead of Communication Manager interaction with options for local treatment (music on hold, wait treatments) even when calls will be delivered overseas
- Predictive self-service based on expected waiting time in queue. By understanding expected wait times based on Avaya patented agent selection algorithms, Voice Portal can select a self-service application which accomplishes preparation work ahead of agent selection and handling allowing for faster resolution of customer issues at lower cost

- Provides detailed self service application, call, and session level reporting for end-to-end customer experience reporting
- Transport CTI information within SIP signaling paths, lowering complexity and costs while boosting reliability
- Reduce or eliminate costly pre-route and transfer-connect charges

## Learn More

For more information about how Avaya Voice Portal can support your business, please contact your Avaya Client Executive, Avaya Authorized BusinessPartner, or visit us on our Web site at [avaya.com](http://avaya.com)

## Features & Benefits

Feature	Benefit
Multimodal voice and video with embedded video server	Standardizes delivery of high impact, rich media application services that combine the use of visuals and video with the ease of speech recognition
Multimodal voice and video with embedded video server	Expands customer service options and reduces operating costs by streamlining design and delivery of both inbound/outbound voice/video self service applications
Unified self and assisted service management	Creates new possibilities for intelligent call routing and dynamic voice and video wait treatments that leverage contact center agent selection and availability information.
Multi-tenancy and roles base access	Increases economies and reduces operating costs and expenses
Customizable application data administration	Combines with roles based access to empower business users with ability to change self service data and behavior, such as allowing managers to self manage key parameters such as hours of operation, call announcements, or holiday greetings
Flexible, scalable voice and web-based architecture	Simplifies management, reduces operating costs, and ability to more effectively meet design, capacity, and cost or service requirements
Open standards-based	Lowers integration and support costs through use of existing expertise in Java and Web application development.
Common components and interfaces across platforms	Reduces application deployment risks, increases self service application portability, and ensures a consistent user experience.
Transferable software platform licensing	Preserve self service software investments. Interactive Response licenses under current maintenance contracts can be converted to Voice Portal licenses at no additional license cost.
Single point of management and reporting	Combines detailed application level reporting with true enterprise wide reporting and analytics through Avaya IQ to provide managers with a holistic understanding of systems, applications, and the user experience.

## 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](http://www.avaya.com).



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