

Avaya Agile Communication Environment™ (ACE) Toolkits

A powerful developer platform for the rapid creation of communications-enabled applications and business processes

Avaya Agile Communication Environment™ (ACE) simplifies the development of communications-enabled business applications for enterprise customers. Through a set of loosely coupled Web service application programming interfaces (APIs), Avaya offers communications services that developers with little or no telecom expertise can integrate with their own applications. These APIs allow delivery of communications services without developers having to contend with the underlying network infrastructure. The Avaya ACE platform also includes packaged adapters, which are computer telephony integration (CTI) software components for interfacing with a range of multi-vendor communications systems. In addition, Avaya ACE Foundation Toolkit supports the development of communications-enabled business solutions that leverage the specific communications capabilities of Avaya Aura™.

Avaya ACE Developer Toolkit

Web Service APIs

Web services are exposed as individual components and can be re-used for the development of several applications simultaneously. When combined with Avaya ACE packaged adapters, Avaya ACE enables applications to be created up to five times faster than before. Avaya ACE Web services are largely based on the open Parlay X standard. Web services description language packages (WSDLs) can easily be imported into the IT developer's preferred software programming environment such as Microsoft Visual Studio or Eclipse open source software development environment.

Multi-vendor Adapters

The Avaya ACE platform includes adapters for interfacing with and controlling the underlying network communication system infrastructure via SIP, JTAPI, TR/87 and some proprietary protocols. Multi-vendor systems are supported, including platforms from Avaya, Cisco, IBM, and Microsoft. These adapters are a key competitive differentiator as they enable IT developers to focus purely on the application without contending with each communication

system's protocols. They also enable the same application to be simultaneously extended to all users across a multi-vendor and/or multi-platform environment.

Avaya ACE Foundation Toolkit

Foundation Toolkit enables fine-tuned control of call flows and custom call treatments leveraging Avaya Aura architecture. Applications with pre-determined call flows that previously may have required core PBX software development can now be created quickly and easily by IT developers.

The Foundation Toolkit is comprised of the following components:

- Foundation Runtime Services is middleware deployed on an Avaya ACE server that sits between Avaya Aura™ Session Manager and the client applications. These services provide capabilities that support the development of sequenced and endpoint applications.
- The Foundation software development kit (SDK) includes client-side Java libraries that expose the Foundation Toolkit APIs. The APIs are used by client applications

to access capabilities provided by the Foundation Runtime Services. The SDK also includes sample applications that demonstrate use of the Foundation Toolkit API, with source code and documentation.

Sequenced Applications

A sequenced application is a communications workflow that follows a pre-determined path throughout the network. It is invoked in a predefined sequence during call set-up and may be one of a number of applications sequenced. The sequence is defined for both the originating (calling party) and terminating (called party) sides of the call. Session Manager routes incoming calls to each sequenced application on the originating side and then onto each application on the terminating side of the call before finally routing the call to the called endpoint. For example, a sequenced application could be written to help participants join conference calls. A call to a conference bridge is diverted to a conference helper application which is connected to Microsoft Exchange. The application reads out the name of the meeting, and enters any passcodes required to join the call.

Endpoint Applications

An Endpoint application is a client application that acts as the originating or terminating endpoint in a SIP call flow and has its own contact address. Avaya Media Server is provided as part of the Avaya ACE toolkits to enable the creation of custom endpoint applications, such as interactive voice response (IVR), conference bridges, and personal assistant (PA) type applications.

Positioning ACE with Avaya Aura™ Application Enablement Services

Avaya Aura AE Services is a CTI-based application development platform for Avaya Aura Communication Manager through its TSAPI, JTAPI and DMCC APIs. Although AE Services does support some basic Web services capabilities, developers are strongly encouraged to focus Web service-based development on Avaya ACE. Developers can continue to leverage AE Services for fine grained CTI-based applications that run on traditional Communication Manager configurations, as well as Communication Manager - Evolution Server configurations in Avaya Aura. Avaya ACE, including the Foundation Toolkit API, is ideal for applications that invoke communication services from multi-platforms and/or multi-vendors; for Web services-based development; and for applications leveraging Avaya Aura Session Manager or Communication Manager – Feature Server configurations.

Avaya DevConnect

The Avaya DevConnect developer and partner program offers a wealth of resources for the creation of communications-enabled business applications using Avaya ACE Toolkits. DevConnect members can access

Avaya ACE™ Web Services APIs	
Web Service	Description
Third Party Call Control (v2)	Initiate and manage a call between two communication endpoints.
Third Party Call Control (v3)	Used to create one party (e.g. to play audio announcements to the party) or multi-party calls. It can be used to add participants to a call to create an ad-hoc conference call.
Third Party Call Extensions	Used to perform additional call control functions including the generation of DTMF digits.
Call Notification	Notify various call events for incoming and outgoing calls including the call ID which can be used by the application to control the call.
Call Forwarding	Create an application that remotely manages call forwarding functionality on a device. The Web service allows you to specify the number to which calls are redirected.
Call History	Allows an application to retrieve call records for incoming calls and outgoing calls.
Terminal Location	Allows an application to obtain information about the physical location of a user's device.
Audio Call	Allows an application to add or drop audio content in an existing call, and to monitor delivery of the audio message.
Presence	Allows an application to obtain presence information about one or more users from an underlying communications infrastructure
System Monitoring	Allows a service client to monitor the health of Avaya ACE.
User Profile	Allows an application to create and manage user profiles on Avaya ACE.
Subscriber Management	Allow client applications to query ACE end user information.
Message Drop and Message Blast	Provides orchestration of audio recording and call control Web services to enable automation of voice recording and broadcasting of audio messages to specified recipients.

free resources, including Avaya software development kits (SDKs), educational and training resources, remote labs for prototyping Avaya ACE-based applications, and even free technical support on Avaya ACE Web services. Additional membership options include enhanced technical support and compliance testing program benefits for solutions leveraging Avaya ACE. Learn more at www.avaya.com/devconnect.

Packaged Applications

In addition to offering developers a software platform for custom applications development, Avaya ACE customers can license a suite of packaged applications that are plug-and-play. These applications,

spanning desktop, mobile and business process integration capabilities, are easy to order and implement. Avaya Professional Services and authorized Avaya Connect partners can customize packaged applications for the unique environment of each customer.

Learn More

For more information on how Avaya Agile Communication Environment™ can help your organization gain competitive advantage, please contact your Avaya Account Manager, an Avaya Authorized Partner, or visit www.avaya.com.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.



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06/11 • UC5084-03

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