Avaya Real-Time Speech Snap-in Reference

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Contents

Chapter 1: Real-Time Speech Snap-in description 7
Intended audience 7
Overview 7
Features of Real-Time Speech and Speech Services Snap-in 8
Language support 11
Real-Time Speech REST API 11
SpeechServices REST API 12
Real-Time Speech SDK 12
Chapter 2: Product requirements and compatiblity 13
Avaya product requirements 13
Deployment requirements 13
Chapter 3: Real-Time Speech Snap-in deployment 15
Real-Time Speech deployment process flow 15
Real-Time Speech deployment checklist 16
Key customer configuration information 17
Setting up the system 17
Establishing connections between Avaya Aura® Media Server and Avaya Engagement Development Platform 17
Creating a Real-Time Speech cluster 18
Configuring Speech Search Engine on Avaya Aura® Media Server 19
Station configuration for testing Real-Time Speech 19
Installing Real-Time Speech 19
Loading Real-Time Speech 19
Installing Real-Time Speech 20
Verifying a Real-Time Speech deployment 20
Adding Real-Time Speech to the Service Profile 21
Configuring global attributes 22
Configuring attributes for Real-Time Speech 22
Real-Time Speech attributes field descriptions 24
Real-Time Speech upgrade 26
Upgrade overview 26
Setting the preferred version for upgrades 26
Exporting and importing Real Time Speech queries 27
Upgrading the Real-Time Speech services 28
Real-Time Speech uninstallation and deletion 29
Real-Time Speech uninstallation overview 29
Uninstalling Real-Time Speech 29
Deleting Real-Time Speech 30
Chapter 4: SpeechServices Snap-in deployment 31

Installing SpeechServices Snap-in 31
Loading SpeechServices Snap-in 31
Installing SpeechServices Snap-in 32
Verifying a SpeechServices Snap-in deployment 32
Adding SpeechServices Snap-in to the Service Profile 33
SpeechServices Snap-in uninstallation and deletion 33
Uninstalling SpeechServices Snap-in 33
Deleting SpeechServices Snap-in 34
Chapter 5: RealTimeSpeechTasks Snap-in deployment 35
Installing RealTimeSpeechTasks Snap-in 35
Loading RealTimeSpeechTasks Snap-in 35
Installing RealTimeSpeechTasks Snap-in 36
RealTimeSpeechTasks Snap-in uninstallation and deletion 36
Uninstalling RealTimeSpeechTasks Snap-in 36
Deleting RealTimeSpeechTasks Snap-in 37
Chapter 6: Real-Time Speech Snap-in performance 38
Capacities and scalability 38
Dynamic Sequencing 38
Chapter 7: Real-Time Speech Snap-in licenses 40
License requirements 40
Configuring Real-Time Speech licenses 40
Chapter 8: Security 42
Security overview 42
Certificate-based authentication overview 42
Port utilization 43
Chapter 9: Troubleshooting 44
Alarms 44
Overview 44
Data grid space not available 45
Data grid operation exception 45
Subscriber endpoint failure 46
Speech search start failure 46
Speech search platform failure 47
Queries not available 47
Speech Services Platform not available 48
Logging 49
Real-Time Speech and SpeechServices log files 49
Automatic Speech Searches not triggered 50
Chapter 10: Additional resources 51
Documentation 51
Support 52

Chapter 1: Real-Time Speech Snap-in description

Intended audience

This document is intended for people who need to install, configure, and administer Avaya Real-Time Speech Snap-in (Real-Time Speech) and Speech Services Snap-in. This document contains specific information about this Snap-in. For an overview of the Avaya Engagement Development Platform, see the *Avaya Engagement Development Platform Overview and Specification*. For general information about Engagement Development Platform Snap-in deployment, see *Quick Start to Deploying Avaya Engagement Development Platform Snap-ins*.

Overview

Real-Time Speech Snap-in is an Avaya Engagement Development Platform snap-in that facilitates interactive speech searches on active voice calls. The snap-in provides a set of speech search services, accessed via an Application Programming Interface (API), that developers can use to build speech capabilities into communications and collaboration applications. This release focuses on the provision of real-time speech search as a function. Real-Time Speech runs on the Avaya Engagement Development Platform 3.1.1.

Real-Time Speech provides the following functionality:

- A standard REST Web Service API to provide access to Real-Time Speech Snap-in services.
- A developer SDK, including reference applications, that provides query management capabilities and demonstrates the use of the various elements of the snap-in REST APIs.
- Real-time speech search services that support complex search queries for voice calls.
- Speech search capabilities using the embedded speech search engine of Avaya Aura® Media Server.
- Call event services to enable the application of speech services for specific calls and call events.

Features of Real-Time Speech and Speech Services Snap-in

Real-Time Speech Snap-in provides RESTful web services that deliver the following services to clients:

Query management

Queries define the search terms that are applied to a call. Use the Query Manager API to create, update, or delete search queries. A simple query that does not make use of logical operators consists of one or more phrases that the user wants to search for. You can create a simple query using just a single phrase, for example, “Good morning, thank you for calling Avaya”.

Using the API, you can create complex queries using more than one search term with time-based or logical conditions. Complex queries can have hierarchy and utilize a set of logical operators to combine phrases together. Some operators support the use of a proximity attribute that make searches more precise. For example, an ALL operator specified with a proximity of 20 seconds will only return a match if the required operands and operators below it occur within the specified time.

You can also attach Meta-data, using key/value pairs, to individual phrases and concepts of a query in an ad-hoc manner. When a match event is generated for a phrase or concept that has associated Meta-data, the Meta-data key/value pairs will be included in the body of the match event. For example, Meta-data can be used by an application to identify the issues in a customer call and trigger a prompt for a supervisor to provide live feedback and assistance to the agent handling the call.

Additionally, the tags of all the queries undergoing a speech search will also be populated. You can apply tags to queries at the start of speech search to allow end users to choose which queries to apply to a given call. You can achieve this by using the tags and queryIds properties of the *dynamic tagging* and *query identification* feature. For example, if a speech search was started with multiple queries containing different tags, then the speech search match event only provides details about the exact query (queryId) and tag the match originated from.

You can create queries programmatically offline, using the REST APIs. All the queries are automatically persisted in the Engagement Development Platform database. You can create queries in multiple languages. For more information on supported languages, see *Avaya Real-Time Speech Snap-in Release Notes*.

Note:

Events are included in the “Speech Search Events” family. For more information on events supported, see the Events table .

Real-Time Speech search

Real-Time Speech search uses a speech search engine embedded in Avaya Aura® Media Server. To start a speech search on a specified call, invoke a start speech search request, passing the Unique Call Identifier (UCID) and the associated tags. For example, to start a speech search with all queries that have the *sales* tag, simply supply the *sales* tag in the request. You can search by each party or both the parties of the call. Alternatively, you can also run speech search on a mixed audio stream. You can stop the speech search on an active call.

Note:

Events are included in the “Speech Search Events” family. For more information on events supported, see the Events table .

Speech Services

The SpeechServices Snap-in also support Text to Speech (TTS) and Automatic Speech Recognition (ASR) features.

Use the TTS API to pass a text string for the required spoken audio. Use the ASR API to pass the grammar with the ASR request to the Nuance speech server to invoke an ASR session.

Note:

Events are included in the “Speech Services” family. For more information on events supported, see the Events table .

Event notification

You can subscribe or unsubscribe from speech search or call events. You can also subscribe or unsubscribe from events when queries have been added, updated and deleted. Use the Events API to subscribe or unsubscribe from different events such as call answered, call ended, speech search started, speech search stopped, speech search match and TTS and ASR events. You can subscribe to speech search or call events using the HTTP POST request. You must provide a callback URL where you want to receive notifications. To receive notification events, your application must provide an endpoint capable of receiving POST responses via HTTPs protocol from the Speech Search API.

The following events are supported by the Events API:

Table 1: Events

Event Name	Event Family	Description
CALL_ANSWERED	Call Events	The call is answered by the called party.
CALL_ENDED	Call Events	The call is terminated by either party.
CALL_OFFERED_FROM_CALLING_PARTY	Call Events	The calling party has placed a call.
OFFERING_CALL_TO_CALLED_PARTY	Call Events	The calling party has placed a call and it has been sequenced to the called party.
CALL_ALERTING	Call Events	The called party’s extension is ringing.
SPEECH_SEARCH_STARTED	Speech Search Events (Real-Time Speech Snap-in)	The speech search is initiated in the Engagement Development Platform.
SPEECH_SEARCH_STOPPED	Speech Search Events (Real-Time Speech Snap-in)	The speech search has stopped by either completing or by error.
SPEECH_SEARCH_MATCH	Speech Search Events (Real-Time Speech Snap-in)	The speech search has found a match.

Table continues…

Event Name	Event Family	Description
SPEECH_SEARCH_QUERY_CREATED	Speech Search Events (Real-Time Speech Snap-in)	A new query has been added to the system.
SPEECH_SEARCH_QUERY_UPDATED	Speech Search Events (Real-Time Speech Snap-in)	An existing query has been modified.
SPEECH_SEARCH_QUERY_DELETED	Speech Search Events (Real-Time Speech Snap-in)	A query has been deleted.
SPEECH_SEARCH_ERROR	Speech Search Events (Real-Time Speech Snap-in)	An error has occurred in the system.
SPEECH_RECOGNITION_STARTED	Speech Recognition (Speech Services Snap-in)	The start request has been passed to the VoiceXML interpreter for the specified call party.
SPEECH_RECOGNITION_EXITED	Speech Recognition (Speech Services Snap-in)	The VoiceXML interpreter has exited its execution of the vxml dialog. This happens as a result of a stop request or because there is a natural end to the dialog.
SPEECH_RECOGNITION_MIDCALL	Speech Recognition (Speech Services Snap-in)	Speech Recognition encountered a mid-call event. For example, a dialog has been started on 'both' parties, and is later stopped on one of the parties.
SPEECH_RECOGNITION_STOPPED	Speech Recognition (Speech Services Snap-in)	Speech Recognition was stopped explicitly by a stop request by a client service.
TEXT_TO_SPEECH_STARTED	Text to Speech	The start request has been passed to the VoiceXML interpreter for the specified call party.
TEXT_TO_SPEECH_COMPLETED	Text to Speech	The Text to Speech play was completed successfully.
TEXT_TO_SPEECH_STOPPED	Text to Speech	The play of text to speech was stopped explicitly by a stop request by a client service.

Avaya Engagement Designer Dynamic Tasks Support

You can enable real-time speech tasks in Avaya Engagement Designer by installing the RealTimeSpeechTasks snap-in. The RealTimeSpeechTasks snap-in is not required to utilize the TTS and ASR functionality in Avaya Engagement Designer. TTS and ASR are handled natively in Avaya Engagement Designer.

Note:

Currently, the TTS and ASR functionality provided by Avaya Engagement Designer and Engagement Development Platform is licensed via the Avaya Real-Time Speech Snap-in. To

use the TTS and ASR features of Avaya Engagement Designer and Engagement Development Platform, you must install and license Avaya Real-Time Speech Snap-in within their cluster.

For more information, see *Avaya Engagement Designer Snap-in Reference Release 3.1*.

Language support

The following languages are supported:

- Arabic (Saudi Arabia)
- German (Standard)
- English (United States)
- French (Standard)
- Dutch
- Portuguese (Brazil)
- Russian
- English (United Kingdom)
- Spanish (Mexico)
- Arabic (Egypt)
- French (Canada)
- Korean (South Korean - Seoul Region)

For the latest list of supported languages, see the *Avaya Real-Time Speech Snap-in Release Notes*.

Real-Time Speech REST API

Real-Time Speech gives you a set of RESTful web services that allow you to:

- Subscribe to speech search and call-related events.
- Remove a subscription to events.
- Receive notifications for speech search and call-related events.
- Receive notifications for updates made to queries.
- Start a speech search request for a call or a party on a call.
- Stop a speech search.
- Store speech search-related queries.
- Organize and access stored speech search queries using tags.

SpeechServices REST API

The SpeechServices Snap-in provides support for Automatic Speech Recognition (ASR) and Text to Speech (TTS) functionality based on Nuance technology. The SpeechServices Snap-in requires use of the Avaya Aura® Media Server and a Nuance Voice Server.

SpeechServices Snap-in delivers a REST interface for ASR and TTS.

Using SpeechServices Snap-in, you can:

- Start a speech recognition request.
- Stop a speech recognition request.
- Start a text to speech request.
- Stop a text to speech request.
- Trigger speech recognition and text to speech events.

Real-Time Speech SDK

The Avaya Real-Time Speech Snap-in SDK provides all the required resources (documentation and code examples) for an application developer to get started with Avaya Real-Time Speech Snap-in. The Avaya Real-Time Speech Snap-in ships two reference implementations *RealTimeSpeechSA (Sample Application)* and *RealTimeSpeechDashboard*. Both these implementations are available in form of two separate SVARs.

For more information, see the *Avaya Real-Time Speech Snap-in SDK* at http://www.avaya.com/DevConnect.

Chapter 2: Product requirements and compatiblity

Avaya product requirements

Install the following Avaya products before installing Avaya Real-Time Speech Snap-in:

Mandatory products

Product	Version
Avaya Engagement Development Platform	3.1.1
Avaya Aura® Communication Manager	6.3.6 and 7.0
Avaya Aura® Session Manager	6.3.8 and 7.0
Avaya Aura® System Manager	7.0
Avaya Aura® Media Server	7.7

Optional products

Product	Version
Avaya Aura® Application Enablement Services	6.3.3 and 7.0
Avaya one-X® Agent	2.5
Avaya Engagement Designer	3.1

VMware

Product	Version
VMware Virtualization Environment	ESXi 5.0, 5.1, or 5.5
vSphere client software	Depends on the version installed on VMware server

Deployment requirements

The Real-Time Speech Snap-in is deployed on the Engagement Development Platform and also requires Avaya Aura® Media Server. For more information, see *Avaya Engagement Development Platform Overview and Specification*.

Ensure you select Profile-1 when you deploy the Engagement Development Platform OVA with below specifications:

- Avaya Engagement Development Platform with 4 vCPU and 6 GB of RAM

Engagement Development Platform will support 4–12 CPU Cores, 6 GB to 27 GB of memory and 50 GB to 300 GB Disk.

Select Profile-2 with 8 GB of RAM when using Avaya Engagement Designer.

You also need Avaya Aura® Media Server with either VMware or hardware appliance.

Avaya Aura Media Server Requirements

The Avaya Aura® Media Server (AAMS) sits “behind” Avaya Engagement Development Platform to provide media services and is ordered via Engagement Development Platform. The Avaya Aura® Media Server is supported as both a virtualized server and an appliance offer. The virtualized server will run on the customer’s provided VM Ware environment (software only OVA). The new appliance offer delivers software pre-installed on hardware provided by Avaya and is suitable to customers looking to run higher capacity. The Avaya Aura® Media Server can be deployed as a standalone instance or in a highly available N+1 architecture, where N is the number of Avaya Aura Media servers.

The following are the options available for hardware appliance:

- Small R220XL AAMS 7.0 Appliance Server
- Large DL360G9 AAMS 7.0 Appliance Server

Note:

The Avaya Aura® Media Server should be either all virtual, or all hardware, and not both.

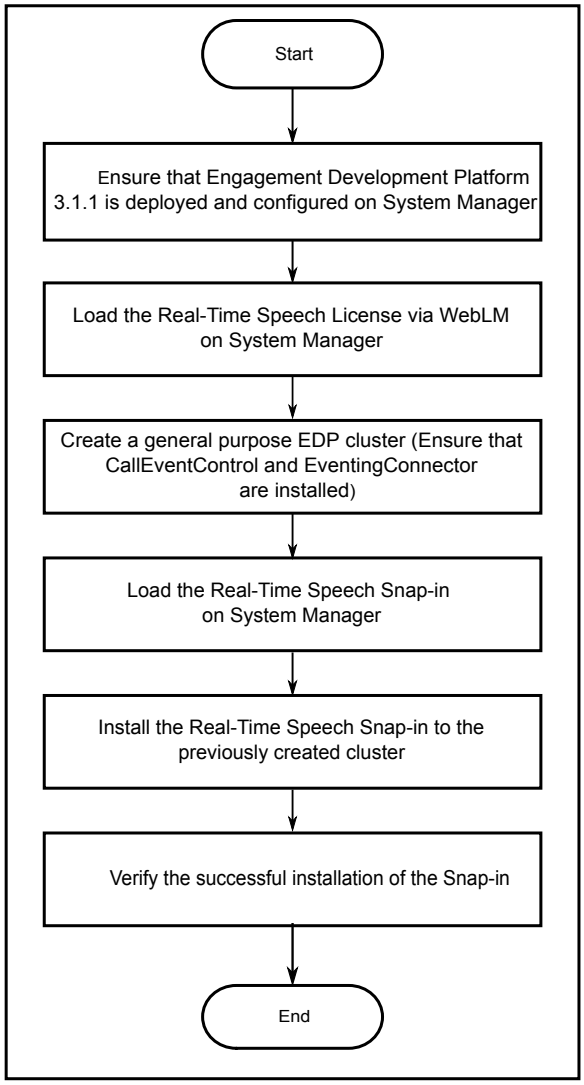
The following tables shows the minimum Avaya Aura® Media Server requirements:

VMware Version	ESXi 5.x
CPU Core(s)	4 floating cores
CPU reservation	9600 MHz = 4x2400 MHz
Memory reservation	6.0 GB
Storage reservation	50 GB (Thin)
Shared NIC(s)	Two @ 1000 Mbps

An Avaya Aura® Media Server license entitles a customer to one instance of Avaya Aura® Media Server. When licensed via Engagement Development Platform configuration, Avaya Aura® Media Server can only be used for Engagement Development Platform media services like playing announcements and speech services.

Chapter 3: Real-Time Speech Snap-in deployment

Real-Time Speech deployment process flow



Real-Time Speech deployment checklist

No.	Task	Notes	✔
1	Ensure that Avaya Aura® System Manager is running.	None.	
2	Ensure that Avaya Aura® Session Manager is running.	None.	
3	Ensure that Avaya Aura® Communication Manager is running.	None.	
4	Install and configure the Avaya Engagement Development Platform server.	None.	
5	Create a Real-Time Speech cluster.	Assign a Engagement Development Platform server to the Real-Time Speech cluster. **Note:** When you administer a new Engagement Development Platform server, you must add the server to a cluster. If not, the Engagement Development Platform asset is not usable.	
6	Configure the Speech Search Engine on Avaya Aura® Media Server.	None.	
7	Configure a station for Real-Time Speech.	None.	
8	Install a WebLM license for Real-Time Speech on System Manager.	None.	
9	Download the Real-Time Speech Snap-in, RealTimeSpeechTasks Snap-in and SpeechServices Snap-in from Product License and Delivery System (PLDS).	The Real-Time Speech Snap-in services are available as Service Archive (SVAR) zip files in PLDS. **Note:** Do not add any space between the file name and the service name while saving the SVAR file.	
10	Load the Real-Time Speech SVAR file in System Manager.	None.	
11	Install Real-Time Speech.	The CallEventControl and EventingConnector Snap-ins are loaded by default when you install Engagement Development Platform.	
12	Verify the installation.	None.	

Table continues…

No.	Task	Notes	✔
13	Add the Real-Time Speech Snap-in to the Service Profile.	None.	
14	Configure attributes for Real-Time Speech.	None.	
15	Configure alarms on System Manager.	None.	
16	Configure application sequencing, including the implicit user rules on System Manager.	None.	

Key customer configuration information

You need the following information to install and configure the Real-Time Speech Snap-in services. Record your values and notes in this worksheet before beginning the installation.

Requirement	Your value	Notes
The names of the Real-Time Speech SVAR files that are available on PLDS		
The location of the Real-Time Speech SVAR files that you downloaded from PLDS		
The cluster name		
The configuration attributes of the Real-Time Speech services		

Setting up the system

Establishing connections between Avaya Aura® Media Server and Avaya Engagement Development Platform

Ensure that the HTTPS connections between Avaya Aura® Media Server and Avaya Engagement Development Platform are correctly configured. For more information, see the “Configuring connection security options” and “Importing a trust certificate to the trust store” sections of *Administering Avaya Media Server 7.7* .

For more information on exporting a trusted certificate, see the “Managing security” section of *Administering Avaya Aura® Session Manager-release 7.0*.

Important:

Uncheck “Verify Host Name” on Avaya Aura® Media Server after importing the CA certificate into Avaya Aura® Media Server from the Avaya Engagement Development Platform instance where Real-Time Speech is deployed.

Creating a Real-Time Speech cluster

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Cluster Administration**.
3. On the Cluster Administration page, click **New**.

   The system displays the Cluster Editor page.
4. In the **Cluster Profile** drop-down list, select the **General Purpose** profile.

   The system refreshes the Cluster Editor page and populates the profile attributes.

   Note:

   You cannot select a new profile without canceling the page.
5. In the **General** tab, type the details in the following fields:
   a. **Cluster Name**: The unique name of the cluster.
   b. **Cluster IP**: The cluster IP address. The cluster IP address is mandatory if you enable the load balancer.

      For information on setting up the load balancer, see *Administering Avaya Engagement Development Platform*.
   c. **Description**: The description of the cluster.
6. In the **Servers** tab, in the **Unassigned Servers** table, click the plus sign (**+**) next to the **Name** column to add the Engagement Development Platform server to the cluster.

   If the server is assigned to another cluster, remove the server from the existing cluster before you add to the Real-Time Speech cluster.
7. In the **Services** tab, select the services to install on all servers in the cluster.
8. Click **Commit** to create the cluster.

   On the Cluster Administration page, the **Service Install Status** field displays a green check mark after the cluster is successfully created.
9. **(Optional)** To view the Engagement Development Platform instances in the cluster, click **Show** in the **Details** column of the cluster.

   The system displays the members of the cluster and the status of each instance in the cluster.

10. **(Optional)** To view the details of the Snap-ins installed on that instance, click a specific Engagement Development Platform instance in the cluster.

Configuring Speech Search Engine on Avaya Aura® Media Server

Before you begin

Get the user name and password for the Element Manager interface from the administrator.

Procedure

1. Log on to the Avaya Aura® Media Server web interface.
2. In the left pane, click **System Configuration** > **Media Processing** > **General Settings**.
3. On the General Settings page, click the **Aurix Speech Search Engine** link.
4. In the Aurix Speech Search Engine section, ensure the **Enable AURIX SSE Real-time Interfaces** feature is enabled. If the feature is disabled, select the **Enable AURIX SSE Real-time Interfaces** check box.
5. In the left pane, click **System Status** > **Element Status**.
6. On the Element Status page, click **Restart**.

Station configuration for testing Real-Time Speech

You must configure either SIP or H.323 types of endpoints to test Real-Time Speech search. For information about endpoint configurations, see *Avaya Engagement Development Platform Call Intercept Services* at https://support.avaya.com.

Installing Real-Time Speech

Loading Real-Time Speech

Before you begin

- Install a WebLM license for Real-Time Speech on System Manager.
- Download the Real-Time Speech Snap-in services from PLDS.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.

3. On the Service Management page, click **Load**.
4. In the Load Service dialog box, click **Browse** and select the `RealTimeSpeech<version>.svar` file.

   The system displays the `RealTimeSpeech<version>.svar` file in the **Local PC** text field.
5. Click **Load**.

   System Manager checks the licensing of Real-Time Speech. On successful validation, System Manager displays the Accept End User License Agreement dialog box.
6. Click **Accept**.

   System Manager adds the Real-Time Speech Snap-in to the list of services.

Related links

Configuring Real-Time Speech licenses on page 40

Installing Real-Time Speech

Before you begin

- Load the Real-Time Speech Snap-in.
- Ensure that you know the cluster name to install the Real-Time Speech Snap-in.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.

   The system displays the Service Management page.
3. In the services name list, select the Snap-in that you want to install, and then click **Install**.

   The system displays a list of cluster names in the Confirm Install services dialog box.
4. Select the cluster name to install the Real-Time Speech Snap-in, and then click **Commit**.

   The system starts installing the service and changes the state of the service to `Installing`. After installation, the system changes the state to `Installed`.

Verifying a Real-Time Speech deployment

Procedure

1. Open a web browser.
2. Navigate to:

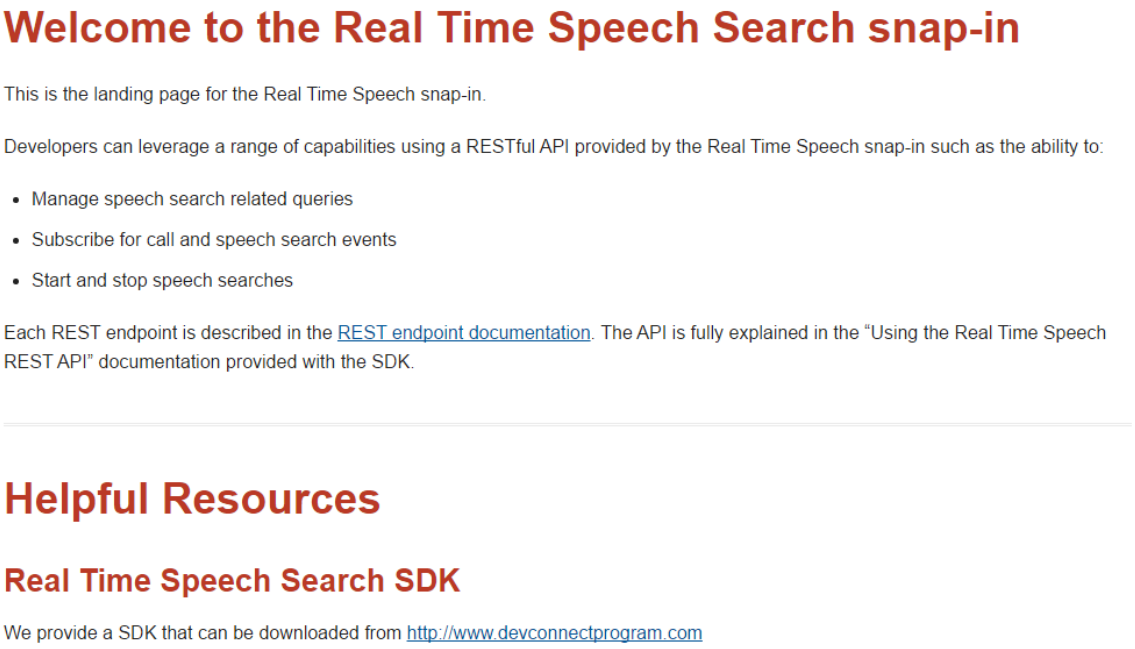
   `https://<EDP_CLUSTER>/services/RealTimeSpeech/`

where <*EDP_CLUSTER*> is the IP address of the Real-Time Speech cluster where the service that you want to verify is running.

Note:

Provide the Engagement Development Platform Entity IP address. Engagement Development Platform has two addresses, but the service is only available on the Entity IP address.

The system displays the following landing page:



Adding Real-Time Speech to the Service Profile

Before you begin

Install Real-Time Speech Snap-in or service.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. On the Server Administration page, click **Configuration** > **Service Profiles**.
3. On the Service Profile Configuration page, select the service name that you want to add to the Service Profile page.
4. Click **Edit**.

The system displays the Service Profile Editor page.

5. In the Available Service to Add to this Service Profile section, perform one of the following actions:
   - In the Add to Service Profile list, click the plus sign (**+**) next to the snap-in to add the latest version of the service.
   - In the Add to Service Profile list, click **Advanced** next to the snap-in name to choose the Preferred version of the service.
   - In the Add Service - Advanced dialog box, select the Preferred version of the service. The system adds the selected version of the service in the Services in this Service Profile section.
6. Click **Commit**.

Next steps

Once you install the Real-Time Speech Snap-in, check the Service Profile to make sure that the snap-in is configured.

Configuring global attributes

About this task

Configuring values for the Real-Time Speech Snap-in is a one-time activity.

Procedure

1. On the System Manager Home page, in **Elements**, select **Engagement Development Platform** > **Configuration** > **Attributes**.
2. Click the **Service Globals** tab.
3. From the **Service** drop-down menu, select the service that contains the attributes you want to configure.

   The table displays all the attributes that you can configure for the service, including a description of each attribute.
4. For the attribute you want to change:
   a. Click **Override Default**.
   b. In the **Effective Value** field, enter the new value or string.
5. Click **Commit** to save your changes.

Configuring attributes for Real-Time Speech

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.

2. On the Server Administration page, click **Configuration** > **Attributes**.

   The system displays the Attributes Configuration page.

3. Configure attributes on the following tabs:

   - **Service Profiles:** The attributes used by all Real-Time Speech Snap-ins that are part of the service profile that you select. For users of snap-ins on that profile, Service Profile attributes overrides both, the global and the cluster snap-in attributes.
   - **Service Clusters:** The attributes are used by all Real-Time Speech Snap-ins that are part of the cluster that you select. For users of snap-ins on that cluster, cluster attributes override global attributes, but not Service Profile attributes.
   - **Service Globals:** The attributes are used by all occurrences of the Real-Time Speech Snap-ins except when overridden by attributes administered for a specific cluster or Service Profile.

4. To configure attributes for **Service Profiles**, click the **Service Profiles** tab.

   a. In the **Profile** field, select the service profile where the Snap-in is installed.

   b. In the **Service** field, select the service name as **RealTimeSpeech**.

      The system displays a list of attributes that you can configure.

   c. In the **Override Default** column, specify the attributes by selecting the corresponding check box.

   d. **(Optional)** In the **Effective Value** column, change the value of the attributes.

      You can always restore the default by clearing the **Override Default** box.

5. To configure attributes for **Service Clusters**, click the **Service Clusters** tab.

   a. In the **Cluster** field, select the cluster where the Snap-in is installed.

   b. In the **Service** field, select the service name as **RealTimeSpeech**.

      The system displays a list of attributes that you can configure.

   c. In the **Override Default** column, specify the attributes by selecting the corresponding check box.

   d. **(Optional)** In the **Effective Value** column, change the value of the attributes.

      You can always restore the default by clearing the **Override Default** box.

6. To configure attributes for **Service Globals**, click the **Service Globals** tab.

   a. In the **Service** field, select the service name as **RealTimeSpeech**.

      The system displays a list of attributes that you can configure.

   b. In the **Override Default** column, specify the attributes by selecting the corresponding check box.

   c. **(Optional)** In the **Effective Value** column, change the value of the attributes.

      You can always restore the default by clearing the **Override Default** box.

7. Click **Commit** to save the configuration.

Related links

Real-Time Speech attributes field descriptions on page 24

Real-Time Speech attributes field descriptions

Real-Time Speech supports automatically starting a speech search. When a call is answered, and “Enable Automatic Start of Speech Search” is “true”, then a speech search request is initiated based on the configured “Search Language” and “Search Tags” attributes. It uses the configured “Search Language” and “Search Tags” to retrieve relevant stored queries.

All the attributes in the following table are applicable only to the Automatic Start of Speech Search:

Warning:

Since there is no validation of attributes, users must ensure they enter the values exactly as described.

Name	Description	Default value
Call Party Target	Determines the call party to use for the speech search. The following four types of call party are supported: • called: Indicates that the speech search is started on the called party of the call. • calling: Indicates that the speech search is started on the calling party of the call. • both: Indicates that two speech searches are started on both the calling and called parties on the call. • mixed: Indicates that a single speech search is started with a shared stream for the calling and called parties on the call.	both
Enable Automatic Start of Speech Search	Automatically starts speech search for calls. The valid entries are true and false. **Note:** Set the value to true if you want to automatically start speech searches on all calls sequenced with the snap-in.	false
Search Language	Specifies the language used by speech search. This is a required value for automatic speech search. This is one of the Real-Time Speech supported languages. For example, en_US.	en_US

Table continues…

Name	Description	Default value
	Note: Use the ISO 639 alpha-2/alpha-3 language code. For more information about the supported languages and their codes, see *Real-Time Speech Snap-in Release Notes*.	
Search Tags	Specifies a comma-separated list of tags to use when starting a speech search. This is a required value for automatic speech search. Search tags are used to retrieve stored queries from the system. For example, the “sales, support” set of tags retrieves any queries tagged with either sales or support that also match the configured “Search Language”.	
Match Reporting	Determines the level of reporting for speech search match events. This is an optional attribute. The valid values are: • all: Reports every matched phrase and concept as speech search events. • summary: Reports only top-level concepts and phrases as speech search events.	all
Application Identifier	Specifies the application identifier that is returned in all speech search events related to the search. This is an optional value.	

The following attributes are applicable to the Media Server Configuration:

Name	Description	Default value
Enable Media Server Shuffling	Determines if the Media Server is dynamically brought into the call as needed for a speech search, or always setup for every call even if speech search is not initiated. It is enabled by default, and therefore the Media Server is brought into the call as needed. The valid values are true, false.	true

Warning:

Systems having Real-Time Speech 3.0 installed will show duplicate entries for the attributes.

Related links

Language support on page 11

Real-Time Speech upgrade

Upgrade overview

To upgrade a Real-Time Speech Snap-in service in Engagement Development Platform, you must install a new version of the Snap-in service.

You can upgrade by using the preferred version or the latest version option.

Note:

Upgrading Real-Time Speech Snap-in is an optional activity.

Preferred version

When you deploy a new version of the Real-Time Speech service, the previous version of the service continues servicing the REST requests. To bring the newly deployed SVAR into service, you must set the newer version as the preferred version on the **Engagement Development Platform** > **Service Management** page. For more information, see *Setting the preferred version for upgrades*.

Latest version

When you deploy a new version of the Real-Time Speech service, the new version of the Snap-in service starts servicing the REST requests automatically.

When you deploy a Real-Time Speech service in a new Engagement Development Platform instance, the service is set to **latest** by default.

The system does not display the **latest** value in the **Engagement Development Platform** > **Service Management** page. If you do not set any version as the preferred version, the system uses the latest version value.

When a version is set as the preferred version, the system does not give the option to set the latest version in the **Service Management** page.

Related links

Setting the preferred version for upgrades on page 26

Setting the preferred version for upgrades

Before you begin

Install the Snap-in service on Engagement Development Platform.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. Select the service that you want to set as the default version.

4. Select **Set Preferred Version**.

   The system displays the list of clusters.

5. Select the clusters for which you want to set the preferred version.
6. Click **Commit**.

   The **Preferred Version** column displays the clusters for which you have set the preferred version.

7. Verify whether the updated service can service requests successfully. For more information, see *Verifying a Real-Time Speech deployment*.

Related links

Verifying a Real-Time Speech deployment on page 20

Exporting and importing Real Time Speech queries

About this task

Use this procedure to export and import queries while upgrading from Real-Time Speech 3.0 to Real-Time Speech 3.1:

Before you begin

Ensure you have Real-Time Speech 3.0.x installed.

Procedure

1. Export the existing queries from Real-Time Speech 3.0.x by using the Queries Export REST API or the export mechanism provided by the Sample Application. For more information, see *Real-Time Speech 3.0 SDK* documentation.
2. Uninstall Real-Time Speech 3.0.x snap-in and Sample Application 3.0.x.
3. Reboot the Engagement Development Platform instance.

   Important:

   You must have Engagement Development Platform 3.1.1 installed before upgrading Real-Time Speech snap-in.

4. Load and Install Real-Time Speech 3.1.0 and Sample Application 3.1.0
5. Import the queries into Real-Time Speech 3.1.0 by using the Queries Import REST API or the import mechanism provided by the Sample Application. For more information, see *Real-Time Speech 3.1 SDK* documentation.

Upgrading the Real-Time Speech services

Before you begin

Note:

You must have Engagement Development Platform 3.1.1 installed before upgrading Real-Time Speech snap-in.

To ensure that queries are not lost, export the queries via the REST interface.

Select the latest or preferred version on the **Service Management** page.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. On the **Service Management** page, click **Load**.
4. Click **Browse** next to **Local PC** to locate the latest Real-Time Speech service (.svar), and then click **Open**.

   The latest Service Archive (svar) file is available in PLDS.
5. In the Load Service window, click **Load** to load the Real-Time Speech service.
6. On the End User License Agreement (EULA) page, click **Accept**.

   The Service Management page displays the service with the `LOADED` state.
7. To install the latest version of the Real-Time Speech service, perform one of the following steps:
   - On the **Service Management** page, select and install the latest version of the Real-Time Speech service.
   - On the **Cluster Administration** page, edit the cluster to select and commit the latest version of the Real-Time Speech service.
   - If you set the preferred version option for a service, the service continues to service the requests. The new service version comes in to service only after you set the new version as the preferred version option in the **Service Management** page.
   - If you do not set the preferred version option for the service in the cluster, the newly deployed version comes in to service after successful deployment.
8. Verify if the services are installed successfully. For more information, see *Verifying a Real-Time Speech deployment*.
9. **(Optional)** Uninstall the previous version of the service.
10. **(Optional)** Delete the previous version of the service.

Next steps

Re-subscribe for events related to the new version of the snap-in. The existing subscriptions will not work when the snap-in version changes.

Related links

Verifying a Real-Time Speech deployment on page 20

Real-Time Speech uninstallation and deletion

Real-Time Speech uninstallation overview

The options are:

- Uninstall a service Snap-in: When you uninstall a service, the system does not remove the attributes from the Engagement Development Platform Postgres database. For more information, see Uninstalling a Service Snap-in on page 29.
- Delete a service Snap-in: When you delete a service, the system removes the attributes from the Engagement Development Platform Postgres database. For more information, see Deleting a Service Snap-in on page 30.

Uninstalling Real-Time Speech

About this task

When you uninstall a service, the system does not remove the attributes from the Engagement Development Platform Postgresql database. The system preserves the DataGrid and the entries written to spaces until the lease time expires.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Cluster Administration**.
3. On the Cluster Administration page, select the check box for the cluster and then click **Edit**.
4. On the Cluster Editor page, perform the following steps:
   a. Click the **Services** tab.

      The system displays the list of services installed in the cluster.

   b. Click the **X** icon for the service that you want to uninstall.
   c. Click **Commit**.

5. To verify that the service is uninstalled, click **Elements** > **Engagement Development Platform** and perform the following steps:
    a. On the Server Administration page, verify that the **Service Install Status** for the service is **Uninstalling**.
    b. On the Service Management page, verify that the **State** of the service is **Loaded**.
    c. On the Cluster Administration page, Click **Show**. Click the required server, and verify that the Service Status page does not display the uninstalled service.

Related links

Deleting Real-Time Speech on page 30

Deleting Real-Time Speech

Before you begin

Ensure that the Real-Time Speech Snap-in is uninstalled. For more information, see *Uninstalling a Service Snap-in*.

About this task

When you delete a service, the system removes the attributes from the Engagement Development Platform Postgresql database. The system preserves the DataGrid and the entries written to spaces until the lease times expire. Entries such as **Property** do not expire.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. On the Service Management page, perform the following steps:
    a. Verify that the **State** of the service is **Loaded**.
    b. Select the service that you want to delete, and then click **Delete**.
    c. In the dialog box, select the **Please Confirm** check box .
    d. Click **Delete**.
4. To verify that the service is deleted:
    a. Click **Elements** > **Engagement Development Platform**.
    b. Click **Service Management**.
    c. Verify that the Service Management page does not display the deleted service.

Related links

Uninstalling Real-Time Speech on page 29

Chapter 4: SpeechServices Snap-in deployment

Installing SpeechServices Snap-in

Loading SpeechServices Snap-in

Before you begin

Download SpeechServices Snap-in from PLDS.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. On the Service Management page, click **Load**.
4. In the Load Service dialog box, click **Browse** and select the `SpeechServices<version>.svar` file.

   The system displays the `SpeechServices<version>.svar` file in the **Local PC** text field.
5. Click **Load**.

   System Manager checks the licensing of SpeechServices Snap-in. On successful validation, System Manager displays the Accept End User License Agreement dialog box.

   Note:

   Currently, there is no separate license for SpeechServices Snap-in and it leverages the Avaya Real-Time Speech Snap-in license.
6. Click **Accept**.

   System Manager adds the SpeechServices Snap-in to the list of services.

Installing SpeechServices Snap-in

Before you begin

Note:

Installing SpeechServices Snap-in is an optional activity. Install the SpeechServices Snap-in only if you want to use ASR and TTS features via REST APIs.

- Load the SpeechServices Snap-in.
- Ensure that you know the cluster name to install the SpeechServices Snap-in.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.

   The system displays the Service Management page.
3. In the services name list, select the Snap-in that you want to install, and then click **Install**.

   The system displays a list of cluster names in the Confirm Install services dialog box.
4. Select the cluster name to install the SpeechServices Snap-in, and then click **Commit**.

   The system starts installing the service and changes the state of the service to `Installing`. After installation, the system changes the state to `Installed`.

Verifying a SpeechServices Snap-in deployment

Procedure

1. Open a web browser.
2. Navigate to:

   `https://<EDP_CLUSTER>/services/SpeechServices/`

   where <*EDP_CLUSTER*> is the IP address of the SpeechServices Snap-in cluster where the service that you want to verify is running.

   Note:

   Provide the Engagement Development Platform Entity IP address. Engagement Development Platform has two addresses, but the service is only available on the Entity IP address.

   On successful installation, you will see a landing page with the following message:

   “Speech Services snap-in running on Engagement Development Platform”.

Adding SpeechServices Snap-in to the Service Profile

Before you begin

Install SpeechServices Snap-in or service.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. On the Server Administration page, click **Configuration** > **Service Profiles**.
3. On the Service Profile Configuration page, select the service name that you want to add to the Service Profile page.
4. Click **Edit**.

   The system displays the Service Profile Editor page.
5. In the Available Service to Add to this Service Profile section, perform one of the following actions:
   - In the Add to Service Profile list, click the plus sign (**+)** next to the snap-in to add the latest version of the service.
   - In the Add to Service Profile list, click **Advanced** next to the snap-in name to choose the Preferred version of the service.
   - In the Add Service - Advanced dialog box, select the Preferred version of the service. The system adds the selected version of the service in the Services in this Service Profile section.
6. Click **Commit**.

Next steps

Once you install the SpeechServices Snap-in, check the Service Profile to make sure that the snap-in is configured.

SpeechServices Snap-in uninstallation and deletion

Uninstalling SpeechServices Snap-in

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Cluster Administration**.

3. On the Cluster Administration page, select the check box for the cluster and then click **Edit**.
4. On the Cluster Editor page, perform the following steps:
   a. Click the **Services** tab.

      The system displays the list of services installed in the cluster.
   b. Click the **X** icon for the service that you want to uninstall.
   c. Click **Commit**.
5. To verify that the service is uninstalled, click **Elements** > **Engagement Development Platform** and perform the following steps:
   a. On the Server Administration page, verify that the **Service Install Status** for the service is **Uninstalling**.
   b. On the Service Management page, verify that the **State** of the service is **Loaded**.
   c. On the Cluster Administration page, Click **Show**. Click the required server, and verify that the Service Status page does not display the uninstalled service.

Deleting SpeechServices Snap-in

Before you begin

Ensure that the SpeechServices Snap-in is uninstalled. For more information, see *Uninstalling SpeechServices Snap-in*.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. On the Service Management page, perform the following steps:
   a. Verify that the **State** of the service is **Loaded**.
   b. Select the service that you want to delete, and then click **Delete**.
   c. In the dialog box, select the **Please Confirm** check box .
   d. Click **Delete**.
4. To verify that the service is deleted:
   a. Click **Elements** > **Engagement Development Platform**.
   b. Click **Service Management**.
   c. Verify that the Service Management page does not display the deleted service.

Chapter 5: RealTimeSpeechTasks Snap-in deployment

Installing RealTimeSpeechTasks Snap-in

Loading RealTimeSpeechTasks Snap-in

Before you begin

Download RealTimeSpeechTasks Snap-in from PLDS.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. On the Service Management page, click **Load**.
4. In the Load Service dialog box, click **Browse** and select the `RealTimeSpeechTasks<version>.svar` file.

   The system displays the `RealTimeSpeechTasks<version>.svar` file in the **Local PC** text field.
5. Click **Load**.

   Note:

   Currently, there is no separate license for RealTimeSpeechTasks Snap-in and it leverages the Avaya Real-Time Speech Snap-in license.
6. Click **Accept**.

   System Manager adds the RealTimeSpeechTasks Snap-in to the list of services.

Installing RealTimeSpeechTasks Snap-in

Before you begin

Note:

Installing RealTimeSpeechTasks Snap-in is an optional activity. Install the RealTimeSpeechTasks Snap-in only if you want to enable Real Time Speech tasks within Avaya Engagement Designer.

- Ensure you install Avaya Engagement Designer before installing RealTimeSpeechTasks Snap-in.
- Load the RealTimeSpeechTasks Snap-in.
- Ensure that you know the cluster name to install the RealTimeSpeechTasks Snap-in.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.

   The system displays the Service Management page.
3. In the services name list, select the Snap-in that you want to install, and then click **Install**.

   The system displays a list of cluster names in the Confirm Install services dialog box.
4. Select the cluster name to install the RealTimeSpeechTasks Snap-in, and then click **Commit**.

   The system starts installing the service and changes the state of the service to `Installing`. After installation, the system changes the state to `Installed`.

Next steps

Once you install the RealTimeSpeechTasks Snap-in, verify the successful installation by going to Avaya Engagement Designer and ensuring that RealTimeSpeechTasks Snap-in is available.

RealTimeSpeechTasks Snap-in uninstallation and deletion

Uninstalling RealTimeSpeechTasks Snap-in

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Cluster Administration**.

3. On the Cluster Administration page, select the check box for the cluster and then click **Edit**.
4. On the Cluster Editor page, perform the following steps:
   a. Click the **Services** tab.

      The system displays the list of services installed in the cluster.

   b. Click the **X** icon for the service that you want to uninstall.
   c. Click **Commit**.
5. To verify that the service is uninstalled, click **Elements** > **Engagement Development Platform** and perform the following steps:
   a. On the Server Administration page, verify that the **Service Install Status** for the service is **Uninstalling**.
   b. On the Service Management page, verify that the **State** of the service is **Loaded**.
   c. On the Cluster Administration page, Click **Show**. Click the required server, and verify that the Service Status page does not display the uninstalled service.

Deleting RealTimeSpeechTasks Snap-in

Before you begin

Ensure that the RealTimeSpeechTasks Snap-in is uninstalled. For more information, see *Uninstalling RealTimeSpeechTasks Snap-in*.

Procedure

1. On the System Manager web interface, click **Elements** > **Engagement Development Platform**.
2. In the left pane, click **Service Management**.
3. On the Service Management page, perform the following steps:
   a. Verify that the **State** of the service is **Loaded**.
   b. Select the service that you want to delete, and then click **Delete**.
   c. In the dialog box, select the **Please Confirm** check box .
   d. Click **Delete**.
4. To verify that the service is deleted:
   a. Click **Elements** > **Engagement Development Platform**.
   b. Click **Service Management**.
   c. Verify that the Service Management page does not display the deleted service.

Chapter 6: Real-Time Speech Snap-in performance

Capacities and scalability

The overall performance of Real-Time Speech is dependent on a number of factors:

- The hardware configuration of Avaya Aura® Media Server (virtual or appliance model).
- The size and complexity of the query being applied to a given call (For best practices, see *Avaya Real-Time Speech Snap-in SDK*).
- The number of parties on a given call that are being analyzed for speech.

Both, Engagement Development Platform and Avaya Aura® Media Server, support a scalable architecture that allows you to add additional server instances to a cluster.

Please see below table for details:

Feature	Virtual (vmWare) Virtual AMS Server	Small Avaya R220XL AMS Server	Large Avaya DL360G9 AMS Server
Number of simultaneous searches per channel	1	1	1
Max number of phrases per search	200	200	200
Max number of concurrent channels/ speech per AMS Server	85	240	600
Max number of AMS instances supported	8	8	8

For further information on overall capacities, see *Real-Time Speech Snap-in 3.1 Release Notes*.

Dynamic Sequencing

With Avaya Engagement Development Platform 3.1 and higher, you can dynamically add Avaya Aura® Media Server into the media path of a call when the call is established and an application requests to invoke speech search. You can do this by setting the *Enable Media Server Shuffling* attribute to true. So, now only those calls that are most likely to be searched can be sequenced,

thereby increasing the Avaya Engagement Development Platform call processing throughput as well as optimizing the Avaya Aura® Media Server resource utilization.

Chapter 7: Real-Time Speech Snap-in licenses

License requirements

Use of the Real-Time Speech software requires valid Real-Time Speech and Engagement Development Platform license files.

Real-Time Speech uses the Snap-in service licensing feature provided by Engagement Development Platform.

Platform and Snap-in licenses are available through PLDS. You must install these licenses on the WebLM server of System Manager, which manages the Platform and Snap-in licenses.

Real-Time Speech contains a digital signature that Engagement Development Platform Element Manager uses to confirm that the licenses are applicable for these services. If the signature is invalid, the system does not load the service.

A single license, containing information for each licensed feature, applies to the Real-Time Speech Snap-in.

Note:

There is no separate license for RealTimeSpeechTasks Snap-in. The RealTimeSpeechTasks in Avaya Engagement Designer leverage the Real-Time Speech licenses.

Currently, the Real-Time Speech license is required to invoke the ASR/TTS functionality from:

- Engagement Development Platform
- Avaya Engagement Designer
- SpeechServices Snap-in

Configuring Real-Time Speech licenses

Before you begin

- Get the Real-Time Speech license from Avaya PLDS.
- Ensure that the Real-Time Speech license is installed on the WebLM server that is integrated with System Manager.

- Ensure that the Engagement Development Platform license is installed on System Manager.

  In System Manager, click **Elements** > **Engagement Development Platform** > **Server Administration** to see the current status of each Engagement Development Platform server platform license.

Procedure

1. On the System Manager Home page, click **Services** > **Licenses**.
2. Select **Install License**.
3. Browse to the location of the Real-Time Speech license.
4. Select the license file and click **Install**.

   The system installs the license file.

   In the left navigation pane, the system displays **RTSS** > **RealTimeSpeechSnapIn** under **Licensed Products**.
5. To verify if the license file is installed successfully:
   a. Click **Elements** > **Engagement Development Platform** > **Service Management**.
   b. In the **License mode** column, verify that the column displays a check mark for the Real-Time Speech mode.

      The following licensing modes apply to all Engagement Development Platform and Real-Time Speech licenses:

      - **License Normal Mode**: A valid license file is installed. License errors are not found. The complete functionality is present for the Engagement Development Platform instance.
      - **License Error Mode**: License error is seen in this mode. The Engagement Development Platform instance is in a 30 day grace period during this mode. Complete functionality is available during the grace period. The system displays the warning icon along with the date and time of the grace period expiration in the **License Mode** column.
      - **License Restricted Mode**: The Engagement Development Platform instance goes in to the restricted mode after the 30 day grace period expires. The Engagement Development Platform server goes in to the Deny New Service mode. If you install a license file the Engagement Development Platform server goes into the normal mode. The server automatically returns to service.

      For more information about licensing modes and licensing for Engagement Development Platform, see *Administering Avaya Aura® Engagement Development Platform*.

      Engagement Development Platform licensing audit runs every 9 minutes. Any license changes, including install or uninstall actions on the WebLM server, take time to reflect on the user interface. The latest license information takes a maximum of 9 minutes to reflect in the Engagement Development Platform Element Manager.

Chapter 8: Security

Security overview

Avaya Real-Time Speech Snap-in utilizes Avaya Engagement Development Platform to provide all security configurations to access all Engagement Development Platform services. Engagement Development Platform provides configuration for HTTPS, Mutual TLS (Client Certificate Challenge), Cross Origin Resource Sharing (CORS), Whitelists, and Trust Certificates. In addition, System Manager provides a flexible platform for administering certificates and authorities.

For more information about the security configuration, see the *Avaya Engagement Development Platform Overview and Specification* and *Avaya Aura® System Manager Overview and Specification*.

Certificate-based authentication overview

For Real-Time Speech Snap-in certificate-based authentication, perform the following procedures on the System Manager web interface:

- Configure client certificate challenge in Engagement Development Platform Element Manager. The configuration is available on the **Engagement Development Platform** > **Configuration** > **HTTP Security** page.
- Create a client keystore.
- Download the Engagement Development Platform trusted certificate from System Manager.
- Authenticate browsers.

Ensure that the client applications that access Real-Time Speech operations provide the location and credentials of their client certificate and trusted certificate to establish a secure session with the Real-Time Speech cluster.

For more information, see the *Avaya Engagement Development Platform Overview and Specification* and *Avaya Aura® System Manager Overview and Specification*.

Cross Origin Resource Sharing

Cross Origin Resource Sharing (CORS) enables access to Real-Time Speech requests that originate from other domains.

The configuration is available on the **Engagement Development Platform** > **Configuration** > **HTTP Security** page.

Note:

If you use a custom web client application, and enable the client certificate challenge, the web clients cannot authenticate the client certificate through Javascript, that is, Ajax calls. The browser and javascript layer are not connected. Hence, the system does not send the required client certificate.

Port utilization

For Real-Time Speech Snap-in port information, see the *Engagement Development Platform 3.1.1 Port Matrix* document at http://support.avaya.com/security.

Chapter 9: Troubleshooting

Alarms

Overview

Avaya Real-Time Speech Snap-in generates alarms when specific errors occur. The system sends a self-service email to the configured email address.

You can view, search, filter, export, and configure alarms from theSystem Manager web interface. Alarm information is available on the **Services** > **Events** > **Alarms** page in System Manager. For more information, see *Maintaining and Troubleshooting Avaya Aura® Engagement Development Platform* at https://support.avaya.com/.

Alarm severities

Severity	Description
Major	Major alarms identify failures that are causing a critical degradation of service. These alarms require immediate attention.
Minor	Minor alarms identify failures that are causing service degradation. These failures do not cause the system to be inoperable.
Warning	Warning alarms identify failures that cause no significant degradation of service. Warning alarms are not reported to a services organization.
Indeterminate	Indeterminate alarms indicate that the alarm matches one of the established alarm rules. Indeterminate alarms do not specify a severity.

Alarm status

Status	Description
Raised	An alarm has been generated. Software recovery actions have failed to correct the problem.
Cleared	The problem has been fixed and the alarm has been cleared. This state must be set manually.

Data grid space not available

Alarm text	`RealTimeSpeech_GRIDNA "Unable to acquire DataGrid space."`
Alarm ID	`RealTimeSpeech_GRIDNA`
Alarm level	Major
Trigger component	• Insufficient resources on Engagement Development Platform cluster. • Engagement Development Platform cluster connectivity issue.

Problem description

The data grid space could not be created or deployed or a connection to the space could not be made.

Proposed solution

Procedure

1. Provision additional resources or Engagement Development Platform instances if needed.
2. Restore network connectivity.
3. Restart Engagement Development Platform.

Data grid operation exception

Alarm text	`RealTimeSpeech_GRIDRWFAIL "Attempt to read/write to space failed."`
Alarm ID	`RealTimeSpeech_GRIDRWFAIL`
Alarm level	Major
Trigger component	• Loss of connection between the proxy server and the data grid. • Failure of the data grid.

Problem description

A request to add or get data from the data grid resulted in an exception.

Proposed solution

Procedure

1. Provision additional resources or Engagement Development Platform instances if needed.

2. Restore network connectivity.
3. Restart Engagement Development Platform.

Subscriber endpoint failure

Alarm text	`RealTimeSpeech_SUBCBFAIL "The Callback URL for a subscribing client application has become unavailable."`
Alarm ID	`RealTimeSpeech_SUBCBFAIL`
Alarm level	Warning
Trigger component	• A subscriber endpoint responded with an error status. • A connection could not be made to a subscriber endpoint, or a connection timed out .

Problem description

An attempt to communicate with a subscriber endpoint using a client-supplied callback URL was unsuccessful.

Proposed solution

Procedure

1. Ensure the endpoint is operating correctly and has sufficient resources to handle requests.
2. Check connectivity to the endpoint.

Speech search start failure

Alarm text	`RealTimeSpeech_SRCHSTRTFAIL "System unable to initiate a speech search request."`
Alarm ID	`RealTimeSpeech_SRCHSTRTFAIL`
Alarm level	Minor
Trigger component	The system cannot execute the speech search query. For example, the sum of the complexity of all selected or supplied queries exceeds the defined threshold.

Problem description

The system was unable to start a speech search.

Proposed solution

Procedure

1. Ensure query complexity and number of queries matching selection criteria do not exceed complexity thresholds.
2. Review log output for any other failure conditions.

Speech search platform failure

Alarm text	`RealTimeSpeech_SRCHPLATFAIL "Platform returned failure message on request for speech search services."`
Alarm ID	`RealTimeSpeech_SRCHPLATFAIL`
Alarm level	Major
Trigger component	• Speech search services did not run. • No connectivity with speech search services.

Problem description

The system-provided speech search services are unavailable to the Real-Time Speech Snap-in service.

Proposed solution

Procedure

1. Ensure speech search services are running.
2. Ensure network connectivity between components of the system.
3. Ensure the Aurix Speech Search engine is enabled on Avaya Aura® Media Server.
4. Ensure all relevant certificates are configured between Avaya Engagement Development Platform and Avaya Aura® Media Server.

Queries not available

Alarm text	`RealTimeSpeech_QRYNA "No queries have been configured on the system."`
Alarm ID	`RealTimeSpeech_QRYNA`
Alarm level	Warning
Trigger component	No queries defined.

Problem description

The system cannot perform speech searches because you have not defined the speech search queries.

Proposed solution

Procedure

The customer must define one or more speech search queries.

Speech Services Platform not available

Alarm text	`SpeechServices_SS_PLATFAIL "Attempt to execute Speech Recognition or Text to Speech unsuccessful."`
Alarm ID	`SpeechServices_SS_PLATFAIL`
Alarm level	Major
Trigger component	VoiceXML server is unavailable on Avaya Aura® Media Server due to connectivity issue or incorrect configuration.

Problem description

Calls are being sequenced through the Speech Services Snap-in, but no Text-To-Speech or Automatic-Speech-Recognition service could be performed, because the VoiceXML server is unavailable.

Related links

Proposed solution on page 48

Proposed solution

Procedure

Check configuration of the VoiceXML server on the Avaya Media Server from **Home** > **System Configuration** > **Signaling Protocols** > **MRCP** > **Servers** to ensure the required server is configured and connected. For more information, see *Implementing and Administering Avaya Aura Media Server*.

Related links

Speech Services Platform not available on page 48

Logging

Real-Time Speech and SpeechServices log files

Real-Time Speech log files

Engagement Development Platform provides a separate log file for Real-Time Speech. If more than one version of Real-Time Speech is installed, all logs are stored to the same file.

The following table describes the log name and location of the logs related to Real-Time Speech:

Log name	Location	Description
Real Time Speech logs	`/var/log/Avaya/services/RealTimeSpeech/RealTimeSpeech.log`	Validates that the snap-in is receiving call events and that speech search operations are successful.

SpeechServices log files

Engagement Development Platform provides a separate log file for *SpeechServices*. If more than one version of *SpeechServices* is installed, all logs are stored to the same file.

The following table describes the log name and location of the logs related to *SpeechServices*:

Log name	Location	Description
SpeechServices logs	`/var/log/Avaya/services/SpeechServices/SpeechServices.log`	Validates that the snap-in is receiving call events and that speech search operations are successful.

You can also use the command **`ce dlogw SpeechServices`** to display log files from the snap-in.

You can modify the logging level for Engagement Designer snap-ins on the System Manager Engagement Development Platform Logging Configuration page. You can view the details of each log, perform a search for logs, and filter specific logs. Use the `/opt/avaya/contrib/bin/ce` tool to enter commands for viewing logs, changing logs configuration.

For more information, see *Maintaining and Troubleshooting Avaya Aura® Engagement Development Platform*.

Note:

You can also refer Real-Time Speech Online documentation at `https://<EDP_CLUSTER>/services/RealTimeSpeech/docs/index.html` where <*EDP_CLUSTER*> is the IP address of the Real-Time Speech cluster.

Automatic Speech Searches not triggered

Condition

Calls are being sequenced through the Real-Time Speech Snap-in, but no speech searches occur even though automatic starting of speech search is configured. The system raises a `RealTimeSpeech_QRYNA` alarm.

The cause is that no defined queries match the language and tags values defined in the Real-Time Speech Snap-in attribute configuration.

Solution

1. Adjust the Real-Time Speech Snap-in attributes either at the profile, cluster or global level as appropriate, to ensure the attributes match at least one defined query

   OR

2. Create one or more queries whose language and tags values match the configured Real-Time Speech Snap-in attributes.

Chapter 10: Additional resources

Documentation

See the following related documents at http://support.avaya.com.

Title	Description	Audience
Avaya Real-Time Speech Snap-in Release Notes	This document contains Avaya Real-Time Speech Snap-in information that is not included in the Snap-in documentation. This document highlights known issues about Real-Time Speech with workarounds that are available.	Avaya Professional Services Implementation engineers
Maintaining and Troubleshooting Avaya Engagement Development Platform	This document contains procedures to identify and troubleshoot problems for Avaya Engagement Development Platform.	Avaya Professional Services Implementation engineers
Avaya Real-Time Speech Snap-in SDK	This document provides a client library for users to write software that interacts with a deployed Real-Time Speech system.	Avaya Professional Services Implementation engineers Software developers
Avaya Engagement Development Platform Overview and Specification	This document describes tested product characteristics and capabilities, including product overview and feature descriptions, interoperability, performance specifications, security, and licensing requirements.	Avaya Professional Services Implementation engineers Services and Support personnel System administrators
Administering Avaya Engagement Development Platform	This document provides the procedures to administer and configure Engagement Development Platform services.	Services and Support personnel System administrators
Administering Avaya Aura® System Manager	This document provides the procedures to administer and configure System Manager.	Services and Support personnel System administrators
Avaya Engagement Designer Reference	This document provides a functional description of Avaya	Sales engineers

Table continues…

Title	Description	Audience
	Engagement Designer as well as administration, deployment, security and maintenance. Includes interoperability, performance, and design considerations.	Software developers System administrators Services and Support personnel
Getting Started with the Avaya Engagement Designer	This document guides through the core steps needed to create a Workflow Definition.	Workflow Definition developers
Avaya Engagement Designer Developer's Guide	This document describes detailed steps and concepts needed to create and deploy different types of Workflow Definitions.	Workflow Definition developers

Support

Go to the Avaya Support site at http://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Index

A

acquire license 40
add services
    Service Profile 21, 33
add the Snap-in
    Service Profile 21
add the SpeechServices Snap-in
    Service Profile 33
alarm overview 44
Alarms
    DataGridOperationException 45
    DataGridSpaceNotAvailable 45
    QueriesNotAvailable 47
    SpeechSearchPlatformFailure 47
    SpeechSearchStartFailure 46
    SpeechServicesPlatform 48
    SubscriberEndpointFailure 46
alarm severities 44
assign the servers 18
attributes 22
automatic speech search not triggered 50

C

call event notification 8
capacities 38
certificate based authentication overview 42
checklist 16
check speech services deployment 32
client 12
configure attributes 22
configure attributes for Service Clusters 22
configure attributes for Service Globals 22
configure attributes for Service Profiles 22
configure certificate based authentication 42
configure global attributes 22
configure Speech Search Engine 19
configuring alarms 44
create
    Real-Time Speech cluster 18

D

delete 30
delete a service Snap-in 29
delete RealTimeSpeechTasks 37
delete SpeechServices 34
delete SpeechServices Snap-in 34
deleting Real-Time Speech 30
deleting RealTimeSpeechTasks snap-in 37
deployment
    checklist 17
    configuration 17
    configuration information 17
deployment checklist 16
deployment process flow 15
download Real-Time Speech from PLDS 16

E

establish connection 17
Exporting and Importing Real Time Speech Queries 27
Export Real Time Speech Queries 27

F

features 8

G

global attributes 22

H

hardware requirements, deployment requirements 13
http connections 17

I

Import Real Time Speech Queries 27
install a WebLM license on System Manager 19, 31
install CallEventControl 20, 32
install EventingConnector 20, 32, 36
install license 40
install Real-Time Speech 20
install RealTimeSpeechTasks 36
install RealTimeSpeechTasks snap-in 36
install Speech Services 32
install SpeechServices Snap-in 32
install the services 18

J

Java 12

L

license 40
load Real-Time Speech 19
load realtimespeechtasks 35
load realtimespeechtasks snap-in 35
load Speech Services 31
load Speech Services Snap-in 31

log files 49

O

overview 7

P

port matrix 43
port utilization 43
preferred version
    preferred upgrade option 26
process flow of deployment 15
product requirements 13

Q

query management 8

R

Real-Time Speech attributes
    field descriptions 24
Real-Time Speech cluster 18
Real-Time Speech Snap-in 7
reference implementation 12
related documentation 51
requirements
    license 40
REST 12
REST API 11, 12
REST interface 11

S

scalability 38
security overview 42
Service Clusters tab 22
Service Globals tab 22
service profile 26
Service Profiles tab 22
speech search 8
Speech Search Engine 11
SpeechServices 12
SpeechServices REST API 12
SSE 11
station configuration 19
support
    contact 52
supported languages 11
system requirements 13

T

testing Real-Time Speech 19
traffic 38

U

uninstall a service Snap-in 29
uninstallation 29, 36
uninstalling Real-Time Speech 29
uninstalling RealTimeSpeech Tasks Snap-in 36
uninstalling Speech Services 33
upgrade 26, 28
upgrading Real-Time Speech 28

V

verify
    deployment 20, 32
VMware 13