



Avaya BotConnector Snap-in Reference

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Chapter 1: Introduction

Purpose

This document describes Avaya BotConnector Snap-in characteristics and capabilities, including overview and feature descriptions, interoperability, and performance specifications. The document also provides instructions on how to configure and troubleshoot BotConnector Snap-in.

This document is intended for people who need to install, configure, and administer BotConnector Snap-in. This document contains specific information about this snap-in. For an overview of Avaya Breeze™, see *Avaya Breeze™ Overview and Specification*. For general information about Avaya Breeze™ snap-in deployment, see *Quick Start to deploying the HelloWorld Snap-in*.

Before deploying BotConnector Snap-in, ensure that you have access to the following product documentation:

- Avaya Breeze™
- Avaya Aura® System Manager
- Avaya Automated Chat or a third-party chat service

Prerequisites

- Users who want to deploy and administer BotConnector Snap-in must have a working knowledge of Avaya Breeze™ and System Manager.
- Users who want to deploy BotConnector Snap-in must have means to access the Avaya PLDS to be able to download BotConnector Snap-in.
- Developers who want to use the BotConnector Snap-in services and SDKs must have a working knowledge of the technologies and products referenced in the document.

Chapter 2: BotConnector Snap-in services and features

BotConnector Snap-in overview

BotConnector Snap-in enables Avaya Oceana™ Solution chat applications to leverage Avaya Automated Chat SaaS Service as a headless server. This server provides customer self service through text channels, such as Web Chat and Mobile Chat where the pattern is for users to ask a question, wait for an answer, get an response, ask next question, and so on in real time.

BotConnector Snap-in is a connector snap-in to Avaya Automated Chat SaaS Service. BotConnector Snap-in runs on Breeze premise at the customer site and accesses the Automated Chat SaaS service that is currently available from Avaya as a cloud offering.

BotConnector Snap-in can also connect to a third-party chat service and Avaya Messaging Automation.

BotConnector Snap-in Plugin SDK is available on DevConnect. Using this SDK, developers can create their own plugin and connect BotConnector Snap-in to any third-party engine. BotConnector Snap-in Client Java and JavaScript SDK is also available on DevConnect.

New in this release

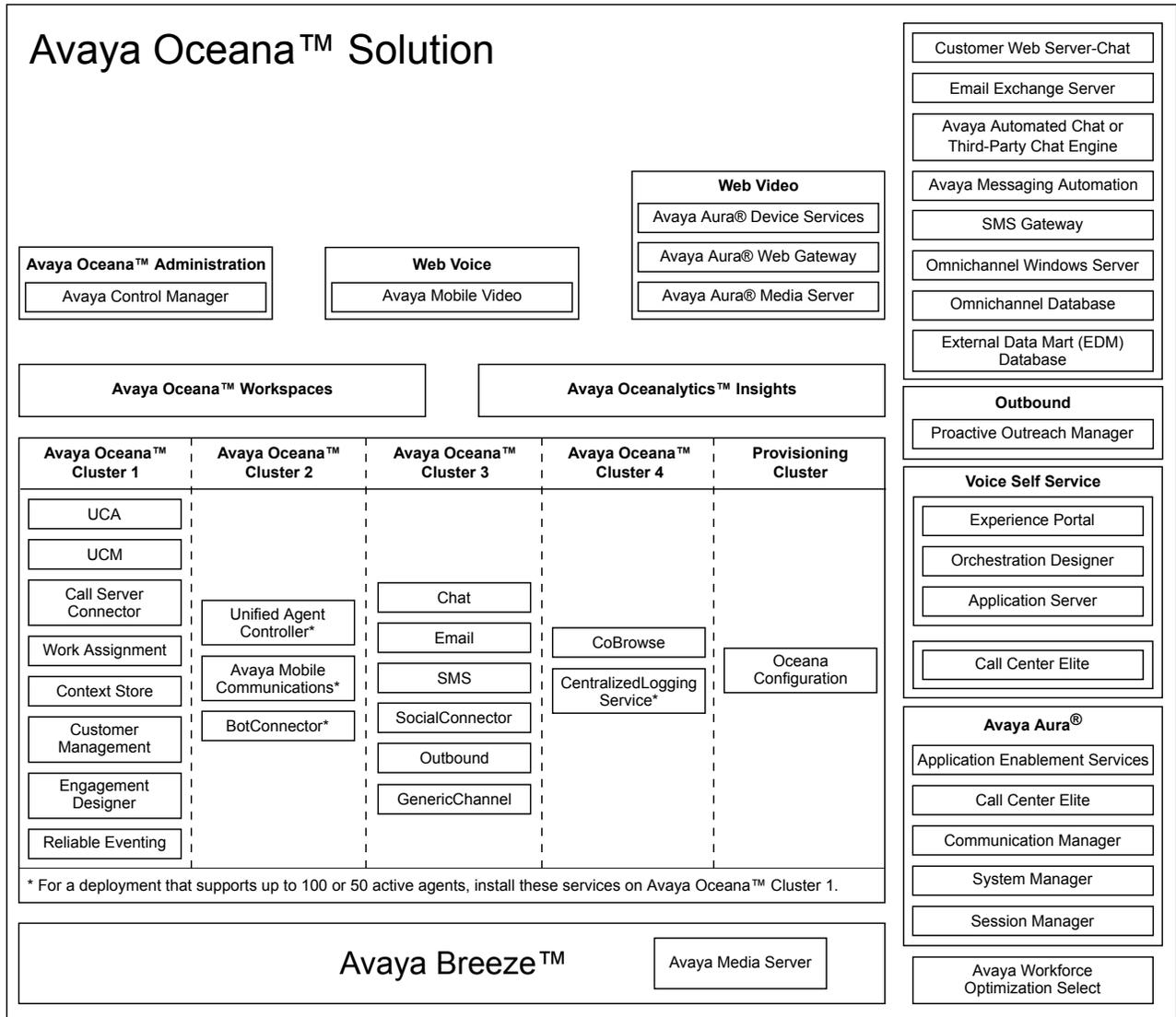
BotConnector Snap-in Release 3.4 supports the following new features:

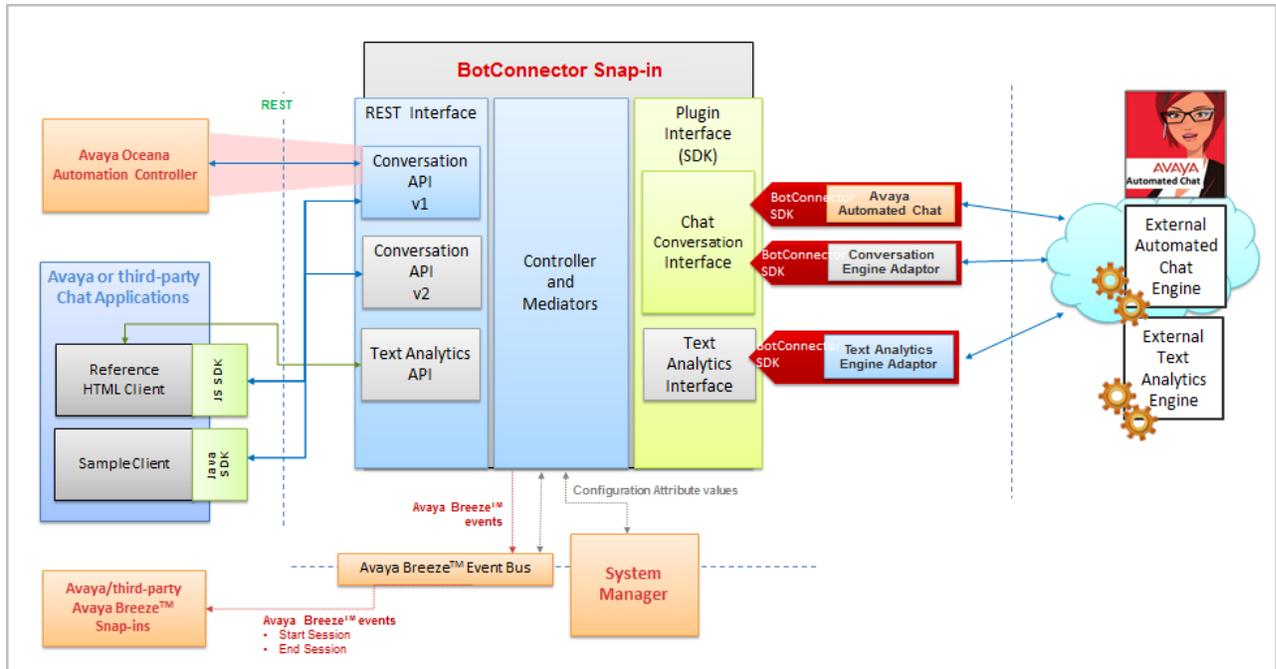
Attribute Grouping

BotConnector Snap-in supports grouping of similar attributes according to the following groups:

- Run-time Service Configuration
- Conversation module
- Avaya Automated Chat
- Text analytics Module
- Advanced configuration
- Supplier

BotConnector Snap-in architecture overview





Features

- BotConnector Snap-in enables other snap-ins and applications to access the Automated Chat and third-party chat service APIs.
- BotConnector Snap-in enables Avaya Oceana™ Solution chat applications to leverage Automated Chat and third-party chat service.
- BotConnector Snap-in provides customer self service through text channels.
- BotConnector Snap-in provides the Automated Chat and third-party chat service APIs through a snap-in on Avaya Breeze™, for other applications to access. These applications leverage the API to offer Automated Chat and third-party chat service to complement the chat offerings.
- BotConnector Snap-in supports platform features, such as High Availability and support for Common Engineering Criteria (CEC).
- BotConnector Snap-in supports 1500 simultaneous sessions in a High Availability deployment.
- A user can use the **Request Auto chat** task for BotConnector Snap-in in Avaya Engagement Designer. For more information, see “Request Auto chat”.

Request Auto Chat Engagement Designer task

Request Auto Chat is an Engagement Designer task and BotConnector Snap-in can be integrated with Avaya Oceana™ Solution by using the Request Auto Chat task in an Engagement Designer workflow. For more information about installing this task, see *Deploying Avaya Oceana™ Solution*.

Prerequisites

Avaya Oceana™ Solution, BotConnector Snap-in, and the Automated Chat Server or the third-party chat service must be installed and configured to use this task in a workflow.

Task definition

The Request Auto Chat task is used to integrate BotConnector Snap-in in Avaya Oceana™ Solution. The task requests BotConnector Snap-in for the Automated chat or the third-party chat service request for either a specified time period or specified number of chat interactions based on the properties identified in the task.

Task properties

- **BotConnector Cluster IP:** The IP/FQDN address of the BotConnector Snap-in cluster. Addresses must be configured on the Service Clusters tab of the Avaya Breeze™ Attributes Configuration page for the Engagement Designer Service. You can provide comma-separated string of BotConnector Snap-in cluster IP addresses. Once you set this attribute, you can select from the drop-down in the Task to set the value.
- **Site ID:** The Site ID to be used while starting the BotConnector Snap-in session. Site ID must be configured on the Service Clusters tab of the Avaya Breeze™ Attributes Configuration page for the Engagement Designer Service. You can provide a comma-separated string of BotConnector Snap-in Site IDs in the format *Site Id: Friendly Name*. Once you set this attribute, you can select from the drop-down in the Task to set the value.
- **Max Interaction:** The maximum number of BotConnector Snap-in interactions before the chat is automatically escalated to a real agent. Ensure that you provide a numerical value. Each message exchanged between the customer and the agent is considered as the interaction.
- **Max. Chat Time (secs):** The maximum amount of time, in seconds, before the chat is automatically escalated to a real agent.

Input mapping

The remaining values for the input mapping are available from the schema of the initial routing event for the relevant channel (for example, ROUTE_CONTACT_CHAT for chat contacts) and can be mapped directly from the start schema.

Error handling

If the task completes successfully, the flow will take the default path. Any internal problem or failure in communicating with Avaya Oceana™ Solution will result in an error. If an error occurs in the task, the Engagement Designer engine checks for an associated Error Boundary Event. If it finds one, the engine directs the flow to the Error Boundary Event and proceeds to the outgoing path from the Error Boundary Event. An Error Boundary Event can be associated with the task by dragging and dropping the event directly on to the task.

Related Boundary Events

Error Boundary Event (see “Error handling”). Flows should subscribe to the CONTACT_AUTOMATION_COMPLETE event to be notified when the BotConnector session has finished.

Use case

In a Contact Center system, use the Request Auto Chat task in your workflow to integrate BotConnector Snap-in. The task can be used to send the incoming chat messages from the customer to BotConnector Snap-in to generate Automated Response without any intervention from the live Agent. Based on the properties set in the Task BotConnector Snap-in will respond to the incoming requests and escalate to the live agent.

Related links

[Obtaining the Avaya Automated Chat Site Code](#) on page 17

Chapter 3: Interoperability

Avaya product compatibility

Avaya product	Release
Avaya Breeze™	3.4
Avaya Automated Chat	2.0
Avaya Aura® System Manager	7.1.2
Avaya Oceana™ Solution	3.4
Engagement Designer	3.4

Hardware requirements

This section provides information about the hardware requirements for BotConnector Snap-in. The requirements specified in this section are applicable to all deployment options.

For information about the hardware requirements for Avaya Breeze™, see *Avaya Breeze™ Overview and Specification*.

For information about the hardware requirements for Avaya Oceana™ Solution, see *Deploying Avaya Oceana™ Solution*.

ESXi host server

Two instances each of BotConnector Snap-in, Avaya Breeze™ server, and Automated Chat servers are required to support simultaneous 1500 sessions. As a failover strategy to ensure maximum availability of the solution, Avaya recommends that you install the two Avaya Breeze™ servers on VMWare ESXi hosts. If you install Avaya Breeze™ servers on the same ESXi host, the failure of the host impacts multiple Avaya Breeze™ servers. The failure of multiple BotConnector Snap-in servers impacts the overall availability of the solution.

- **Processor:** The processor must have at least four dedicated cores, equivalent to a 2.4 GHz Xeon processor. To ensure that the BotConnector Snap-in solution can support published capacity figures and availability, Avaya recommends that you reserve the processor to achieve maximum traffic rate with low latencies, especially when BotConnector Snap-in is recovering from a failure. Without dedicated cores, BotConnector Snap-in competes with other Virtual Machines on the same VMWare ESXi host for crucial resources at times of maximum throughput or recovery, resulting in poor performance or loss of data.

- Network: The network must meet the following criteria:
 - Network must support at least Gigabit Ethernet.
 - Response time between hosts must be less than 250 milliseconds.
 - All Avaya Breeze™ servers must be on the same Data Center and the same subnet.
- Storage: The storage capacity must be at least 15000 RPM SATA hard disks.

Guest virtual machines

Each guest virtual machine for BotConnector Snap-in must meet the following criteria:

- Processor: 4 dedicated cores
- RAM: 12 GB RAM
- Hard disk: 50 GB to 300 GB

Chapter 4: Licensing

BotConnector Snap-in licensing

Use of the BotConnector Snap-in software requires a valid BotConnector Snap-in license file and Avaya Breeze™ license file. BotConnector Snap-in is separately purchasable from Avaya and not included with Avaya Breeze™. Each licensed BotConnector Snap-in requires its own license file. Activate and download the file from PLDS and install it on System Manager WebLM.

Avaya provides a 30-day grace period from the time a license error is first detected. When the error is detected, BotConnector Snap-in enters license error mode and a major alarm is raised but BotConnector Snap-in remains fully functional. This provides enough time to fix the error before BotConnector Snap-in stops working and gets uninstalled for all Avaya Breeze™ instances. You can view the **license mode** for BotConnector Snap-in on the Avaya Breeze™ **Services** page. The license modes are:

- Normal — No license error is detected. Indicated by a green check mark on the Services page.
- Error — There is a license error, but BotConnector Snap-in continues to operate normally. Indicated by a yellow caution icon on the Services page. The **Services** page also shows the date when the 30-day grace period expires. Avaya Breeze™ raises a major alarm when BotConnector Snap-in enters license error mode.
- Restricted — There is a license error, and the 30-day grace period has expired. Indicated by a red cross mark on the Services page. BotConnector Snap-in automatically uninstalls once 30 days grace period is over. Avaya Breeze™ raises a critical alarm when BotConnector Snap-in enters license restricted mode. To correct this problem, you may need to get a license file if you don't have one, or update to a license file for the new major release.

Configuring BotConnector Snap-in licenses

Before you begin

1. Obtain the BotConnector Snap-in license from Avaya PLDS.
2. Obtain the primary HOST ID from System Manager to generate the BotConnector Snap-in license.
3. On the System Manager web console, navigate to **Services > Licenses > Server properties**.

4. Ensure that the BotConnector Snap-in license is installed on the WebLM server that is integrated with System Manager.
5. Ensure that the Avaya Breeze™ license is installed on System Manager.
6. On the System Manager web console, navigate to **Elements > Avaya Breeze™ > Server Administration** to see the current status of each Avaya Breeze™ server platform license.

Procedure

1. On the System Manager web console, click **Services > Licenses**.
2. Select **Install License**.
3. Browse to the location of the BotConnector Snap-in license file.
4. Select the license file and click **Install**.

The system installs the license file.

In the navigation pane, the system displays

`BOTCONNECTOR_FOR_AUTOMATED_CHAT_SYSTEM` in Licensed Products.

5. To verify if the license file is installed successfully:
 - a. Click **Elements > Avaya Breeze™ > Service Management > Services**.
 - b. In the **License mode** column, verify that the column displays a check mark for BotConnector Snap-in.

Chapter 5: BotConnector Snap-in deployment

Certified deployment types

Avaya provides two certified deployment types for BotConnector Snap-in: single-server deployment and two-server deployment. The hardware requirements, number of nodes, supported features, settings, and capacity specifications differ as per the deployment scenario. BotConnector Snap-in does not support High Availability on a single-node deployment.

This section provides the following information for all the Avaya certified deployments:

- Feature supported
- Number of nodes supported
- Number of simultaneous connections

Table 1: Deployment of a single Avaya Breeze™ server

Requirement	Specification
Features supported	All features except High Availability
Number of Nodes	1
Processor	4
RAM	12 GB
Number of simultaneous connections	750

Table 2: Deployment of two Avaya Breeze™ servers

Requirement	Specification
Features supported	All features
Number of Nodes	2
Processor	4
RAM	12 GB
Number of simultaneous connections	1500

* **Note:**

Ensure that the **Is session affinity enabled** cluster attribute is enabled for BotConnector Snap-in and Automated Chat server.

Related links

[Capacities and scalability specification](#) on page 33

Deployment checklist

No.	Task	Reference	✓
1	Ensure that System Manager is running.	See <i>Deploying Avaya Aura® System Manager</i> .	
2	Obtain an Automated Chat service account, if Automated Chat is used.	See <i>Getting Started with Avaya Automated Chat</i> .	
3	Obtain the Automated Chat Site ID, if Automated Chat is used.	Obtaining the Avaya Automated Chat Site Code on page 17	
4	Download the BotConnector-3.4.0.0.340044.sva file from PLDS.	—	
5	Download the BotConnector Snap-in license file from PLDS.	—	
6	Install and configure Avaya Breeze™ server.	See <i>Deploying Avaya Breeze™</i> and <i>Administering Avaya Breeze™</i> .	
7	Configure BotConnector Snap-in attributes at global level.	Configuring attributes for BotConnector Snap-in at global level on page 18	
8	Create a Avaya Breeze™ cluster.	Deploying a BotConnector Snap-in cluster on page 20	
9	Load BotConnector Snap-in in System Manager.	Loading BotConnector Snap-in on page 22	
10	Install BotConnector Snap-in.	Installing BotConnector Snap-in on page 22	
11	Verify the BotConnector Snap-in deployment.	Verifying the BotConnector Snap-in deployment on page 23	

Obtaining the Avaya Automated Chat Site Code

About this task

Perform this procedure to obtain the Avaya Automated Chat Site ID.

Procedure

1. Log on to the Avaya Automated Chat management console.
2. Browse to administer sites and locate the Site Code identifier.
3. Note the Site Code identifier.

For example, `iasljet4so7`.

Configuring attributes for BotConnector Snap-in at global level

About this task

Use this procedure to configure attributes for the BotConnector Snap-in at global level. For more information about the attributes, see “BotConnector Snap-in attribute descriptions”.

Before you begin

BotConnector Snap-in must be in installed state.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™ > Configuration > Attributes**.
2. Click the Service Globals tab.
3. In the **Cluster** field, select the cluster you created for BotConnector Snap-in.
The system displays the attributes.
4. For the **Plug-in Location(s)** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the location of plug-in JAR files.
5. For the **Conversation handler class name** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the name of the class in the plug-in that has implemented the BotConnector Snap-in Conversation Handler Interface.
6. For the **Conversation handler initialization data** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the data to initialize the conversation handler instance.
7. For the **Automated Chat Base URL** attribute:
 - a. Click **Override Default**.

- b. In the **Effective Value** field, enter the base URL of the automated chat system selected to use: `http://<hostname or IP of Automated Chat Server>`.
8. For the **Automated Chat default Site-id** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the site code of the automated chat system.
9. For the **Message maximum length** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the maximum size limit for message length.
10. For the **Text analytics handler class name** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the name of the class in the plug-in that has implemented the BotConnector Snap-in Text Analytics Interface.
11. For the **Text Analytics Handler Plug-in Initialize Parameter** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the data to initialize the text analytics handler instance.
12. For the **Thread Pool Size for eventing framework** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter a value from 1 to 50.

If the entered value is not within the range, the system displays an error message.

You must restart BotConnector Snap-in for the changes to take effect.
13. For the **Enable Oceana Service Monitor Feature** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, select `true` to enable the serviceability feature or `false` to disable the serviceability feature.
14. Do not change the default value `true` of the **Enable Tokenless Access** attribute.
15. For the **Supplier Id** attribute:
 - a. Click **Override Default**.
 - b. In the **Effective Value** field, enter the Avaya provided supplier ID.
16. Click **Commit**.

Deploying a BotConnector Snap-in cluster

Before you begin

1. BotConnector Snap-in must be in loaded state on the Services page.
2. Identify the Avaya Breeze™ servers on which you plan to install BotConnector Snap-in.
3. Add the Avaya Breeze™ servers to System Manager.
For more information, see *Deploying Avaya Breeze™*.
4. Verify the status of the Avaya Breeze™ servers:
 - Ensure that the system can resolve the host name of the Avaya Breeze™ servers.
 - Ensure that System Manager, Avaya Breeze™ host names, and the Fully Qualified Domain Names (FQDNs) are registered with a domain name system (DNS) server.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™ > Cluster Administration**.
2. On the Cluster Administration page, click **New**.
3. Enter the following details for the cluster in the General tab of the Cluster Editor page:
 - a. In the **Cluster Profile** field, select **General Purpose**.
 - b. In the **Cluster Name** field, enter a unique cluster name.
 - c. In the **Cluster IP** field, enter the Cluster IP when deploying a two-node cluster. For deployment of a single Avaya Breeze™ server, leave the field blank.

The Cluster IP must be on the same subnet as the Security Module IP of the Load Balancer Avaya Breeze™ servers.

The Cluster IP must be unique.

The system uses the IP address of the cluster as the load balancer.
 - d. In the **Description** field, enter a description for the cluster.
 - e. Select the **Is Load Balancer enabled?** attribute when deploying two-node cluster.
 - f. Select the **Is session affinity enabled?** attribute when deploying two-node cluster.
4. On the Cluster Editor page, select the **Servers** tab.

The system displays all the Avaya Breeze™ servers in the Unassigned Servers section.
5. Depending on the deployment type, add the Avaya Breeze™ servers that you have identified to the BotConnector Snap-in cluster.

Click the plus sign (+) on the server to add the server to the cluster.

The system adds the Avaya Breeze™ servers to the Assigned Servers section.
6. On the Cluster Editor page, select the **Services** tab.

The system displays the BotConnector Snap-in service that you have loaded and configured through the Services page.

7. Configure the BotConnector Snap-in attributes at global level.

For more information, see “Configuring attributes for BotConnector Snap-in at global level”.

8. In the Available Services list, click the plus sign (+) on the **BotConnector** service to add the service to the cluster.
9. Click **Commit**.

The system prompts you to ensure that all Avaya Breeze™ server restarts are complete before placing the cluster into the Accept New Service state.

10. Click **OK**.

The system starts installing the assigned services to the cluster servers.

11. On the Cluster Administration page, verify that the services are installed for the cluster.
12. Click **Show** on the new cluster to verify if the system has added the servers to the cluster.

The system displays the Avaya Breeze™ servers as part of the cluster.

13. Restart the Avaya Breeze™ servers that are added to the cluster.
14. On the Cluster Administration page, verify that the status of the cluster created is checked for the following:
 - Data Replication
 - Service Install Status
 - Tests Pass
 - Overload Status

15. Verify that **Data Grid Status** shows:

- **Up [2/2]** for a two-node deployment.
- **Up [1/1]** for a single node deployment.

16. Verify that **Cluster State** shows:

- **Denying [2/2]** for a two-node deployment.
- **Denying [1/1]** for a single node deployment.

17. On the Cluster Administration page, select the new cluster created.

18. From the **Cluster State** field, select **Accept New Service**.

19. Click **Continue** in the Accept New Service dialog box.

In the **Servers State** column, the system displays **Accepting [2/2]** for a two-node deployment and **Accepting [1/1]** for a single node deployment.

Loading BotConnector Snap-in

Before you begin

Download the `BotConnector-3.4.0.0.340044.svar` file from PLDS.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™**.
2. Click **Service Management > Services**.
3. On the Services page, click **Load**.
4. In the **Load Service** dialog box, click **Browse**, and select the `BotConnector-3.4.0.0.340044.svar` file.

5. Click **Load**.

6. Accept license agreement.

On successful validation, System Manager adds BotConnector Snap-in to the list of services.

7. On the Services page, ensure that BotConnector Snap-in is in the loaded state.

Installing BotConnector Snap-in

About this task

If you have already performed Step 7 of the “Creating an Avaya Breeze™ cluster” procedure, skip this procedure.

Before you begin

1. Avaya Breeze™ server must be up and running.
2. BotConnector Snap-in must be in the loaded state.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™**.
2. Click **Cluster Administration**.
3. Select the cluster and click **Cluster State > Deny New Service**.
4. Click **Service Management > Services**.
5. Select BotConnector Snap-in and click **Install**.

The system displays a list of cluster names in the **Confirm Install services** dialog box.

6. Select the cluster name to install BotConnector Snap-in, and click **Commit**.

The system starts installing the service and changes the **State** to **Installing**. After installation, the system changes the **State** to **Installed**.

7. Select the cluster and click **Cluster State > Accept New Service**.

Verifying the BotConnector Snap-in deployment

Procedure

In a web browser, enter one of the following URLs:

- `https://<Avaya_Breeze_Security_IP or Avaya_Cluster_IP>/services/BotConnector/v1/status`
- `https://<Avaya_Breeze_Security_IP or Avaya_Cluster_IP>/services/BotConnector/v2/status`

<Avaya_Breeze_Security_IP> is the IP address of the Avaya Breeze™ security module.

<Avaya_Cluster_IP> is the IP address of the Avaya Breeze™ cluster.

The response should contain a JSON object with the following message:

- For v1:

```
{"msg": "Server Live"}
```

- For v2:

```
{
  "name": "ChatBot",
  "status": "alive",
  "statusSinceMillis": 76238626,
  "modules": [
    {
      "name": "Conversation",
      "className": "com.avaya.automatedchatmirror.ChatMirrorHandler",
      "status": "ENABLED",
      "statusSinceMillis": 76238264
    },
    {
      "name": "TextAnalytics",
      "className": "com.avaya.automatedchatmirror.TextAnalyticsAdaptor",
      "status": "ENABLED",
      "statusSinceMillis": 76238335
    }
  ]
}
```

Chapter 6: BotConnector Snap-in administration

Configuring BotConnector Snap-in attributes

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™ > Configuration > Attributes**.
2. Click the Service Clusters tab.
3. In the **Cluster** field, select the cluster you created for BotConnector Snap-in.
4. From the **Service** drop-down menu, select **BotConnector**.
5. Configure the attributes.

For more information about the attributes, see “BotConnector Snap-in attribute descriptions”.

6. Click **Commit**.

BotConnector Snap-in attribute descriptions

Name	Description
Run-time Service Configuration:	
Plug-in Location(s)	The locations of plug-in JAR files if any for conversation and text analytics. To provide different locations separate them by comma or semi-colon.
Conversation Module: When using Automated Chat, you must enter values in the attributes in Conversation Module section. You can ignore the fields in the Avaya Automated Chat section.	
Conversation handler class name	The canonical name of the class in the plug-in that has implemented the BotConnector Snap-in Conversation Handler Interface.
Conversation handler initialization data	The data to initialize the conversation handler instance.

Table continues...

Name	Description
Avaya Automated Chat:	
When using Automated Chat, you must enter values in the attributes in Avaya Automated Chat section. You can ignore the fields in the Conversation Module section.	
Automated Chat Base URL	<p>The base URL of the automated chat system: <code>http://<hostname or IP of Automated Chat Server></code>.</p> <p>The URL must begins with <code>http</code> or <code>https</code>. Else, the system displays an error message.</p> <p>Use this attribute only when the Conversation handler class name attribute is blank.</p>
Automated Chat default Site-id	<p>The site code of the automated chat system that will be used if site code is not provided while starting the chat session.</p> <p>For information about obtaining the Site ID, see “Obtaining the Avaya Automated Chat Site Code”.</p> <p>Use this attribute only when the value of Automated Chat Base URL attribute is provided and the Conversation handler class name attribute is blank.</p>
Message maximum length	The maximum size limit for message length. The default value is 500. You must enter a value from 20 to 3000.
Text analytics Module:	
Text analytics handler class name	The canonical name of the class in the plug-in that has implemented the BotConnector Snap-in Text Analytics Interface.
Text Analytics Handler Plug-in Initialize Parameter	The data to initialize the text analytics handler instance.
Advanced Configuration:	
Thread Pool Size for eventing framework	The thread pool size for BotConnector Snap-in Eventing Framework. The default value is 10. You must enter a value from 1 to 50. If the entered value is not within the range, the system displays an error message. You must restart BotConnector Snap-in for the changes to take effect.
Enable Oceana Service Monitor Feature	This field enables displaying BotConnector Snap-in lifecycle messages on System Manager Monitoring Service page. The default value is <code>true</code> . Select <code>False</code> to disable this feature.
Enable Tokenless Access	This field enables clients to request access to resource endpoints without authorization token. Do not change the default value.
Supplier:	
Supplier Id	The Avaya provided Supplier ID. Do not change the default value.

Setting up Allow Cross-origin Resource Sharing for all

About this task

Use this procedure to allow any server to make requests.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™**.
2. In the navigation pane, click **Configuration > HTTP Security**.
3. Select the cluster on which BotConnector Snap-in is installed.
4. Click the **HTTP CORS** tab.
5. Select the **Allow Cross-origin Resource Sharing for all** check box to allow any server to make requests.
6. To limit the receipt of requests, add authorized servers to the **Host Address** list:
 - a. Verify that the **Allow Cross-origin Resource Sharing for all** check box is cleared.
 - b. Click **New**.
 - c. In the **Host address** field, type the complete origin address of the server that you want Avaya Breeze™ to have access permission to.

For example, if the origin is xyz.com, add xyz.com as an origin in the CORS list. If the origin is ip:port, add ip:port as an origin in the CORS list.
7. Click **Commit**.

Editing the BotConnector Snap-in cluster properties

About this task

Perform this procedure to edit or change properties of the BotConnector Snap-in cluster.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™**.
2. Click **Cluster Administration**.
3. On the Cluster Administration page, select the cluster and click **Cluster State > Deny New state**.
4. To modify the cluster attributes that are greyed out, you must stop the BotConnector Snap-in service.
5. Select the cluster and click **Edit**.
6. On the Edit Cluster page, edit the cluster attributes.

For information about the cluster attributes, see *Administering Avaya Breeze™*.

7. Select the cluster and click **Cluster State > Accept New state**.
8. Click **Commit**.

Installing the automated chat server HTTPS certificate on the BotConnector Snap-in cluster

About this task

Use this procedure to install the automated chat HTTPS certificate to enable the BotConnector Snap-in secure communication with automated chat SAS server.

Before you begin

1. Obtain the automated chat Server HTTPS certificate by accessing automated chat Server URL using a web browsers.
2. Save and download the certificate as .cer format.

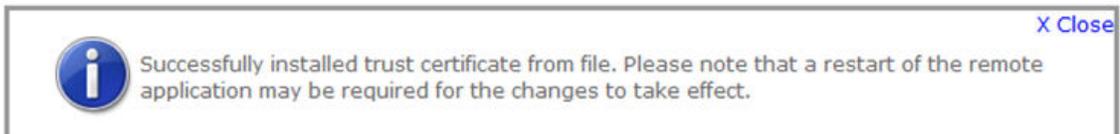
Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™**.
2. Click **Cluster Administration**.
3. Select the cluster where BotConnector Snap-in is installed.
4. Click **Certificate Management**.
5. Select **Install Trusted Certificate** and select the certificate to be installed.
6. Click **Retrieve certificate** and click **Commit**.



Cluster Administration

This page allows you to view, edit and delete Avaya Breeze clusters.



7. Ensure that following message is displayed on the System Manager Cluster Administration page.
8. Navigate to **Avaya Breeze™ > Server Administration**
9. Select the cluster where certificate is installed.

10. Click **Shutdown System**.
11. Select **Reboot** to reboot the cluster.

Restarting the BotConnector Snap-in service

About this task

Use this procedure to restart the BotConnector Snap-in service when editing cluster attributes.

Procedure

1. On the System Manager dashboard, navigate to **Elements > Avaya Breeze™**.
2. Click **Service Management > Services**, and click the check box on the left to select BotConnector Snap-in.
3. Click **Stop**.

The system displays a confirmation window listing all clusters on which the service is installed.

4. Select the clusters on which you want to stop the service, and click **Stop**.

On the Services page, in the **State** column, the service state will change to **Stopping**.

5. Click the **Refresh Table** icon to refresh the screen.

Eventually, the **State** column will display **Stopped**, indicating that the service has stopped.

6. Click **Services**, and click the check box on the left to select BotConnector Snap-in.
7. Click **Start**.

 **Note:**

Before starting BotConnector Snap-in, ensure that **Service Install state** is **Stopped**, as described in Step 8.

The system displays a confirmation window listing all clusters on which the service is installed.

8. Select the clusters on which you want to start the service, and click **Start**.

On the Services page, in the **State** column, the service state will change to **Starting**.

9. Click the **Refresh Table** icon to refresh the screen.

Eventually, the **State** column will display **Installed**, indicating that the service has started.

Uninstalling the BotConnector Snap-in service

About this task

When you uninstall BotConnector Snap-in, the system does not remove the service attributes from the Avaya Breeze™ server.

Before you begin

BotConnector Snap-in service with installed status must be available on System Manager at **Avaya Breeze™ > Service Management > Services**.

Procedure

1. On the System Manager web interface, click **Elements > Avaya Breeze™**.
2. In the navigation pane, click **Service Management > Services**.
3. On the Services page, select the check box for BotConnector Snap-in.
4. Click **Uninstall**.
5. On the Confirm uninstall service page, perform the following steps:
 - a. Select the cluster.
 - b. **(Optional)** Select the **Do you want to force the uninstall?** check box.
 - c. Click **Commit**.

Next steps

To verify that the snap-in service is uninstalled, perform the following steps:

1. On the Services page, verify that the **State** field shows **Loaded**.
2. On the navigation pane, click **Cluster Administration**.
3. On the Cluster Administration page, verify that the Service Status page does not display the uninstalled BotConnector Snap-in.

Deleting BotConnector Snap-in

Before you begin

Ensure that BotConnector Snap-in is uninstalled.

Procedure

1. On the System Manager web interface, click **Elements > Avaya Breeze™**.
2. In the navigation pane, click **Service Management > Services**.
3. On the Services page, perform the following steps:
 - a. Verify that the **State** of the service is **loaded**.

- b. Select BotConnector Snap-in, and click **Delete**.
- c. Select the **Please Confirm** check box to confirm the deletion.
- d. Click **Delete**.

Next steps

Verify that the Services page does not display the deleted service.

Upgrading BotConnector Snap-in to Release 3.4

About this task

Use this procedure to upgrade BotConnector Snap-in from an earlier release to 3.4.

Before you begin

- Upgrade Avaya Breeze™ to the latest release. For more information, see *Upgrading Avaya Breeze™*.
- Delete the older version of BotConnector Snap-in. For more information, see “Deleting BotConnector Snap-in”.

Procedure

1. On the System Manager web console, navigate to **Elements > Avaya Breeze™**.
2. In the left navigation pane, click **Service Management > Services**.
3. On the Services page, load the new version of BotConnector Snap-in.
4. In the left pane, click **Cluster Administration**.
5. Select the cluster on which you want to upgrade.
6. Click **Cluster State > Deny New Service**.
7. Select the cluster, and click **Edit**.
8. On the Cluster Editor page, click **Services**.
9. In the **Available Services** list, click the plus sign (+) for BotConnector Snap-in 3.4.
10. Click **Commit**.

The system starts installing new service.
11. On the Cluster Administration page, verify that the service is installed for the cluster.
12. Restart the Avaya Breeze™ system where the BotConnector Snap-in service is installed.
13. On the Cluster Administration page, verify that the status of the cluster created is checked for the following columns:
 - **Cluster Database**
 - **Data Replication**

- **Service Install Status**
 - **Tests Pass**
 - **Overload Status**
14. Verify that **Cluster State** shows:
 - **Denying [2/2]** for a two-node deployment.
 - **Denying [1/1]** for a single-node deployment.
 15. On the Cluster Administration page, select the cluster.
 16. Click **Cluster State > Accept New Service**.
 17. Click **Continue** in the Accept New Service dialog box.

In the **Servers State** column, the system displays **Accepting [2/2]** for a two-node deployment and **Accepting [1/1]** for a single node deployment.

High Availability

Overview

A BotConnector Snap-in cluster consists of two Avaya Breeze™ servers of the General Purpose type. The BotConnector Snap-in cluster requires the **Is session affinity enabled** attribute to be enabled. With this setting, the request coming from a particular client will be always served by the same Avaya Breeze™ server, provided the server is up and running.

The two Avaya Breeze™ servers operate in an active/active mode which means both the servers can serve the incoming requests simultaneously. The configuration for the BotConnector Snap-in cluster is done from the System Manager web interface and the configuration is applicable for both the Avaya Breeze™ servers in the cluster.

When you change any BotConnector Snap-in configuration through the System Manager web interface, System Manager sends the data to both the servers in the cluster. Each server in the cluster stores the configuration data locally.

The BotConnector Snap-in cluster is accessible through a cluster IP address that is maintained by a highly available load balancer. The Active load balancer server can be identified from the System Manager web interface. The other server is the Standby Load Balancer server. As the **Is session affinity enabled** attribute is enabled in the BotConnector Snap-in cluster, the load balancer calculates the hash key using the logic defined which uses all four octets of the IPv4 address of the client system from where the request is coming. The server selection which will serve the request will always remain constant across the instances of the load balancer and it would be driven by the sequence in which the servers are listed in the configuration files maintained by the load balancer itself. This means that each BotConnector Snap-in session request coming from a particular client will be mapped with one of the Avaya Breeze™ server and the server will serve all the subsequent requests for that client.

If one of the two servers in the BotConnector Snap-in cluster is unavailable, BotConnector Snap-in can handle incoming requests without significant impact to its performance. In case one node is down in the two-node BotConnector Snap-in cluster, the maximum number of 750 sessions are supported.

Supported failure modes

BotConnector Snap-in supports a single point of failure. The single point of failure is a server or a network failure.

BotConnector Snap-in does not support multiple points of failure at the same time. BotConnector Snap-in supports the following failure modes one at a time, no combination of these modes are supported at the same time:

- **Server failure:** A single Avaya Breeze™ server in the BotConnector Snap-in cluster is shut down or powered off.
- **Network outage:** Network outage affecting one of the Avaya Breeze™ servers in the BotConnector Snap-in cluster.

For a BotConnector Snap-in cluster to be highly available and to process 1500 sessions, the cluster must be fully operational with both Avaya Breeze™ servers operational and all services operational. A BotConnector Snap-in cluster is not highly available if:

- One of the Avaya Breeze™ servers in the cluster fails. After a server outage, the remaining server in the BotConnector Snap-in cluster is not highly available and the capacity to support sessions will be reduced to 750 sessions. The failed server must be restored to the cluster to restore high availability.
- One of the Avaya Breeze™ servers is in the Deny New Service state.

Failover behavior

When the active Avaya Breeze™ server from the BotConnector Snap-in cluster goes down, the load balancer shifts and the standby node is promoted to the new active server. The load balancer marks the node as down for a specific period of time which can be configured from the System Manager web interface by configuring the following attributes of the cluster.

- **HTTP Load Balancer backend server max failure response timeout period (seconds)**
- **Max number of failure responses from HTTP Load Balancer backend server**

After the failover, any incoming request for the server which is down is either redirected or sent to the new active server in the cluster which is decided by the load balancer using these two cluster attributes. All the requests are served successfully with no failure.

Chapter 7: Performance

Capacities and scalability specification

This section provides the capacity specification for the Avaya-certified deployment scenarios. Avaya has used these values as a benchmark for capacity verification.

Considerations:

- Message per second is the total of all requests, such as CreateSession, SendMessage, GetMessage, EndSession for REST interface. If throughput exceeds, the Automated chat server or third-party chat service might go into nonresponsive state.
- The maximum size of SendMessage is 255 characters.
- The maximum size of GetMessage response is 500KB.
- The maximum session per account is 1500, based on the limit of the multiple server configuration for Automated Chat or third-party chat service.
- If one of the Avaya Breeze™ node servers is unavailable, the message per seconds would be reduce by 50%. For a two-node Avaya Breeze™ cluster, BotConnector Snap-in supports 1500 sessions. If one of the nodes is unavailable, the session capacity would be reduce to a maximum of 750 sessions.

Deployment	Request per second	Maximum memory usage	Maximum system CPU usage
Single Server (1)	220	47.33%	37%
Multiple Server (2)	400	50.31%	40%

Table 3:

Capacity Guidlienes for BotConnector Snap-in	Multiple server	Single server
Number of simultaneous sessions	1500	750
Interval in seconds for each visitor session input (no delay presumed for response to visitor session)	30	30

Table continues...

Performance

Capacity Guidlienes for BotConnector Snap-in	Multiple server	Single server
Send message per session per minute	2	2
Total send message per second	50	25
Polling interval for getMessagesAfter in seconds	5	5
Total polling requests per second	300	150
Total messages per second overall	350	175
Considering transcript requests		
Percent sessions transitioning to live chat 80%	80%	80%
Total transcript requests per session per minute	0.96	0.96
Total transcript requests per minute	120	60
Total transcript requests per second	2	1
Revised total messages per second overall	352	176
Session Churn		
Average length of session in seconds	600	600
Total Messages per hour	1267200	630000
Total Session per hour	9000	4500
Session start interval in seconds 0.033	0.033	0.033
Session starts per second 30	30	30
Max value of response	500 KB	500 KB
Total transcript size per session	1 MB	1 MB

Chapter 8: Security

Port utilization

For BotConnector Snap-in port information, see the Avaya Breeze™ Port Matrix document at <https://support.avaya.com/security>.

Chapter 9: Troubleshooting

Log file descriptions

Avaya Breeze™ provides a separate log file for BotConnector Snap-in. If more than one version of BotConnector Snap-in is installed, all logs are stored to the same file.

If you set the logging on the Avaya Breeze™ to **OFF**, the log level for BotConnector Snap-in is reset to **INFO** level. If you want to investigate the logs, select the logging level to **Finer**.

The following table describes the log name and location of the logs related to BotConnector Snap-in:

Log name	Location	Description
Service installation/deployment logs	<code>/var/log/Avaya/sm/asm.log</code> <code>/var/log/Avaya/sm/TextLog_<TimeStamp>.log</code>	Validates the BotConnector Snap-in deployment logs
Service logs	<code>/var/log/Avaya/services/BotConnector/BotConnector.log</code>	Validates the snap-in service logs.
Alarm logs	<code>/var/log/Avaya/services/event.log</code>	Validates the snap-in alarm logs.

Changing the logging level

Procedure

1. On the System Manager web console, navigate to **Home > Elements > Avaya Breeze™**.
2. In the navigation pane, click **Configuration > Logging**.
The system displays the Logging page.
3. Select BotConnector Snap-in.
4. Select the logging level:
 - INFO
 - WARN

- ERROR
- FATAL
- FINE
- FINER
- FINEST
- ALL
- OFF

If you select `OFF`, the logs will be disabled.

5. To clear the logs, click **Clear Logs**.
6. Click **Commit**.

Avaya Oceana™ Solution Serviceability messages

Avaya Oceana™ Solution life cycle messages

- BotConnector service starting
- BotConnector service started
- BotConnector service stopped
- Plug-in loaded successfully
- Failed to load plug-in
- Text Analytics module disabled
- Text Analytics module enabled
- Text Analytics module initialized successfully
- Failed to initialize Text Analytics module
- Chat Conversation module disabled
- Chat Conversation module enabled
- Chat Conversation module initialized successfully
- Failed to initialize Chat Conversation module
- Failed to initialize BotConnector license service
- Failed to initialize BotConnector license service

Avaya Oceana™ Solution heartbeat messages

- BotConnector conversation module is functional
- BotConnector conversation module is not functional
- BotConnector text analytics module is functional

- BotConnector text analytics module is not functional

Alarms and events

BotConnector Snap-in generates alarms whenever an error occurs. You can view, search, configure, and export the alarms from the System Manager web console.

- To view the alarms, on the System Manager web console, navigate to **Services > Events > Alarms**.
- To export the alarms, on the System Manager web console, navigate to **Services > Events > Alarms > More Actions > Export all**.
- To view the event logs, on the System Manager web console, navigate to **Services > Events > Logs > Log Viewer**.

BotConnector Snap-in alarms

BotConnector Snap-in unable to init sucessfully

Event ID: `INIT_FAILED`

Notification OID: `.1.3.6.1.4.1.6889.2.91.0.100`

Problem description: BotConnector Snap-in installed successfully but failed to initialize.

Event level: Critical

Solution

Contact the support engineer to ensure that the traffic load is minimized.

Unable to reach the Automated Chat server

Alarm ID: `CONN_FAILED`

Notification OID: `.1.3.6.1.4.1.6889.2.91.0.101`

Description: Unable to reach the Automated Chat server

Severity: Major

Solution

Check the network connection between BotConnector Snap-in, Avaya Breeze™ server, and Avaya Automated Chat server.

Value of the Automated Chat URL field is invalid

Alarm ID: `ATTR_ERR_001`

Notification OID: `.1.3.6.1.4.1.6889.2.91.0.200`

Description: The value of the **Automated Chat URL** field is invalid. The Automated Chat service will not work.

Severity: Minor

Solution

Check the attribute value configured for BotConnector Snap-in attribute **Automated Chat Base URL**.

BotConnector Snap-in stops successfully

Alarm ID: ACBSI_STOP

Notification OID: .1.3.6.1.4.1.6889.2.91.0.301

Description: BotConnector Snap-in stops successfully.

Severity: Normal

BotConnector Snap-in starts successfully

Alarm ID: ACBSI_START

Notification OID: .1.3.6.1.4.1.6889.2.91.0.300

Description: BotConnector Snap-in starts successfully.

Severity: Normal

BotConnector Snap-in events

BotConnector Snap-in license error mode

Alarm ID: OP_GEMMTC20033

Description: BotConnector Snap-in license error mode.

Severity: Major

Solution

1. Download the BotConnector Snap-in license file from the PLDS.
For more information, see *Avaya BotConnector Snap-in Release Notes*.
2. Install the license file.
For more information, see “Configuring BotConnector Snap-in licenses”.

Avaya Breeze™ bus events

Avaya Breeze™ applications who have subscribed for the events, listen to these events and use it to start their action.

BotConnector Snap-in publishes the following events to Avaya Breeze™:

- **START CHAT SESSION EVENT:** BotConnector Snap-in publishes this event when a user starts a new chat session.
- **END CHAT SESSION EVENT:** BotConnector Snap-in publishes this event when a user ends a chat session.
- **ESCALATE TO LIVE AGENT EVENT:** BotConnector Snap-in publishes this event when Automated Chat is not able to answer a user's question.

Backup and Restore

BotConnector Snap-in uses the backup and restore functionality of System Manager to back up and restore the data and configuration files. The data and configuration files for the entire system are kept centrally on System Manager.

 **Note:**

The backup files contain all System Manager data, not only the BotConnector Snap-in data. For more information, see *Administering Avaya Aura® System Manager*.

Backing up the BotConnector Snap-in data

Procedure

1. On the System Manager web console, navigate to **Services > Backup and Restore**.
2. Click **Backup**.
3. In the **Type** field, select the appropriate type:
 - **Local:** The system backs up the data on a local computer.
 - **Remote:** The system backs up the data on a remote computer.
4. In the **File Name** field, enter a file name.
5. Click **Now**.

System Manager creates a backup file in the home directory of the specified user.

You can also schedule a backup. For more information, see *Administering Avaya Aura® System Manager*.

Restoring the BotConnector Snap-in data

Procedure

1. On the System Manager web console, navigate to **Services > Backup and Restore**.
2. Click **Restore**.
3. In the **Type** field, select the appropriate type:
 - **Local**: The system restores the data from a local computer.
 - **Remote**: The system restores the data from a remote computer.
4. In the **File Name** field, enter the backup file name.
5. Click **Restore**.

System Manager restores the backup data from the home directory of the specified user.

For more information, see *Administering Avaya Breeze™*.

Chapter 10: Resources

Documentation

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

Title	Use this document to	Audience
Overview		
<i>Avaya Breeze™ Overview and Specification</i>	Find information about the product characteristics and capabilities, including feature descriptions, interoperability performance specifications, security, and licensing requirements.	Avaya professional services, implementation engineers, support personnel, and system administrators
Administering		
<i>Administering Avaya Breeze™</i>	Find the procedures to administer and configure Avaya Breeze™.	System administrators and support personnel
<i>Administering Avaya Aura® System Manager</i>	Find the procedures to administer and configure System Manager.	System administrators and support personnel
Implementing		
<i>Deploying Avaya Breeze™</i>	Find the procedures to Avaya Breeze™.	System administrators and support personnel
<i>Quick Start to deploying the HelloWorld Snap-in</i>	Find the checklists to deploy snap-ins.	System administrators and support personnel
<i>Avaya BotConnector Snap-in Developer Guide</i>	Find information about BotConnector Snap-in SDK.	System administrators and support personnel
<i>Deploying Avaya Oceana™ Solution</i>	Find information about integrating BotConnector Snap-in with Avaya Oceana™ Solution.	System administrators and support personnel
Upgrading		
<i>Upgrading Avaya Breeze™</i>	Find the procedures to upgrade Avaya Breeze™.	System administrators and support personnel

Finding documents on the Avaya Support website

Procedure

1. Navigate to <http://support.avaya.com/>.
2. At the top of the screen, type your username and password and click **Login**.
3. Click **Support by Product > Documents**.
4. In **Enter your Product Here**, type the product name and then select the product from the list.
5. In **Choose Release**, select an appropriate release number.
6. In the **Content Type** filter, click a document type, or click **Select All** to see a list of all available documents.

For example, for user guides, click **User Guides** in the **Content Type** filter. The list displays the documents only from the selected category.

7. Click **Enter**.

Training

The following courses are available for the Avaya Oceana™ Solution program.

Course code	Course title	Delivery Type
3420W	Avaya Oceana™ Solution Design Fundamentals	LMS
3470T	Avaya Oceana™ Solution Design Fundamentals APDS Online Test	LMS
2402W	Avaya Oceana™ Workspaces Agent Desktop Training	Along with the license
2404W	Avaya Oceana™ Workspaces Supervisor Desktop Training	Along with the license

Developer resources

Avaya DevConnect provides resources for Avaya Breeze™ developers.

You must register to access the DevConnect.

Resources

Basic DevConnect membership is free and gives you access to the following information and resources:

- Programming and product documentation
- Sample applications
- Videos
- Webinar recordings
- Forums

Upgraded membership options offer developer-oriented technical support and other program services.

Use a browser to navigate to the Avaya Breeze™ DevConnect website at <http://www.avaya.com/breezedevconnector>.

Support

Go to the Avaya Support website 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.

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