

# CallableService Sample Snap-in

## Introduction

The CallableService Snap-in demonstrates the concepts behind the Avaya Breeze® platform Callable Service and Record features. In general, callable services are defined as services whose features are invoked as a result of being directly called, as opposed to being invoked when an end user's address is used to originate/receive a call. The difference between any service and a callable service is that there is no actual called party or endpoint where call is eventually getting terminated in callable service. The callable service itself is the called party. In order to use the snap-in as a callable service, it is required to create a dial pattern and routing policy with the Avaya Breeze as the destination. Within the callIntercepted call back, the CallableService snap-in plays announcements, collects digits and allows the user to record a message.

The use case is as follows:

1. The user calls a number against which the CallableService snap-in is configured.
2. The CallableService snap-in plays an announcement to the user, collects digits and allows the user to record a message, play the previously recorded message or delete the message.

## Overview

Some configuration is required for the CallableService snap-in to be invoked as a callable service. Let's assume the extension 2222 will be used in the snap-in. This would be the number which when called will take the caller to the CallableService snap-in.

Make sure the extension (2222) that receives the CallableService is not defined in Avaya Aura® System Manager -> Users -> User Management -> Manage Users.

Also make sure this extension (2222) is not included in any patterns defined in Avaya Aura® System Manager -> Elements -> Session Manager -> Application Configuration -> Implicit Users.

Create a Routing Policy with the Avaya Breeze as the destination from Avaya Aura® System Manager -> Element -> Routing -> Routing Policies.

Create a Dial Pattern for 2222 with the routing policy created in previous step from Avaya Aura® System Manager -> Element -> Routing -> Dial Patterns.

- Note that this Dial Pattern could include numbers assigned to other Avaya Breeze Callable snap-ins.

Create a Service Profile (example: CallableServiceProfile) with the CallableService snap-in as the only service under it.

Add CallableServiceProfile for 2222 in the Implicit User Profiles screen (Avaya Aura® System Manager -> Elements -> Avaya Breeze -> Configuration -> Implicit User Profiles). This will make sure that when call comes to Avaya Breeze in the "terminating"

When invoked, the sample snap-in instructs the Avaya Aura® Media Server to play several Announcement (wav) files. The wav files are in the sample\_services/CalableService/CallavbleService-war/src/main/webapp/ folder in the SDK. The wav files are part of the sample snap-in war. These files do not need to be installed on Avaya Aura® Media Server. As long as Avaya Aura® Media Server is installed and configured properly, Avaya Aura® Media Server will be able to retrieve the wav files via HTTPs from the sample snap-in and play it to the caller. Since the CallableService snap-in resides on Avaya Breeze, the max duration for the record is set to 5 minutes to limit the record size. Additionally, to establish trust between Avaya Aura® Media Server and Avaya Breeze for HTTPs to work, please refer to the sections of the “Importing a trust certificate to the trust store” in Media Server 7.7 “Implementing and Administering Avaya Aura® Media Server” document. For assistance on exporting trusted certificate, please refer to “Administering Avaya Aura® Session Manager 7.0” in the “certificate management” section.

The snap-in prompts the user to dial a digit to select from a list of options. If no input is received from the caller within 60 seconds, the call is dropped. If an invalid digit is pressed, not corresponding to one of the three operations, then the call is dropped as well. If the snap-in was invoked as a call intercept service, it will log an error, skip the announcement, and pass the call to caller.

Attributes for this service are configured in the Service Profile for Avaya Breeze in System Manager, as shown in figure 1. The first attribute represents the recording file name. The recorded file can be accessed through “http(s)://ASSET\_IP/services/CallableService/AudioFile.wav”. The physical location of the file is on the Avaya Breeze “/opt/IBM/WebSphere/AppServer/profiles/AppSrv01/InstalledApps/YOUR\_NODE\_CELL/Callabl eService-<Snap-in Version>.ear/CallableService-<Snap-in Version>.war/AudioFile.wav”. The second attribute represents the Avaya provided supplier id.



Figure 1

Attributes are defined in the properties.xml descriptor.

## Concept Demonstrated

How to distinguish if the snap-in is invoked as a callable service or as sequenced.

Reading attributes from the user's Service Profile.

Allowing the call to be dropped by the called party using Avaya Breeze API's Call.drop method.

Usage of the PromptAndCollect media service, which includes the creation the PlayItem and DigitOptions. It also shows how to retrieve the digit selected by the called party.

Usage of the play announcement media service, which includes creation of the PlayItem.

Usage of the record media service with the http(s) as the record file destination, which includes the creation of the RecordItem.

Handling an incoming AAMS POST request (including decoding the base64), then saving the recording file.

Implement the service to delete the previous saved record file.

## Detail Description

The service framework invokes the class CallableServiceCallListener recognized by the fact that it extends the CallListenerAbstract class, and is annotated with @TheCallListener.

In the CallableServiceCallListener.callIntercepted() method, it demonstrates how to tell if the service is a callable service or not. It starts with the Greeting message. Call attribute "nextPrompt" is used to store what is the next announcement to play after the current announcement.

CallableServiceMainMenuMediaListener class extends the MediaListenerAbstract class, and it is used to listen for the media operation events related to the main menu and the Greeting message. From the call attribute "nextPrompt", it decides which media operation to perform next.

The detailed media operations are implemented in the "com.avaya.zephyr.services.sample.service.CallableService.operations" java package. It demonstrates how to request the announcement, prompt and collect and record. It also shows how to setup the media listener related to the media operation.

PlayAnnouncementOperationImpl class shows how to set up a PlayItem to be used by Mediaservice.play feature. PlayAndCollectOperationImpl class shows how to set up a PlayItem and DigitOptions to be used by MediaService.promptAndCollect feature. It has set the 1 minute as the timeout for the digitOptions, that means if will only wait for 1 minute to let user decide

which option to choose. RecordMessageOperationImpl class shows how to setup the RecordItem to be used by the MediaService.record feature. In the sample, it has set the max. record time to be 5 minutes to save the Avaya Breeze resource.

If the user chooses to record a message from the main menu, it will set the call attribute “nextPrompt” to be a new announcement file for the promptAndCollect after the recordCompleted event is received by the CallableServiceMainMenuListener. The new promptAndCollect announcement will allow the user to make decision to keep the current recording or discard it. CallableServiceSubMenuMediaListener class will monitor the digit options related to this new promptAndCollect.

## Snap-in Invocation

This sample snap-in is recommended to run on a single Avaya Breeze node cluster. The snap-in stores the record file locally on the Avaya Breeze. If running in a multi-node Avaya Breeze cluster environment, it may not be able to find the previously recorded file. The snap-in should store the file remotely on the centralized location (for example http server) in multi-nodes cluster environment.

The properties.xml document under CallableService-svar/src/main/resources has been configured to ensure the CallableService sample snap-in gets invoked appropriately. It defines the name of the recording file and the Avaya supplier ID.

## Installation and Configuration

The CallableService sample snap-in can be found in the SDK zip at : /samples/CallableService.

Change directories to where the snap-in resides and compile it (mvn clean install). Load and install the svar on System Manager, enable it in Service Profile, and administer the destination as a Callable Service.

For information on installing the snap-in, assigning it to users, and configuring the display string attribute for Service Profile see [Quick Start to Deploying Avaya Breeze Snap-ins].

## Testing the Snap-in using an example

Assuming two numbers: calling party: [1111@avaya.com](mailto:1111@avaya.com), called party: [2222@avaya.com](mailto:2222@avaya.com).

1. [1111@avaya.com](mailto:1111@avaya.com) is the user had been configured in the System Manager as a user. And [2222@avaya.com](mailto:2222@avaya.com) is not a known user configured in the Session Manager’s Implicit Users and User Management. Detail procedures had been described in the Overview section.
2. Setup the Routing Policies, Dialer Patterns, Service Profiles, and Implicit User Profiles for [2222@avaya.com](mailto:2222@avaya.com) as the procedures described in the Overview section
3. Calling 2222 from 1111 number.

4. The announcement is played, and the main menu options are presented.
5. Based on the digit pressed, it will record, play previous recording or delete the previous recording.

For 1: Record, instruction on how to record will be played.

- ❖ The recording will be stopped either by pressing the # or 5 minutes. .After the recording is complete, the user has the option to approve the recording (option1) or discard and record again (option 2).
- ❖ For 1: The recording is saved. User may choose \* to exit the call or press 1 to return to the main menu.
- ❖ For 2: Record again.

For 2: Play previous recording. If there is no previous recording. The call will be dropped after the Thank You message.

For 3: Delete the previous recording. File will be deleted, and the call will be dropped after the Thank You message.

For any other digit than 1, 2, 3 or not entering any digit for 1 minute, the call will be dropped after the Thank You message.

## Troubleshooting

No play message after the call.

Action:

Make sure the called party is configured correctly based on the Overview section. The called party is not included in any of the Implicit Users in the Session Manager, and not defined as a User in the User Management.