Mitel MiContact Center Enterprise

VOICEXML APPLICATIONS SCRIPT MANAGER
USER GUIDE

Release 9.5 SP2

⋈ Mitel®

NOTICE

The information contained in this document is believed to be accurate in all respects but is not warranted by Mitel Networks™ Corporation (MITEL®). The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes.

No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

TRADEMARKS

The trademarks, service marks, logos and graphics (collectively "Trademarks") appearing on Mitel's Internet sites or in its publications are registered and unregistered trademarks of Mitel Networks Corporation (MNC) or its subsidiaries (collectively "Mitel") or others. Use of the Trademarks is prohibited without the express consent from Mitel. Please contact our legal department at legal@mitel.com for additional information. For a list of the worldwide Mitel Networks Corporation registered trademarks, please refer to the website: http://www.mitel.com/trademarks.

INTRODUCTION

This document describes how to use Script Manager as an implementation platform for VoiceXML applications.

The licensing model specific to this feature is presented, as well as the limitations of VoiceXML support in the product.

A tutorial based on a sample script and associated VXML document is also detailed. To run this tutorial, some prerequisites apply to the OAS/TAS installation and to the web server.

SAMPLE SCRIPT FILES

The sample script files used in this document are available on the MiCC Enterprise product DVD. See document *Installing Sample Scripts* for details.

OAS INSTALLATION

To interpret VoiceXML documents, Script Manager uses ASR and TTS. Nuance 11 is required for this feature. In addition, the licenses for ASR grammar (for natural language) and licenses for ASR language need to be included.

The details for these steps are covered in the document *ASR and TTS Overview.*

WEB SERVER CONFIGURATION

The VoiceXML and grammar documents used in the tutorial must be published by a web server (named **vxmlapplicationserver** hereafter).

Depending on the web server used, it may be necessary to add vxml and grxml to the list of supported MIME types. Figure 1 shows the corresponding configuration dialog in the IIS Manager console.
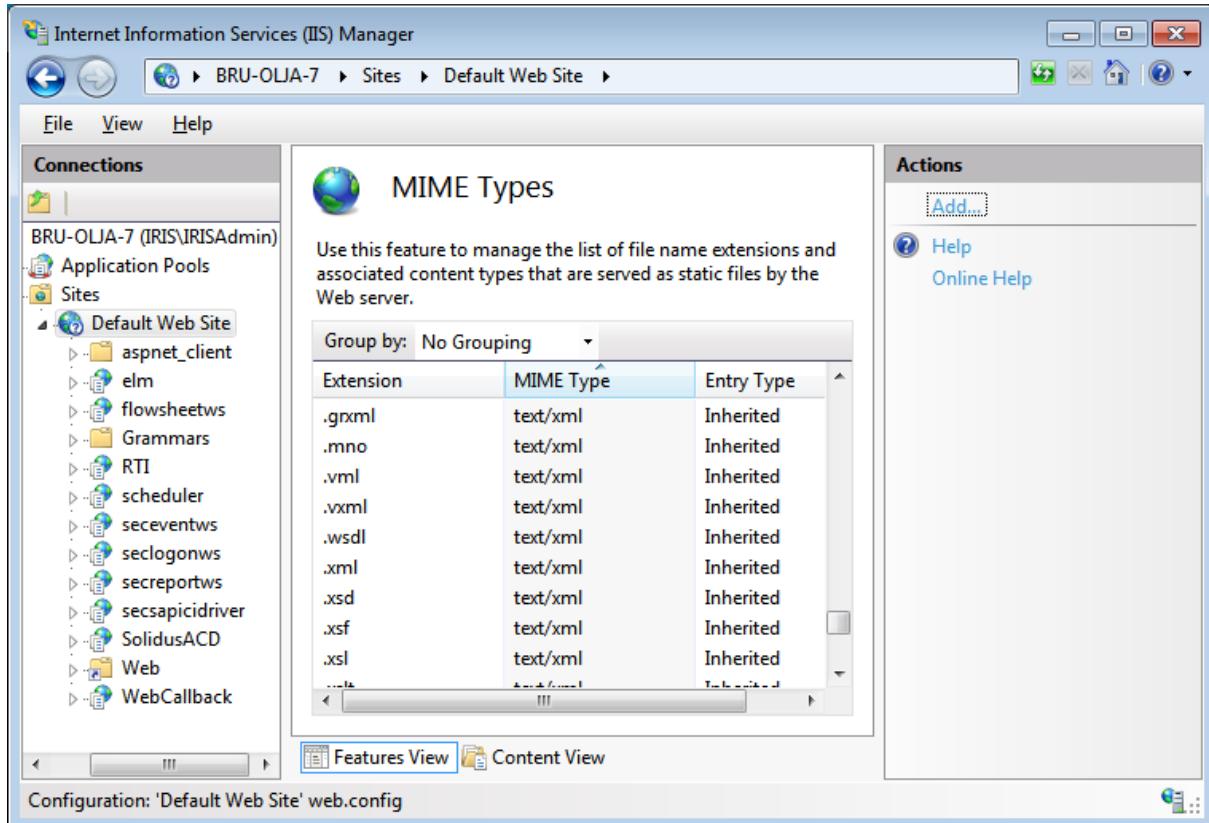
Figure 1 IIS MIME Types

VOICEXML IN SCRIPT MANAGER

OVERVIEW

During a voice call, some (or all) interactions between the caller and the system can be specified dynamically by an external VoiceXML application server. Script Manager can interact with such a server by means of the Execute block available in the VXML component library.

When this block is executed in a script, an initial VoiceXML document is downloaded from a configurable URI and interpreted. Additional documents (VoiceXML or grammars) may be fetched as part of this process, and call- or media-related operations are typically performed such as playing voice messages or text to speech, voice recognition, getting digits or recording.

It is possible to continue script execution after this block, for instance by transferring the caller to a Service Group identified during the VoiceXML process.

LICENSING

MICC ENTERPRISE VXML SITE LICENSE

This system-wide license must be activated for any VoiceXML interpretation to be allowed.

MICC ENTERPRISE VXML PER PORT LICENSE

Each script execution instance that contains one or more VXML Execute block(s) needs a per-port license.

One per-port license is acquired as soon as the script instance is started, provided that the **Uses VXML** option has been set in the Script or Service Access configuration properties.

Once a per-port VoiceXML license has been acquired, it is only released at end of the script execution.

LIMITATIONS

DOCUMENTS PUBLICATION

The VoiceXML and grammar documents are downloaded from a web server over HTTP (but grammars may also be provided inline.)

The only supported protocol in this case is **HTTP**. Accessing files using a local path or from a Windows shared drive is not supported. Other protocols such as FTP or HTTPS are not supported either. Furthermore, the web server must not enforce any authentication mechanism for accessing the files.

Sessions can be maintained on the server based on cookies, which are sent by the client as part of all requests involving VoiceXML documents (.vxml). However, grammar documents (.grxml for instance) must be accessible by the client without providing any cookie as part of the request to the web server.

VOICEXML SUPPORT

Script Manager is compatible with VoiceXML 2.0 and 2.1 specifications, with the following restrictions.

- The only supported prompt and grammar formats are those with which Nuance 11 is compatible.

- Only one language is allowed per VoiceXML session.

- The only available audio file formats are those supported by Nuance 11.

- Only blind transfers initiated during the VoiceXML process are supported. (This restriction does not apply to transfers that are performed by the script after execution of the VXML Execute block.)

- The <record> element supports only DTMF barge in. To achieve functionality similar to record that allows speech barge in, a <field> element must be used in conjunction with the recordutterance property.

- Audio files produced by the <record> element are saved in the root_container folder of OAS/TAS Media Server as "Recording-*.wav" files, and cannot be replayed as part of a <prompt>.

- The VoiceXML <option>and <choice> menu elements are not supported.

- No platform-specific functionality is available through the <object> element.

NUANCE CONFIGURATION

The default Nuance configuration makes it is possible to interpret VoiceXML documents and grammars, while keeping the ASR Control functionality of Script Manager unchanged.

However, this configuration requires grammars to avoid returning literal values in the recognition result.

For other types of grammars, it is possible to modify the **Baseline.xml** file (located in the Nuance\Recognizer\config\ installation folder) as follows.

- Remove (or comment out) the
  `<param name="swirec_extra_nbest_keys">` tag,
  along with all its child elements and closing tag.

- Restart the Nuance Speech Server as well as the OAS or TAS.

Be aware that the **Recognize** and **NLBranch** blocks as well as script variables of **MediaLib.SpeechResult** type are not compatible with this configuration of the Nuance Recognizer.

TUTORIAL

VOICEXML.MFD

The script presented in Figure 2 demonstrates the inclusion of a VoiceXML application execution during a call.

This tutorial emphasizes the use of **AllocateResources** and **Execute** blocks.   Double-click on VoiceXML.mfd to open the script below.
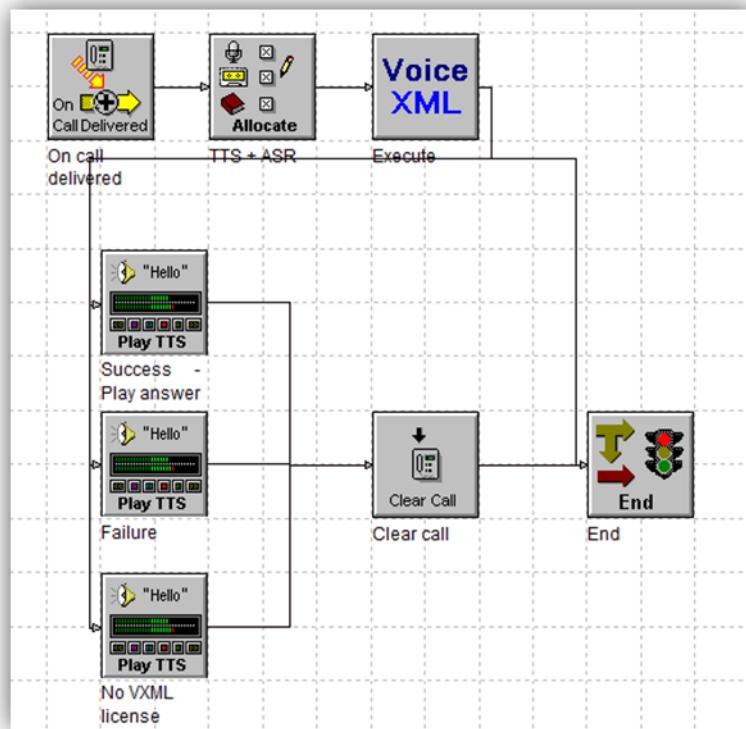

Figure 2 VoiceXML sample script

This script handles execution of a generic VoiceXML application that returns a single string answer. Its successive steps are the following.

- Receive an incoming call.

- Allocate ASR and TTS resources.

- Execute the VoiceXML application (including some TTS and ASR operations).

- Play the answer as a TTS message in case of success, or
  play the output branch followed in case of error.

SESSION VARIABLES

The following session variables are defined.

VxmlAnswer

- Type: String.
- Dimension: Zero.
- Initial Value: "Initial answer" (without quotes).

VxmlURI

- Type: String.
- Dimension: Zero.
- Initial Value: "http://vxmlapplicationserver/AreYouAllRight.vxml" (without quotes).

ONCALLDELIVERED

Figure 3 shows how the Settings tab of the OnCallDelivered block is configured.

Specify the name of an existing BVD in the **Monitored Device List**.
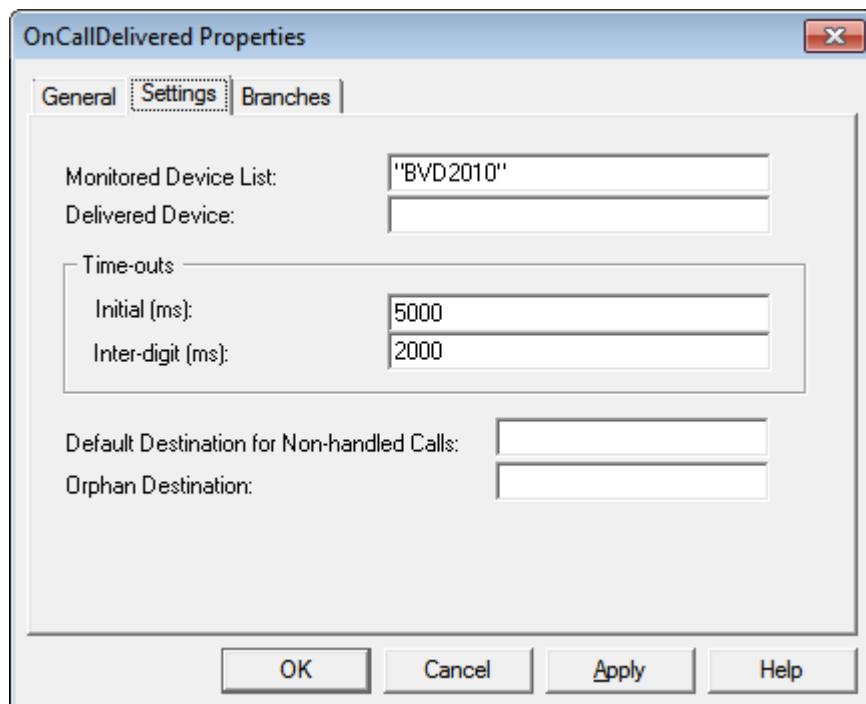
Figure 3 OnCallDelivered Settings

ALLOCATERESOURCES

Figure 4 shows how the Settings tab of the AllocateResource block is configured.
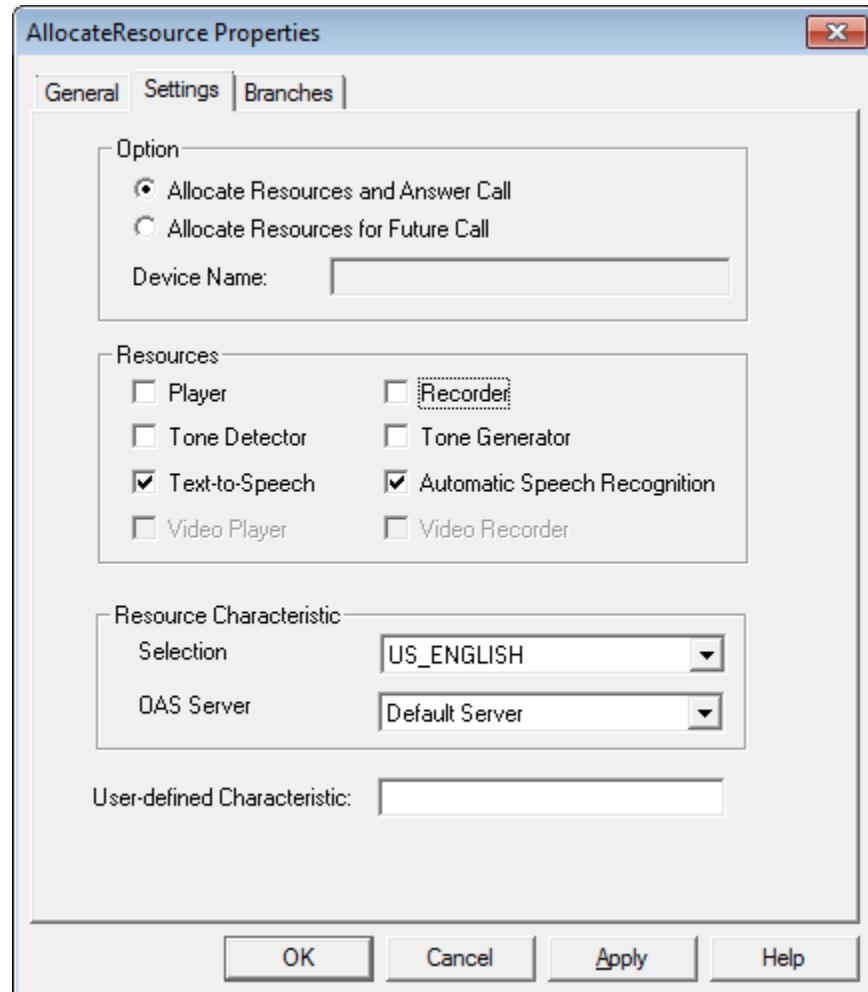
Figure 4 AllocateResource Properties

EXECUTE

Settings

Figure 5 shows how the Settings tab of the Execute block is configured.
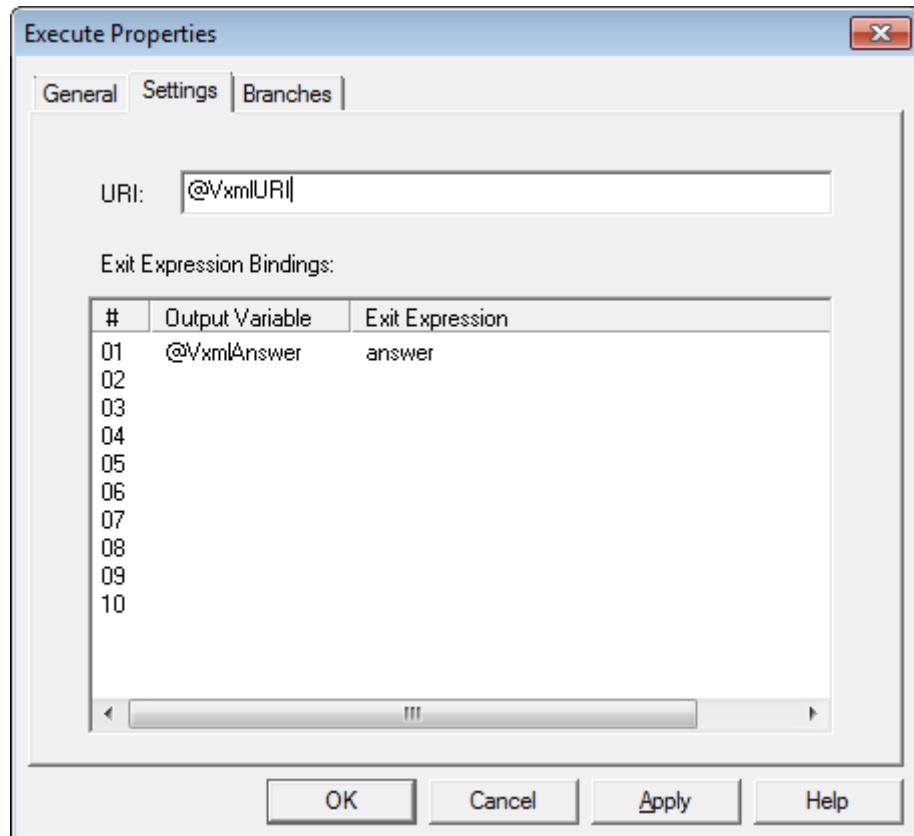

Figure 5 Execute Settings

Branches

Figure 6 shows how the Branches tab of the Execute block is configured.
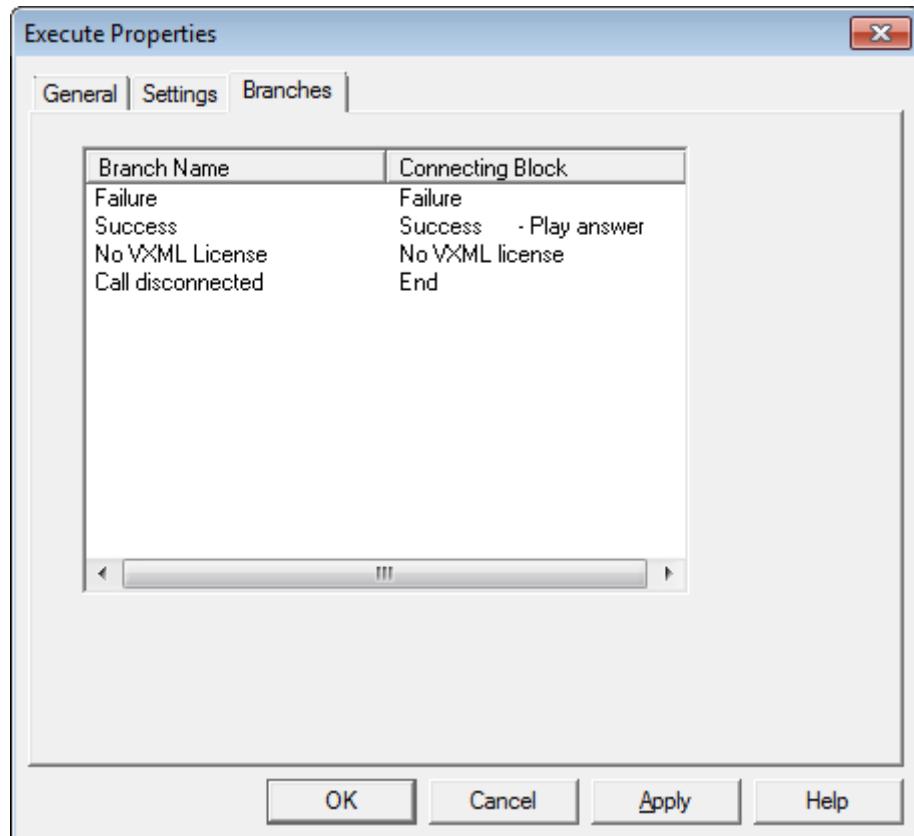
Figure 6 Execute Branches

AREYOUALLRIGHT.VXML

Figure **7** displays the content of the AreYouAllRight.vxml document that must be interpreted by the Execute block of the script.

This document must be published by the web server on vxmlapplicationserver, so that it can be downloaded from the http://vxmlapplicationserver/AreYouAllRight.vxml location.

If IIS is used, this can be achieved by

- creating a new text document named AreYouAllRight.txt using Notepad,
- copying and pasting the file content from
- Figure **7** into this document,
- saving the file and closing Notepad,
- renaming AreYouAllRight.txt into AreYouAllRight.vxml,

- moving the AreYouAllRight.vxml into the inetpub\wwwroot folder.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<vxml version="2.0" xmlns="http://www.w3.org/2001/vxml">
<form id="start">
  <var name="answer" expr="'No answer'"/>

  <catch event="connection.disconnect.hangup">
    <script>
      answer = 'Caller hung up';
    </script>
    <exit namelist="answer"/>
  </catch>

  <field name="feeling">

    <noinput> Please answer the question. </noinput>
    <nomatch> say 'yes' or 'no' </nomatch>

    <prompt> Are you OK? </prompt>

    <grammar root="main" tag-format="swi-semantics/1.0">
      <rule id="main" scope="public">
        <one-of>
          <item><ruleref uri="#yes"/><tag>recognized='yes'</tag></item>
          <item><ruleref uri="#no"/><tag>recognized='no'</tag></item>
        </one-of>
      </rule>
      <rule id="yes">
        <one-of>
          <item>yes</item>
          <item>yeah</item>
          <item>yep</item>
          <item>sure</item>
        </one-of>
      </rule>
      <rule id="no">
        <one-of>
          <item>no</item>
          <item>not</item>
          <item>nope</item>
        </one-of>
      </rule>
    </grammar>

    <filled>
      <if cond="feeling.recognized == 'yes'">
        Good news!
      <else/>
        Bad news, sorry.
      </if>
      <script>
        answer = feeling.recognized;
      </script>

      <exit namelist="answer"/>
    </filled>
  </field>

</form>
</vxml>
```

Figure 7 AreYouAllRight.vxml document

LICENSING CONFIGURATION

In the Configuration Manager application, activate VXML usage as follows.

- Expand the Service Accesses.

- Right-click on the Service Access associated to the VoiceXML script, and select **Properties…**

- In the Properties dialog, check **Uses VXML**.

USAGE

To test this sample script, perform the following steps.

- Call the BVD number associated to the Service Access.

- Say "Sure" or "Nope".

- Depending on what has been said, the system then plays
  - either "Good news!" followed by "Yes",
  - or "Bad news, sorry." followed by "No".

- You may also experiment with unrecognizable answers such as "Aloha", or without answering at all