Instructions:

ASR 10.5 Compatibility Update

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Instructions: Nuance ASR 10.5 Compatibility Update

The Nuance ASR 10.5 engine offers up to 30% increase in accuracy, Nuance support, and customizable inter-voice timeout settings. NICE inContact will no longer offer the 9.0 engine in the latter half of 2019, so we are allowing our customers to transition to the 10.5 engine now to provide ample time and convenience to perform the necessary updates. Updating your Studio scripts to become compatible with the Nuance ASR 10.5 engine entails two mandatory tasks. Additional tasks may be required or ideal, depending on your setup and if you want to take advantage of new features that the 10.5 engine offers. The following sections explain preliminary planning information, how to perform the mandatory and additional tasks to make your script(s) compatible with the Nuance ASR 10.5 engine, testing and tuning methods, finalizing your update, and frequently asked questions (FAQ).

Preliminary Planning

Before making changes or updates, review this document to decide the best course of action for your ASR scripts, as each script is different and you have multiple methods of implementing and testing/tuning the updates. After determining your best course of action and tasks you will perform, you must create a copy of your live ASR script(s) to implement the updates and test the functionality. Create a copy by simply saving the script with a new name – reference the following steps, if needed:

1. Open the ASR script in Studio.
2. Click **File** → **Save As**.
3. Type a new name in the **File name** field.
4. Click **Save**. This creates a new copy of your script with the name that you just typed, which you can access on the file server of your CXone platform.

Remember to choose an intuitive name for the soon-to-be 10.5 compatible script to avoid re-naming the script again when finalizing the update.

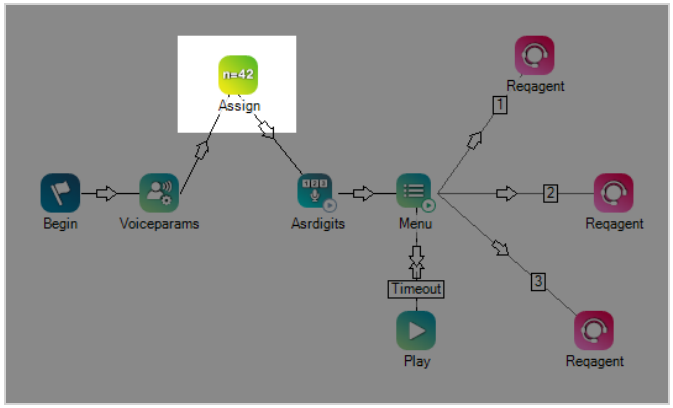
Mandatory Tasks

The two mandatory tasks entail referencing the new Nuance 10.5 server by adding an **Assign** action at the beginning of your ASR script(s) and updating the confidence values for any ASR actions that you use.

Add an Assign Action

All NICE inContact customers with ASR scripts must add one **Assign** action with a variable of __mrcpHost to any script with ASR actions (C14 must set this as a global variable; other clusters may do the same, but it is optional). This **Assign** action tells the script to reference the Nuance 10.5 servers. You **MUST** place the **Assign** action **BEFORE** the first ASR action in a script, preferably at the beginning of your script. If you are unfamiliar with Studio, follow these steps to add an **Assign** action to your script(s):

> ⓘ If you want to temporarily keep part of your contact traffic on the Nuance 9.0 server, you will want to place this action only before the branch of ASR actions that will reference the Nuance 10.5 server. (See the Testing and Tuning Options section)



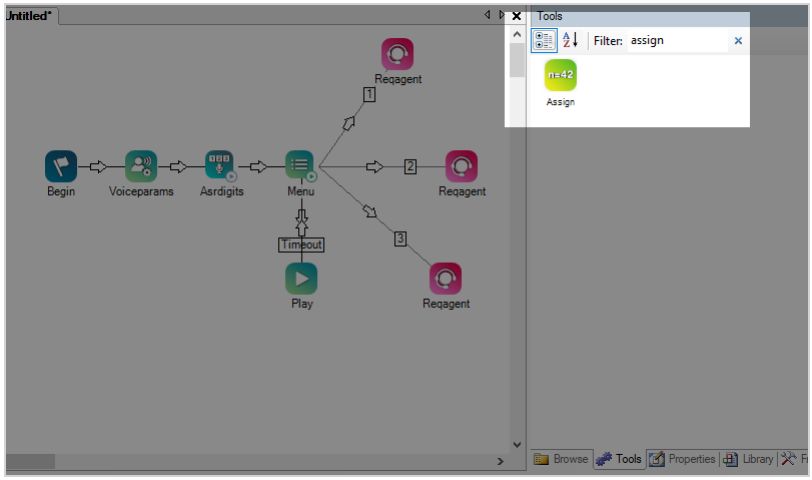
Open the script you want to update (**File** > **Open** > ____) in Studio.

1 If you want to, create a new copy of this script by saving it under a different name to test the compatibility of your new script. Information on testing is in the Testing and Tuning Options section. Create a copy by following these steps:

a. Click **File** → **Save As**.
b. Type a new name in the **File name** field.
c. Click **Save**. This creates a new copy of your script with the name you just typed, which you can access through your CXone platform.

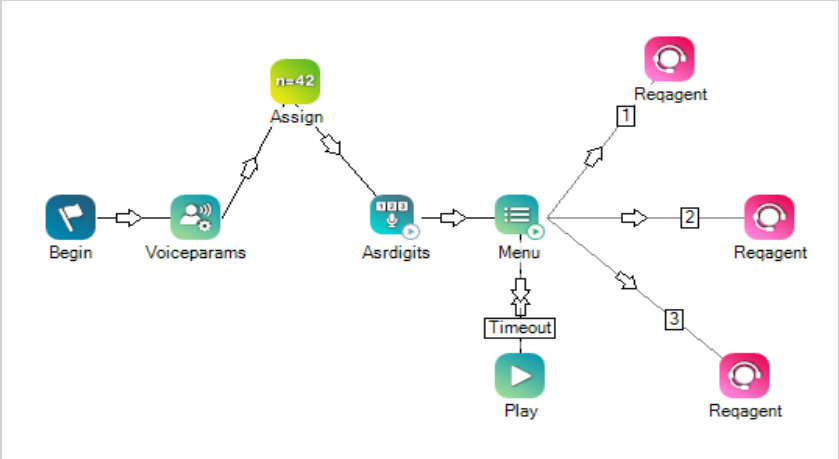
2 Locate the first ASR action in your script. You must place an **Assign** action anywhere before the first ASR action. The preceding image shows **Asrdigits** as the first ASR action.

3 Add an **Assign** action to your script:



a. Type *Assign* into the **Filter** field in the **Tools** window. When opening your script, the **Tools** window should be open by default. If it is not open, click the **Tools** tab at the bottom of the right-side window, as shown in the preceding image.
b. Click the **Assign** action icon. The icon will attach itself to your mouse.
c. Click the location where you want the **Assign** action, preferably right after the **Begin** action.

4 Re-configure your script branches to include the new **Assign** action.



a. Click the connector icon (indicated by an arrow) of the action icon before the new **Assign** action and drag it to the new **Assign** action.
b. In the Pick Branch dialog, select ***Default*** and press **OK**.
c. Click the connector icon of the new **Assign** action icon and drag it to the following action icon.
d. In the Pick Branch dialog, select ***Default*** and press **OK**.

5 Configure the new **Assign** action properties.

a. Right-click the action to open the **Properties** dialog.

b. Type *__mrcpHost* into the **Variable** field. For C14 organizations, you must make this a global variable by typing *global:__mrcpHost*.

> __mrcpHost contains two underscores.

c. Reference the following table and type your cluster's VIP URL into the **Value** field. Use the standard VIP unless you are on one of the uniquely specified clusters.

Cluster	VIP URL
Standard	asr.vip.inucn.com
C71	asr.vipaws.incmp.com
C14 & C33	asr-pci.vip.inucn.com (global variable mandatory for C14)
E31	asr.vipeur.inucn.com
E1	asr.vip.ineur.eu
A31	asr.vipaus.inucn.com

d. Click outside the **Properties** dialog to close it.

6 Save your new script (**File** → **Save**).

7 Test your new script. See the Testing and Tuning Options section of this document.

Update Confidence Values

The 10.5 Nuance engine includes new default confidence values to correlate with the improved accuracy and recognition. Therefore, to take advantage of this improvement, you must update the minimum and high confidence values of your ASR actions. The following table provides the default confidence values for the 10.5 engine. NICE inContact recommends that you test and tune your ASR actions to create the best performance of your system. You can use the default

values (in the table below) when updating your ASR actions, or you can use these defaults as a starting point during your testing, and make necessary adjustments as you tune.

You can edit the confidence values of your ASR actions in each action's properties dialog. Open the properties dialog by right-clicking the action in Studio.

ASR Action Name	DM Type	Min. Confidence Value	High Confidence Level	Notes
Asrcurrency	Currency	50	78	-
Asr	Custom Text	50	70	-
Asrdate	Date	55	80	-
Asrdigits	Digits	51	72	Also to be used for the following DM types: phone, social security, natural numbers, zip code, and credit card.
Asryesno	Yes/No and Confirmation	50	-	If absolutely necessary, type 70 for the high confidence value (it is uncommon for a Yes/No to need confirmation. For example, a system dialogue being: "… is that correct?" "Yes" "You said yes?")
Asralphanum	Letters and digits	51	72	Similar to asrdigits.
Asrmenu	Custom Text	40 – small menu 50 – large menu	70 – small menu 75 – large menu	-
Asrnumber	digits	50	78	Same as Asrcurrency.
Asrtime	-	50	80	Use thresholds similar to date.

Additional Tasks

This section explains two additional tasks that you may want or need to perform, depending on your existing setup: re-compiling your custom grammar files and the possibility to customize the delay between a contact's input and the script's response (inter-voice timeout settings).

Re-Compile Custom Grammar File

ⓘ You only need to re-compile your custom grammar files if you already use compiled grammar files. If you do not have compiled grammar files, you can skip this section. If you have any questions, contact your technical account manager.

To re-compile a custom grammar file, rename and run your original .grxml grammar file(s) through a simple re-compile script to create a .gram file that is compatible with the Nuance 10.5 engine. The **Asrcompile** action in the mini-script creates the new .gram file. Scheduling the script to run once creates the 10.5 compatible .gram file and stores it on your file server. The following sections explain the steps to create and run a re-compile script, and how to reference the new 10.5 compatible .gram grammar file(s):

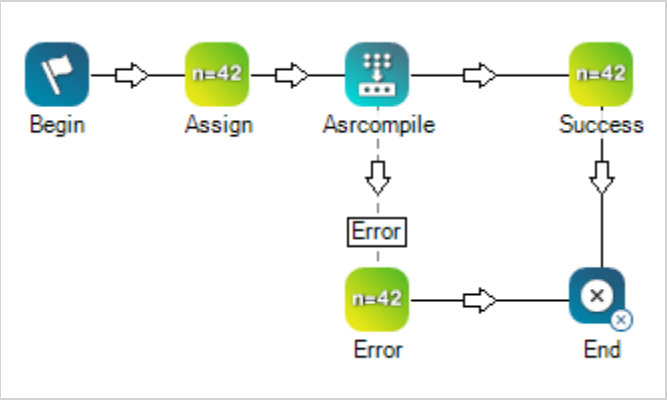
Create a Simple Re-compile Script

1. If you want to, Upload your .grxml file to the file server. **Be sure to rename the .grxml file to distinguish between the 9.0 and 10.5 compatible .gram files.**Additionally, you may need to download/re-upload your .grxml file to edit the name.
   a. Click Retention → Browse Files in the ACD application.
   b. Click **Upload**.
   c. Type a name in the **Create New Folder** field.
   d. Click **Choose File** and browse for your original .grxml grammar file.
   e. Click **Open**.

   Now that your renamed grammar file is stored on the file server, you can reference it in the **Asrcompile** action.

2 Create the following mini-script in Studio. The *Success* and *Error* branches lead to **Assign** actions. Determine the *Success* branch to be the default branch.

ⓘ **Do not forget** to add an **Assign** action before the **Asrcompile** action that references the 10.5 Nuance server. Add ***__mrcpHost*** as the **Variable** and your cluster's VIP URL as the **Value**. Reference the cluster table in the Add an Assign Action section above.



3 Reference your renamed .grxml grammar file in the **Asrcompile** action. If your .grxml file is not already uploaded on your file server, or you need to distinguish between a 9.0-compatible and 10.5-compatible .gram file, perform the first step of this task (Upload your original .grxml file to the file server).

a. Right-click the **Asrcompile** icon.
b. Type the file path of your original .grxml grammar file in the **GrammarFileName** field (for example: GrammarFiles/grammar.grxml).

4 Save the script (**File** → **Save**).

Do not save this simple script in a sub-folder. Save it in the default business unit folder, otherwise the **Asrcompile** action will not find the grammar file.

Schedule the Script to Run

1. Click **Contact Settings** → **Script Schedules** in the ACD application.
2. Click **Create New**.
3. Complete the new script schedule information:
   a. Type a **Name**.
   b. Select the script that you created in the previous section in the **Script Name** drop-down.
   c. Select the **One Time** radio button for **Schedule Type**.
   d. Select a phone skill.
   e. Click the calendar icon and select a day for the script to run.
   f. Click **Next**.

When the script runs, it creates a Nuance 10.5 .gram grammar file stored on the file server. The new .gram file has the same name as the .grxml file that you ran through the **Asrcompile** action.

Update Re-compiled Grammar File References

If you renamed your .grxml or new .gram file to distinguish the updated grammar file, you must update the name in the ASR actions that reference the renamed file in Studio. Follow these steps to update the re-compiled grammar file references:

1. Identify any ASR actions that reference the 10.5 .gram file. Only ASR actions after the new **Assign** action with the __mrcpHost variable must reference the new 10.5 .gram file.
2. Right-click the ASR action to open the **Properties** dialog.
3. Change the grammar file name in the **GrammarFile** field to match the renamed 10.5 grammar file.

4. Repeat the previous two steps for each ASR action that needs to reference the 10.5 grammar file.

5. Save the script (**File**→ **Save**).

ⓘ You may also want to run the ASR Tuning Report to find failed utterances, allowing you to further enhance the accuracy of your ASR scripts.
(https://help.nice-incontact.com/content/reporting/prebuiltreports/asrtuningreport.htm)

Customize Inter-Voice Timeout Settings

You can now customize the amount of time between an input by a contact and a response from the script. The default setting is a 3.5-second pause. To deviate from the default, you must insert an **Assign** action with a custom variable + value before each ASR action. You have two possible variables that change this pause: ASRCompleteMatchOverride and ASRIncompleteMatchOverride.

The ASRCompleteMatchOverride variable changes the pause length from the default value to a value measured in milliseconds.

The ASRIncompleteMatchOverride variable determines the length of pause when a contact's speech did NOT match an active grammar or when the speech matches but it is possible to speak further. This variable is also measured in milliseconds.

Complete the following steps to customize the inter-voice timeout setting for one action:

1. Determine which ASR action that you want to customize in a Studio script.

2. Place an **Assign** action before the ASR action.

3. Reconfigure the branches so that the new **Assign** action leads to the ASR action.

4. Right-click the new **Assign** action to open the **Properties** dialog.

5. Configure the properties:

5

a. Type *ASRCompleteMatchOverride* OR *ASRIncompleteMatchOverride* in the **Variable** field.
b. Type your desired duration of pause in the **Value** field. For example, enter *2000* for a two-second pause.
c. Click outside the **Properties** dialog to close it.

6

Save the script (**File** → **Save**).

7

If you want to, repeat these steps if you want to customize both the ASRCompleteMatchOverride and ASRIncompleteMatchOverride variables. If you do, the ASR action that you want to customize must have two **Assign** actions preceding it—one for each of the two variables.

Testing and Tuning

This section explains methods of testing and fine-tuning your script to ensure you have maximum performance with the Nuance 10.5 engine.

Validate the Script

You should validate your script before testing to ensure the syntax is correct and the script will function. To validate your script, simulate an inbound call by following the steps on the Simulate an Inbound Call online help page.

Making Test Calls

Create a method of testing your script, then make a call to your test script. To make a test call:

1. Create a test phone skill or use an existing test phone skill.
2. Assign the test skill to one or more agents.
3. Create a test **Point of Contact** (PoC), or use an existing PoC, that references the test script and the test skill. (Reference the test script and skill in the PoC Details tab)
4. Call the telephone number that you added to the test PoC, which runs the test script.

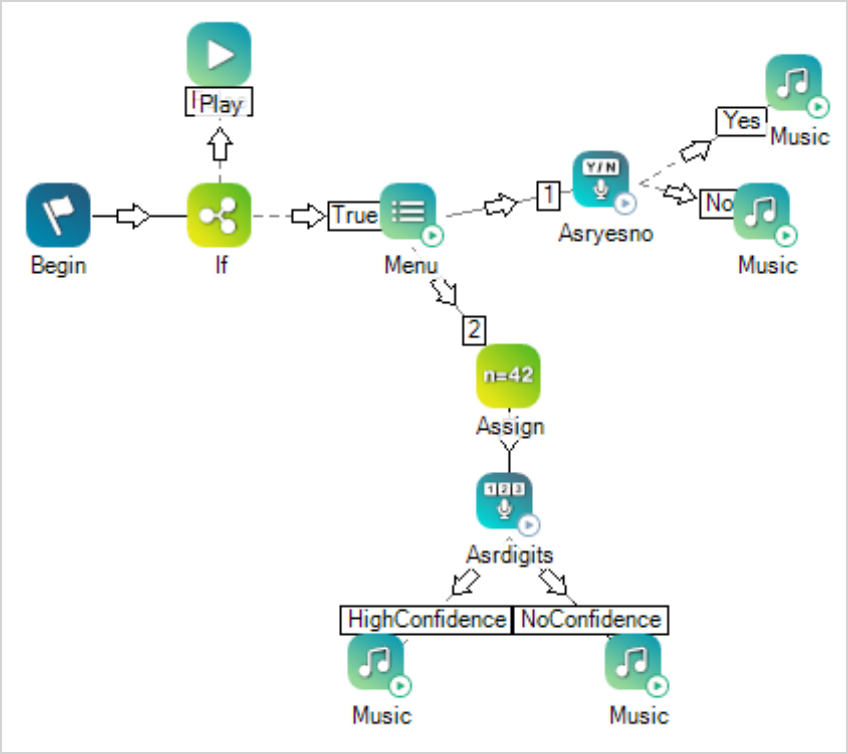
Calling the test script allows you to identify potential issues with your script and verifies that the script functions properly. For more information, see the Simulate an Inbound Call page of the NICE inContact online help. (https://help.nice-incontact.com/content/studio/testingscripts/simulateaninboundcall.htm)

Tuning Option

After validating and testing your script updates, you can fine-tune the updates – such as custom confidence values – to ensure that your script functions to your unique specifications. You can continue to make internal test calls (described in the previous section), or you can configure a por-

tion of your live traffic to run through an updated section(s) that references the Nuance 10.5 server.

To reference the Nuance 10.5 server, an **Assign** action with the __mrcpHost variable directs all future ASR actions along that branch to the 10.5 server. If you place this new **Assign** action at the beginning of your script, all ASR actions in the script will reference the 10.5 server. If you want only part of your traffic to use the 10.5 server to help fine-tune and test your updates, you can place the **Assign**n action deeper in your script. Remember, any ASR actions that come after this **Assign** action on the same branch will reference the 10.5 server. The following image illustrates this concept with a very basic script:



In this script, only the lower branch with the **Asrdigits** action would reference the Nuance 10.5 server. The preceding **Assign** action contains the variable __mrcpHost that directs traffic to the 10.5 server.

Finalizing the Update

If you implemented the update changes in a test script, you must make the update live by referencing the test script in your main Point(s) of Contact. Follow these steps:

1. Click **Contact Settings** → **Point of Contact** in the ACD application.
2. Click your live **Point of Contact** that correlates with the updated ASR script.
3. Click **Edit**.
4. Click the **Script** drop-down.
5. Select your updated 10.5-compatible script.
6. Click **Done**.

Frequently Asked Questions (FAQ)

I would like to engage NICE inContact Professional Services to perform the update for me. Who do I contact?

Contact your account manager to coordinate a Professional Services engagement.

When will I be able to update my ASR script(s)?

Immediately.

Do I have a deadline for updating my ASR script(s)?

The sooner you update your ASR scripts, the better, considering the Nuance ASR 10.5 engine provides enhanced ASR performance.

What features does the Nuance 10.5 engine provide?

The Nuance ASR 10.5 engine provides:

- Up to 30% increase in recognition accuracy
- Nuance 10.5 customer support
- Customizable inter-voice timeout settings

Where do I access the file server?

You can access the file server from your CXone platform.

In the ACD module: **Retention** → **Browse Files**

Where can I find helpful Studio and ASR documentation?

Follow these links to key topics in the CXone online help.

Studio Overview
(https://help.nice-incontact.com/content/studio/studiooverview.htm)

Automated Speech Recognition (ASR) Overview
(https://help.nice-incontact.com/content/studio/scripts/asr/asroverview.htm)

Actions Overview
(https://help.nice-incontact.com/content/studio/actions/actions.htm)

ASRCOMPILE
(https://help.nice-incontact.com/content/studio/actions/asrcompile/asrcompile.htm)

How do I connect multiple Studio scripts? (How do Studio scripts reference each other?)

By using the **Runsub** action. In the properties box of the **Runsub** action, enter the name of the script you want to reference in the **Script Name** field. You also have the option of using the **Runscript** action. The difference between the **Runsub** and **Runscript** actions is that the **Runscript** action does not allow you to return to a main script. You can return to a main script after a **Runsub** action with a **Return** action.