

Avaya Solution & Interoperability Test Lab

### **Application Notes for Interactions Virtual Assistant Solutions with Avaya Aura® Experience Portal – Issue 1.0**

#### Abstract

These Application Notes describe the configuration steps required to integrate Interactions Virtual Assistant Solutions with Avaya Aura® Experience Portal.

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as any observations noted in Section 2.2, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

The objective of compliance test was to validate interoperability of Interactions Virtual Assistant Solutions with Avaya Aura® Experience Portal.

Interactions Virtual Assistant Solutions provide a complete set of workflow engines that generate Voice XML pages and Automated Speech Recognition (ASR) over MRCPv1 for Avaya Aura Experience Portal. The Virtual Assistant Solutions include the iProxy Automatic Speech Recognizer (ASR), Human Speech Recognition (HSR) and Nova VXML generator platform.

# 2. General Test Approach and Test Results

General test approach was to verify interoperability of the Interactions Virtual Assistant Solutions with Avaya Experience Portal. The objective of the testing is to verify that Avaya Experience Portal can interoperate correctly with the automatic speech recognition (ASR), human speech recognition (HSR) and the VXML generation features of the Interactions Virtual Assistant Solutions.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

### 2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability tests. Feature tests focused on the ability of automatic speech recognition (ASR), human speech recognition (HSR) including DTMF recognition and the VXML generation features of the Interactions Virtual Assistant Solutions to successfully exercise appropriate grammar and return expected results.

Serviceability testing focused on verifying the ability of Interactions Virtual Solutions server to recover from adverse conditions, such as restart, power failures and network disconnects.

# 2.2. Test Results

All test cases were executed and passed.

### 2.3. Support

To obtain technical support for Interactions Virtual Assistant Solutions:

- Web: <u>http://www.interactions.com/</u>
- **Phone:** (866) 637-9049

# 3. Reference Configuration

Following diagram shows the configuration used during interoperability compliance test. Reference configuration consisted of: Avaya Aura® Experience Portal, Avaya Aura® Communication Manager, Avaya Aura® Session Manager, Avaya Aura® System Manager, and Avaya Aura® Media Server running on Virtualized Environment, Avaya G450 Media Gateway was used to connect to PSTN via PRI/T1 trunk as well as providing analog and digital lines for analog and digital phones. Interactions Virtual Assistant Solutions include iProxy server, Nova VXML generator and Curo ASR servers. The testing used Nuance TTS server to provide text-tospeech for applications running on Experience Portal.

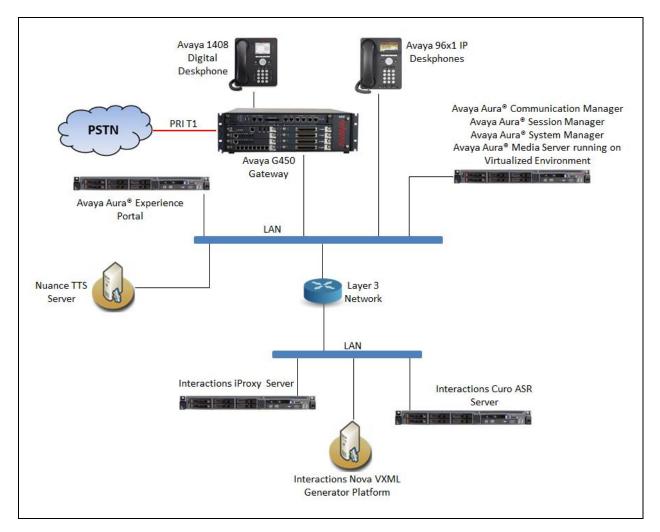


Figure 1: Test Configuration Diagram

# 4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version
Avaya Aura® Communication Manager	R017x.00.0.441.0 FP1 SP 123169
running on Virtualized Environment	
Avaya Aura® System Manager running on	Release 7.0.1.1
Virtualized Environment	
Avaya Aura® Session Manager running on	Release 7.0.1.1
Virtualized Environment	
Avaya Aura® Media Server running on	Release 7.7.0.34
Virtualized Environment	
Avaya Aura® Experience Portal running	Release 7.1.0 and Patch 1116
on Virtualized Environment	
Avaya G450 Media Gateway	37.19.0
Avaya 9641 H323 IP Deskphone	Release 6.6.29
Avaya 9611 SIP IP Deskphone	Release 7.0.1
Avaya 1408 Digital Deskphone	R47
Nuance TTS Server	Version 5.0
Interactions iProxy Automatic Speech	Version 6.7.0
Recognition	
Interactions VXML Generator Platform	Version 1.9.0
Interactions Curo Automatic Speech	Version 6.12.2
Recognition	

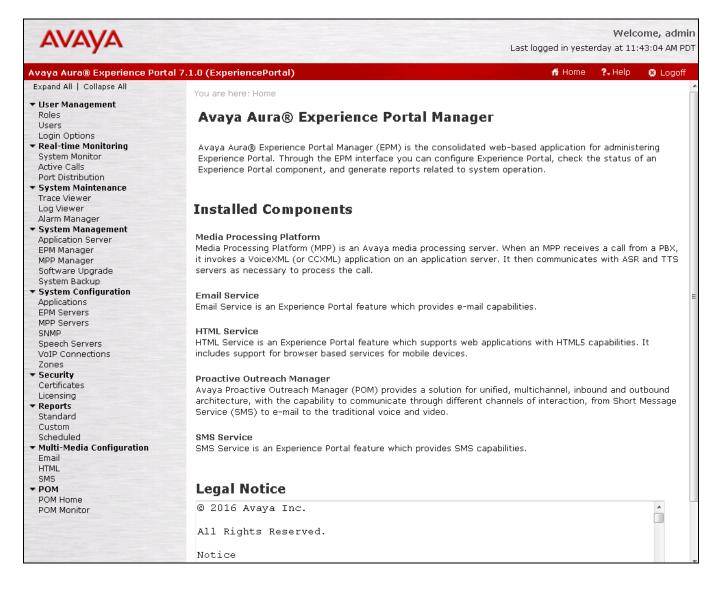
# 5. Configure Avaya Aura® Communication Manager

This document assumes installation and configuration of Avaya Aura® Communication Manager (CM) are already in place. For more information on how to configure CM, please refer to **Section 11**.

# 6. Configure Avaya Aura® Experience Portal

Avaya Aura® Experience Portal is configured via the Experience Portal Manager (EPM) web interface, to access the web interface, enter **http://***ip-addr*>/ as the URL in a web browser, where *<ip-addr>* is the IP address of the EPM. Log in using the appropriate credentials.

**Note:** Some of the screens in this section are shown after the Experience Portal had been configured. Don't forget to save the screen parameters as you configure Avaya Aura® Experience Portal



#### 6.1. Administer VoIP Connection

On the left pane, click on the VoIP Connections under System Configuration. To add a **SIP Connection**, click on **SIP** tab on **VoIP Connections** page. Fill in **Name**, in the **Address** and **Port** boxes, fill the the IP address and Port of SM, in **SIP Domain**, type in the domain, type in **Maximum Simultaneous Calls**, rest of all values is left at **Default**. Click **Save** to save changes.

You are here: Home > System Configuration > VoIP Connections > Change SIP Connection
Change SIP Connection
Use this page to change the configuration of a SIP connection.
Name: ASM70
Enable: 💿 Yes 🔘 No
Proxy Transport: TCP 💌
Proxy Servers O DNS SRV Domain
Address Port Priority Weight
10.33.1.12 5060 0 Remove
Additional Proxy Server
Listener Port: 5060
SIP Domain: bvwdev.com
P-Asserted-Identity:
Maximum Redirection Attempts: 0
Consultative Transfer:
SIP Reject Response Code: O ASM (503) SES (480) Custom 503
SIP Timers
T1: 250 milliseconds
T2: 2000 milliseconds
B and F: 4000 milliseconds
Call Capacity
Maximum Simultaneous Calls: 50
Ill Calls can be either inbound or outbound
Configure number of inbound and outbound calls allowed
Save Apply Cancel Help

#### 6.2. Administer Speech Server

#### 6.2.1. Administer ASR

On the left pane, navigate to System Configuration  $\rightarrow$  Speech Servers (not shown). To add an ASR server, click on ASR tab and click Add. Enter a Name, set Enable to Yes, set Engine Type to Nuance, type in the IP address of iProxy ASR in Network Address. In Base Port, enter the port 4901, enter appropriate value in Total Number of Licensed ASR Resources, set New Connection per Session to Yes, set Languages to English(USA) en-US and the RTSP URL box is automatically filled out with the IP address in the Network Address to /172.16.5.39/media/speechrecognizer. Click Save to save changes.

You are here: <u>Home</u> > System Configuration	> <u>Speech Servers</u> > Change ASR Server
Change ASR Server	
Use this page to change the configuration	on of an ASR server.
Name:	Nova
Enable:	◎ Yes <sup>©</sup> No
Engine Type:	Nuance 👻
Network Address:	172.16.5.39
Base Port:	4901
Total Number of Licensed ASR Resources:	20
New Connection per Session:	◎ Yes <sup>©</sup> No
Languages:	English(Australia) en-AU English(UK) en-GB English(India) en-IN English(Singapore) en-SG English(South_Africa) en-ZA English(USA) en-US
MRCP	
Ping Interval: 15 seconds	
Response Timeout: 4 seconds	
Protocol: MRCP V1 -	
RTSP URL: 172.16.5.39/media/speechree	ognizer
Save Apply Cancel Help	

#### 6.2.2. Administer TTS

On the left pane, navigate to System Configuration  $\rightarrow$  Speech Servers (not shown). To add a TTS server, click on TTS tab and click Add (not shown). Enter a Name, set Enable to Yes, set Engine Type to Nuance, type in the IP address of Curo speech TTS in Network Address. In Base Port, type in 4900, enter appropriate value in Total Number of Licensed ASR Resources, set New Connection per Session to No, set Voices to English(USA) en-US Tom or any language that is supported in TTS server and the RTSP URL box is automatically filled out with the IP address in Network Address field to /10.33.1.26/media/speechsynthesizer. Click Save to save changes.

Note that the TTS was not a part of Virtual Assistant Solutions therefore any TTS server can be used, during the compliance testing the Nuance TTS server was used.

You are here: <u>Home</u> > System Configuration	a > <u>Speech Servers</u> > Change TTS Server
Change TTS Server	
Use this page to change the configuration	on of a TTS server.
Name:	Nuance
Enable:	◎ Yes <sup>©</sup> No
Engine Type:	Nuance -
Network Address:	10.33.1.26
Base Port:	4900
Total Number of Licensed TTS Resources:	: 10
New Connection per Session:	© Yes ◉ No
Voices:	English(USA) en-US Jill F English(USA) en-US Lisa F English(USA) en-US Samantha F English(USA) en-US Tom M English(USA) en-US Vicky F Finnish(Finland) fi-FI Onni F
MRCP	
Ping Interval:       15       seconds         Response Timeout:       4       seconds         Protocol:       MRCP V1 -         RTSP URL:       10.33.1.26/media/speechsynt	thesizer
Save Apply Cancel Hel	p

#### 6.3. Administer Applications

Application is needed to drive calls in Experience Portal. To add a new application, from the left pane, navigate to **System Configurations**  $\rightarrow$  **Applications** and in the Application page click **Add** button (not shown). Below is main application used during the compliance test. In the Speech Server section, select the ASR and TTS servers as configured in **Section 6.2**.

Change App	lication	
Use this page to cha	ange the configuration of an application.	
Requested:	Nova Ves No VoiceXML  None Minimum Maximum	
● Single ● Fail (	Over 🔘 Load Balance	
	//10.33.1.25/mpp/misc/avptestapp/nova.vxml	ify
Mutual Certificate Au Basic Authentication	uthentication: O Yes O No	
Speech Servers		
ASR: Nuance English( Languages:	TTS: Nuance USA) en-US Voices: English(USA) en-US Lisa F Finglish(USA) en-US Jennifer F English(USA) en-US Tom M	
Application Launch		
Inbound Ind	bound Default 🔘 Outbound	
Number	umber Range 🔘 URI	
Called Number:	Add	
4920	Remove	
Speech Parameters Reporting Parameter		
Advanced Paramete		
Save Apply	Cancel Help	

### 7. Configure Avaya Aura® Session Manager

Configuration for Session manager is performed via System Manager, from a web browser type in <u>https://[IP-Address]/SMGR</u> where IP-Address is the IP Address of System Manager. Log in using appropriate credentials.

Please note that configuration of each item is not shown in detail. In the following sections, screen captures of the configured items during compliance testing are shown. For details steps on configuration of each item, refer to Document [3].

Aura <sup>®</sup> System Manager 7.0	
Recommended access to System Manager is via FQDN. <u>Go to central login for Single Sign-On</u> If IP address access is your only option, then note	User ID: admin Password: •••••••
<ul> <li>that authentication will fail in the following cases:</li> <li>First time login with "admin" account</li> <li>Expired/Reset passwords</li> </ul>	Log On Cancel
Use the "Change Password" hyperlink on this page to change the password manually, and then login. Also note that single sign-on between servers in the same security domain is not supported when accessing via IP address.	Supported Browsers: Internet Explorer 9.x, 10.x or 11.x or Firefox 36.0, 37.0 and 38.0.

### 7.1. Configure Domain

Once logged in, select **Routing** (not shown). On the left pane select **Domains**. Click **New** to add a new domain. For compliance testing, domain of **bvwdev.com** was added.

AVAVA			Last Lo	gged on at July 27, 2016 3:36 AM
Aura <sup>®</sup> System Manager 7.0			Go	
Home Routing *				
▼ Routing	Home / Elements / Routing / Domains			0
Domains				Help ?
Locations	Domain Management			
Adaptations	New Edit Delete Duplicate More Actions	•		
SIP Entities				
Entity Links	2 Items 🛛 🖑			Filter: Enable
Time Ranges	Name	Туре	Notes	
Routing Policies	bvwdev.com	sip	SIP Domain	
Dial Patterns	presence.bvwdev.com	sip	presence domain	
Regular Expressions	Select : All, None			
Defaults				

#### 7.2. Configure Locations

From the left pane, select **Location**. To add a new location, select **New**. For compliance testing, location of **CM\_LOC** and **VoicePortal\_LOC** were added.

AVAVA Aura <sup>®</sup> System Manager 7.0			Last Logged on at July 27, 2016 3:36 AM Go Log off admin
Home Routing ×			
▼ Routing	Home / Elements / Routing / Locations		0
Domains	Location		Help ?
Locations			
Adaptations	New Edit Delete Duplicate More A	ctions -	
SIP Entities			
Entity Links	5 Items 🖓		Filter: Enable
Time Ranges	Name	Correlation	Notes
Routing Policies	AT&T-Location	Ε	
Dial Patterns	BvwDevSIL		
Regular Expressions	CM LOC	F	
	IPO LOC		
Defaults	VoicePortal LOC		
	Select : All, None		

#### 7.3. Configure SIP Entities

From the left pane, select **SIP Entities**. To add a new SIP Entity, select **New**. For compliance testing, three SIP Entities were added as shown below.

- ACM-Trunk1-Private: Communication Manager SIP Entity
- AEP71: Experience Portal SIP Entity
- ASM70A: Session Manager SIP Entity

Aura <sup>®</sup> System Manager 7.0				Go	ast Logged on at October 11, 201 10:15 AN Log off admin
▼ Routing ◀	Home /	/ Elements / Routing / SIP Entities			c
Domains					Help ?
Locations	SIP	Entities			
Adaptations	New	Edit Delete Duplicate	More Actions 🔹		
SIP Entities					
Entity Links	18 Ite	ems 🗠 🥲			Filter: Enable
Time Ranges		Name	FQDN or IP Address	Туре	Notes
Routing Policies		ACM-Trunk1-Private	10.33.1.6	СМ	
Dial Patterns		AEP71	10.33.1.25	Voice Portal	Experience Portal R7.1
		ASM70A	10.33.1.12	Session Manager	
Regular Expressions		ASM70B	10.33.1.22	Session Manager	Secondary SM
Defaults		Avaya SBCE70	10.33.10.102	SIP Trunk	For Gold Line SP

#### 7.4. Configure Entity Links

For each SIP Entity, with the exception of Session Manager, an entity link needs to be added. On the left pane, select **Entity Links**. To add a new entity link, select **New**. For compliance testing two entity links, one for Communication Manager and another for Experience Portal, were added.

AVAVA Aura <sup>®</sup> System Manager 7.0								Last Go.	Logged on at :	Log	
Home Routing ×											
▼ Routing ◀	Home	/ Elements / Routing / Entity Links	5								0
Domains											Help ?
Locations	Enti	ity Links									
Adaptations	New	Edit Delete Duplicate	More A	ctions •							
SIP Entities											
Entity Links	19 It	ems 🛛 ಿ								Filter: E	nable
Time Ranges		Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port	Connection Policy	Deny New	Notes
Routing Policies			Littly 1				overnue		Folicy	Service	
Dial Patterns		ASM70A AEP71 5060 TCP	ASM70A	TCP	5060	AEP71		5060	trusted		
Regular Expressions		ASM70A ACM-Trunk1- Private 5061 TLS	ASM70B	TLS	5061	ACM-Trunk1- Private		5061	trusted		
Defaults	Select	t : All, None							🕅 4 Page	1 of 2	2 🕨 🔰

#### 7.5. Configure Time Ranges

On the left pane, select **Time Ranges**. To add a new time range, select **New.** For compliance testing, time range of 24/7 was added.

AVAYA Aura <sup>®</sup> System Manager 7.0										Last Lo Go	ogged on at July 27, 2016 Log off admir	
Home Routing ×												
Routing	Home / Elemen	ts / Rou	ting / Ti	me Ran	ges							0
Domains	Time Ran	<b>a</b>									He	lp ?
Locations	ппе кап	yes										
Adaptations	New Edit	Dele	te D	uplicate	Mor	e Action:	5 -					
SIP Entities							_					
Entity Links	1 Item										Filter: Enab	le
Time Ranges	Name	Мо	Ти	We	Th	Fr	Sa	Su	Start Time	End Time	Notes	
Routing Policies	<u>24/7</u>	~	2		2	~	~	~	00:00	23:59	Time Range 24/7	
Dial Patterns	Select : All, Nor	ie										
Regular Expressions												
Defaults												

#### 7.6. Configure Routing Policies

On the left pane, select **Routing Policies**. To add a new routing policy, select **New**. For compliance testing, two routing policies were added, one for Communication Manager and another for Experience Portal.

AVAVA Aura <sup>®</sup> System Manager 7.0					Last Logged on at July 27, 2016 3: Go Log off admin	36 AM
Home Routing ×						
▼ Routing	Home / Elements / Routing / Rout	ing Policies				0
Domains					Help	?
Locations	Routing Policies					
Adaptations	New Edit Delete Dup	licate More A	ctions •			
SIP Entities						
Entity Links	10 Items 🛛 💝				Filter: Enable	±
Time Ranges	Name	Disabled	Retries	Destination	Notes	
Routing Policies	To-EPVM71		0	AEP71	Route to Experience Portal 7.1	
Dial Patterns	To-CM-Trunk1		0	ACM-Trunk1-Private		
Regular Expressions	Select : All, None					
Defaults	[					

### 7.7. Configure Dial Patterns

On the left pane, select **Dial Patterns**. To add a new dial pattern, select **New.** For compliance testing three dial patterns were added:

- 33 and 34: All calls starting with pattern 33 and 34 with 4 digits were routed to communication manager. For compliance test, Experience Portal routed calls to extensions 3301, 3302 and 3401 which were routed to Communication Manager
- 49: All calls starting with pattern 49 and 4 digits long were routed to Experience Portal
- 9: All calls starting with 9 and having from 10 to14 digits long were routed to Communication Manager. This was used for routing calls out to PSTN via PRI trunk configured in Communication Manager.

AVAVA								La	ast Logged on at July 27,	
Aura <sup>®</sup> System Manager 7.0								G		og off admin
Home Routing ×										
Routing	Home	/ Elemen	ts / I	Routin	ig / Dial Patterns					0
Domains										Help ?
Locations	Dial Patterns									
Adaptations	New	Edit		elete	Duplicate	More Actions 🔹				
SIP Entities										
Entity Links	21 Items 🖑 Filter: Enable									nable
Time Ranges		Pattern	Min	Max		Emergency Type	Emergency Priority	SIP Domain	Notes	
Routing Policies		<u>33</u>	4	4				bvwdev.com		
Dial Patterns		<u>34</u>	4	4				bvwdev.com		E
Regular Expressions		<u>49</u>	4	4				bvwdev.com		-
Defaults		<u>9</u>	10	14				bvwdev.com		
	Selec	t : All, No	ne						4 Page 1 of 2	

KP Reviewed: SPOC 10/28/2016

### 8. Configure Interactions Virtual Assistant Solutions

The configuration of Integrations iProxy automatic speech recognition and Nova VXML generator platform are done by Interactions engineer and is outside of the scope of these Application Notes. To obtain further information on Integrations Virtual Assistant Solutions system configuration please contacts an authorized Interactions representative.

### 9. Verification Steps

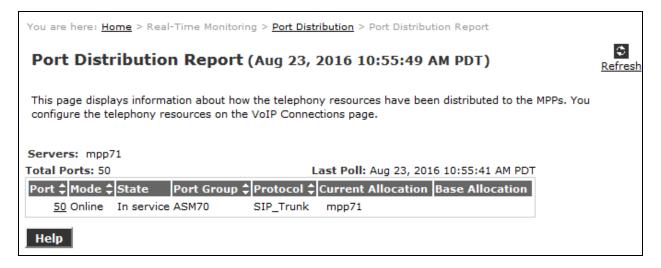
#### 9.1. Include Avaya Aura® Experience Portal

This section provides the verification steps that may be performed to verify that Avaya Aura® Experience Portal can run Curo Speech ASR and TTS servers.

1. From the EPM web interface, verify that the MPP servers are online and running. On the left pane, navigate to **System Management** → **MPP Manager**.

You are here: <u>Home</u> > System Management > MPP Manager										
MPP Manager (Aug 23, 2016 10:53:01 AM PDT)										
This page displays the current state of each MPP in the Experience Portal system. To enable the state and mode commands, select one or more MPPs. To enable the mode commands, the selected MPPs must also be stopped.										
Last Poll: Aug 23, 2016 10:53:00 AM PDT										
Server Name Mode State Config Auto Restart Sc Today Re	c <b>hedule Active Calls</b> ecurring In Out									
mpp71 Online Running OK No 🖉 No 🖉 No	lone 🖉 0 0									
State Commands										
Start Stop Restart Reboot Halt Cancel Restart/Reboot Options										
	One server at a time									
Mode Commands	All servers									
Offline Test Online										
Help										

2. Verify that the ports on the MPP server are in service. On the left lane, click on **Port Distribution**. Select the MPP server and click **OK**.



3. Place calls to the experience portal number 4920 as configured in Section 6.3, listen to the prompt say "yes" after the first prompt and continue responding to next prompts until the end of application, during the call the iProxy Virtual Assistant will respond with results that user just enters for each prompt, verify that what iProxy responds are as correct as what user inputs.

# 10. Conclusion

These Application Notes describe the configuration steps required to integrate Interactions Virtual Assistant Solutions that include an Automated Speech Recognition, human speech recognition and VXML generator platform with Avaya Aura® Experience Portal. All features and serviceability test cases were completed successfully refer to **Section 2.2** for details.

# 11. Additional References

This section references the Avaya documentation relevant to these Application Notes. The following Avaya product documentation is available at <u>http://support.avaya.com</u>.

- Administering Avaya Aura® Communication Manager, Release 7.0.3, Document 03-300509, Issue 10, June 2016
- [2] Administering Avaya Aura® Session Manager, Release 7.0, Issue 7, Jan 2016
- [3] Administering Avaya Aura® Experience Portal, Release 7.0.1, April 2015

Interactions Virtual Assistant Solutions documentation is always available from <a href="http://www.interactions.com/library/">http://www.interactions.com/library/</a>

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