

# Interactive Voice Gateway (IVG) Configuration Guide Version 3.0.0

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### Required IVG Avaya Configuration

The Avaya components for use with the Interactive Voice Gateway (IVG) application must be configured correctly for calls to be handled by IVG. The following procedures use the Avaya Site Administration (other comparable terminal emulators can be use if necessary) and System Manager applications to configure the Avaya components. Once configured, vectors must be programmed in Avaya Communication Manager to load on the additional VDN that is needed. Refer to <u>Building Vectors for IVG</u> for more information.

### Avaya Site Administrator

From the Avaya Site Administrator, perform the following:

- 1. Create a dialing plan that is set to handle the appropriate dialed strings with each string set to a call type of UDP.
- 2. Configure the matching patterns for this dialing plan to use Automatic Alternative Routing.
- 3. Configure the dialed strings for the matching patterns to use the appropriate route pattern and a call type of **aar**. Output of the Avaya Site Administrator should contain results similar to the following excerpts:

Dialplan and AAR

Page 1 of 12 display dialplan analysis DIAL PLAN ANALYSIS TABLE Percent Full: 3 Location: all Dialed Total Call Dialed Total Call Dialed Total Call String Length Type String Length Type String Length Type 1 5 ext 9 1 fac 2 2 fac \* 3 fac 3 3 fac 5 ext # 400 7 udp 41 2 fac 45 5 ext 480 5 udp 4804 5 udp 487 5 udp 488 5 udp 489 5 ext 5 5 ext 6 5 ext 7 3 dac 8 6 ext display uniform-dialplan 1 Page 1 of 2 UNIFORM DIAL PLAN TABLE Percent Full: 0

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Matching Insert Node Pattern Len Del Digits Net Conv Num 48 50 aar n 480 50 aar n
display aar analysis 4 Page 1 of 2 AAR DIGIT ANALYSIS TABLE Location: all Percent Full: 1 Dialed Total Route Call Node ANI String Min Max Pattern Type Num Reqd 4 7 7 999 aar n 400xxxx 7 7 6 aar n 4801x 5 5 3 aar n 4802x 5 5 3 aar n 4803x 5 5 5 aar n 4805x 5 5 5 aar n 4805x 5 5 5 aar n 4806x 5 5 5 aar n 4806x 5 5 5 aar n 4807x 5 5 5 aar n 4807x 5 5 1 aar n 488xx 5 5 1 aar n 53xxx 5 5 1 aar n 53xxx 5 5 1 aar n 6 7 7 999 aar n
display trunk-group 5 Page 2 of 22 Group Type: sip
TRUNK PARAMETERS
Unicode Name: auto Redirect On OPTIM Failure: 5000
SCCAN? n Digital Loss Group: 18 Preferred Minimum Session Refresh Interval(sec): 600
Disconnect Supervision - In? y Out? y
XOIP Treatment: auto Delay Call Setup When Accessed Via IGAR? n
display trunk-group 5 Page 3 of 22 TRUNK FEATURES
Maintenance Tests? y
Numbering Format: private UUI Treatment: shared Maximum Size of UUI Contents: 128 Replace Restricted Numbers? n Replace Unavailable Numbers? n

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Modify Tandem Calling Number: no Send UCID? y Show ANSWERED BY on Display? y DSN Term? n

display trunk-group 5 Page 4 of 22 SHARED UUI FEATURE PRIORITIES

ASAI: 1

Universal Call ID (UCID): 2

MULTI SITE ROUTING (MSR)

In-VDN Time: 3 VDN Name: 4 Collected Digits: 5 Other LAI Information: 6 Held Call UCID: 7

display trunk-group 5 Page PROTOCOL VARIATIONS

Page 5 of 22

Mark Users as Phone? n Prepend '+' to Calling Number? n Send Transferring Party Information? n Network Call Redirection? y Send Diversion Header? n Support Request History? y Telephone Event Payload Type:

Convert 180 to 183 for Early Media? n Always Use re-INVITE for Display Updates? n Identity for Calling Party Display: P-Asserted-Identity Block Sending Calling Party Location in INVITE? n Enable Q-SIP? n

display trunk-group 5 Page 6 of 22 TRUNK GROUP Administered Members (min/max): 1/24 GROUP MEMBER ASSIGNMENTS Total Administered Members: 24

Port	Name
1: T00019	IGV to
2: T00020	IVG to
3: T00021	IVG to
4: T00022	IVG to
5: T00023	IVG to
6: T00024	IVG to

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7: T00025 8: T00026 9: T00027 10: T00028 11: T00054 12: T00055 13: T00056 14: T00057 15: T00058	IVG to IVG to IVG to IVG to IVG to IVG to IVG to IVG to				
display trunk-gro		F	Page 7 of 22		
GROUP MEMBE	Administer ER ASSIGNMENT	red Members (r S To	min/max): 1/24 otal Administer	4 ed Members: 24	
Port 16: T00059 17: T00060 18: T00061 19: T00062 20: T00063 21: T00064 22: T00065 23: T00066 24: T00067 25:	Name IVG to IVG to IVG to IVG to IVG to IVG to IVG to IVG to				
display route-pat Patt Grp FRL NPA No Mrk I 1: 5 0 2: 3: 4: 5: 6: BCC VALUE 0 1 2 M 4 W 1: y y y y y n n	ttern 5 ern Number: 5 P SCCAN? n So Pfx Hop Toll No. Imt List Del Digits Dgts TSC CA-TSC I Request rest	F ecure SIP? n Inserted s Int n n n n n TC BCIE Servio Subaddress Iev	Page 1 of 3 VG to SM QSIG w user user user user user user ce/Feature PAF gts Format	CS/ IXC	LAR
2: yyyyyn n 3: yyyyyn n 4: yyyyyn n 5: yyyyyn n 6: yyyyyn n	rest rest rest rest rest		none none none none none		

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- 4. Configure the route pattern to link to a trunk group.
- 5. Configure the trunk group to be of the type **SIP** (routes calls from the Avaya Communication Manager to the System Manager). Output of the Avaya Site Administrator should contain results similar to the following excerpts:

Trunk Group and Signalling Group display trunk-group 5 Page 1 of 22 TRUNK GROUP Group Number: 5 Group Type: sip CDR Reports: y Group Name: IVG to SM COR: 1 TAC: 726 TN: 1 Direction: two-way Outgoing Display? n Dial Access? n Night Service: Queue Lenath: 0 Auth Code? n Service Type: tie Member Assignment Method: auto Signaling Group: 5 Number of Members: 24 display signaling-group 5 SIGNALING GROUP Group Number: 5 Group Type: sip IMS Enabled? n Transport Method: tls Q-SIP? n IP Video? n Enforce SIPS URI for SRTP? y Peer Detection Enabled? y Peer Server: SM Near-end Node Name: CLAN01A04 Far-end Node Name: S8800SM Near-end Listen Port: 5061 Far-end Listen Port: 5061 Far-end Network Region: 1 Far-end Secondary Node Name: Far-end Domain: Bypass If IP Threshold Exceeded? n Incoming Dialog Loopbacks: eliminate RFC 3389 Comfort Noise? n DTMF over IP: rtp-payload Direct IP-IP Audio Connections? y Session Establishment Timer(min): 3 IP Audio Hairpinning? n Enable Layer 3 Test? y Initial IP-IP Direct Media? n H.323 Station Outgoing Direct Media? n Alternate Route Timer(sec): 6

# Avaya System Manager

From the Avaya System Manager, perform the following:

1. For the IVG in the network routing plan, create a SIP entity and set the type to **SIP Trunk** and SIP Link Monitoring to **Link Monitoring Enabled**.

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		Routing × Home
Routing	Home / Elements / Routing / SIP Entities - SIP Entities	tity Details
Domains		Help 3
Locations	SIP Entity Details	Commit Cance
Adaptations	General	
SIP Entities	* Name:	IV G02
Entity Links	* FODN or IP Address:	10.10.0.196
Time Ranges		
Routing Policies	Type:	
Dial Patterns	Notes:	IV G02
Regular Expressions		
Defaults	Adaptation:	
	Location:	×
	Time Zone:	America/Fortaleza
	Override Port & Transport with DNS SRV:	
	* SIP Timer B/F (in seconds):	4
	Credential name:	
	Call Detail Recording:	egress 🔽
	SIP Link Monitoring	
	SIP Link Monitoring:	Link Monitoring Enabled
	* Proactive Monitoring Interval (in seconds):	900
	* Reactive Monitoring Interval (in seconds):	120
	* Number of Retries:	10
	Add Remove	

2. For the IVG in the network routing plan, create an Entity Link that uses the UDP protocol.

Domains Locations Adaptations SIP Entities	ity Links itt New Duplicate Delete More							Help
Locations Entited SIP Entities	ity Links dit New Duplicate Delete More							
Adaptations SIP Entities	dit New Duplicate Delete More							
SIP Entities	dit New Duplicate Delete More							
		Actions *						
Entity Links 171	tems Refresh							Filter: Enabl
Time Ranger	Name	SIP Entity 1	Protocol	Port	SIP Entity 2	Port	Connection Policy	Notes
Routing Policies	Acme	S8800SM	UDP	5060	Acme	5060	Trusted	
Dial Patterns	Asterisk	S8800SM	TCP	5060	Asterisk	5060	Trusted	
Regular Expressions	CiscoGW	S8800SM	UDP	5060	CiscoGW	5060	Trusted	
Defaulte	CONSTELLATION 2 SM	S8800SM	TLS	5061	CONSTELLATION	5061	Trusted	
	CUCM	S8800SM	TLS	5061	CUCM	5061	Trusted	
	CYARA02	S8800SM	TCP	5060	CYARA02	5060	Trusted	
	MIDWAY	S8800SM	UDP	5060	MIDWAY	5070	Trusted	
	IVG	S8800SM	UDP	5060	IVG	5060	Trusted	
	<u>IVG02</u>	S8800SM	UDP	5060	1V G 02	5060	Trusted	
	<u>IV G03</u>	S8800SM	UDP	5060	IV G03	5060	Trusted	
	<u>IV G04</u>	S8800SM	UDP	5060	IVG04	5060	Trusted	
	<u>IV G05</u>	S8800SM	UDP	5060	IV G 05	5060	Trusted	
	Paraguay	S8800SM	TLS	5061	Paraguay	5061	Trusted	
	Quasar 2 SM	S8800SM	UDP	5060	Quasar	5060	Trusted	
	S8800CM TCP	S8800SM	TCP	5060	S8800CM	5060	Trusted	

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3. Configure the IVG destination in the routing policy to the IVG SIP entity.

										Routing * Home
Routing	Home / Elements / Routing / Rou	ting Policies - Ro	uting Policy	Details						
Domains										Help ?
Locations	Routing Policy Details									Commit Cancel
Adaptations										
SIP Entities	General									
Entity Links		* Name:	IVG02							
Time Ranges		Disabled:								
Routing Policies		Notes:								
Dial Patterns										
Regular Expressions	SID Entity as Destination									
Defaults	STF Littly as Destination									
	Select									
	Name	FQDN or IP Add	ress					Туре	Notes	
	IV G02	10.10.0.196						SIP Trunk	IV G 02	
	Add         Remove         View Gaps/Overlaps									
	1 Item Refresh			_						Filter: Enable
	Ranking 14 Name 2	Mon Iu	e Wed	Inu	Pri I	Sat	Sun	Start Time	End Time	Notes
	24//	In In	1e.	1e	P.	Pe.	pe.	00:00	23:59	Time Kange 24/7
	Select : All, None									
	Dial Patterns Add Remove									
	1 Item   Refresh									Filter: Enable
	🗖 Pattern 🔺 Min Ma	x Emer	gency Call	SIP	Domain		Origina	ting Location	Notes	

4. Configure the required dial patterns, with the Originating Location and Routing Policy Names, for those created for IVG usage.



Routing	< Hon	1e / Element <u>s / I</u>	Routing /	Dial Pat <u>ter</u>	ns - Dial Patterns					
Domains	Help ?									
Locations	Dial Patterns									
Adaptations	_									
SIP Entities	Edit New Duplicata Deleta More Actions *									
Entity Links	21.74	ne Defeat					Share Fach			
Time Ranges	21 10	Pattern	Min	Max	Emergency Call	SIP Domain	Notes			
Routing Policies		2015xx	6	6		galab.local	OB to Hammer G5 using CiscoGW			
Dial Patterns	1	4006xxx	7	7		galab.local	Route to Cisco GW			
Regular Expressions		45xxx	5	5		-ALL-	SIP to VDN on S8800CM			
Defende		4801x	5	5		qalab.local	Quasar Route Point			
Defaults		4802x	5	5		galab.local	Midway Route Points			
		4803	5	5		galab.local	SIP to IVG			
		4804	5	5		galab.local	SIP to IVG02			
		4805	5	5		qalab.local	SIP to IV G03			
		4806	5	5		galab.local	SIP to IVG04			
		4807	5	5		qalab.local	SIP to IVG05			
		488xx	5	5		galab.local	SIP to EPMS			
		<u>52xxx</u>	5	5		qalab.local	Asterisk Connection			
		5300x	5	5		galab.local	SIP Station to SIP Station within the \$8800			
		54xxx	5	5		qalab.local	Station to Station within the S8800			
			-	-		ALL				

-

							nouting	
Routing	Home / Elements / Routing / Dia	al Patterns - Dial Patt	ern Details					
Domains								Help
Locations	Dial Pattern Details						Comm	it Cano
Adaptations								
SIP Entities	General							
Entity Links		* Pattern: 48	04					
Time Ranges		* Min: 5						
Routing Policies		* Max: 5						
Dial Patterns								
Regular Expressions		Emergency Call:						
Defaults		SIP Domain: qa	ab.local 💌					
		Notes: SI	to IVG02					
	Add Remove						Filt	er: Ena
	Criginating Location Name 1 🛦	Originating Location Notes	Routing Policy Name	Rank 2 🛦	Routing Policy Disabled	Routing Policy Destination	Routing Po Notes	licy
	VHT Lab		IV G02	0		IV G02		
	Select : All, None							
	Desired October View Law 11							
	Denied Originating Locations							
	Add Remove							
	0 Items   Refresh						Filt	er: Enal

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### Building Avaya Vectors for IVGs (Samples)

You must build vectors for your VDNs in Avaya Communication Manager. Vectors provide routing instructions for the VDNs. This integration requires four VDNs, because calls below threshold are routed directly from the Entry VDN to the Holding VDN. Calls above threshold are routed from the Entry VDN to the Routing VDN for IVR treatment and then sent to the Holding VDN, a skill, or through an Interactive Voice Gateway (IVG) to the Callback VDN. The four are:

- Entry
- Routing
- Holding
- <u>Callback</u>

### Entry

### VDN

VECTOR DIRECTORY NUMBER

Extension: 55190 Name\*: VHT IVG Entry Destination: Vector Number 90 Attendant Vectoring? n Meet-me Conferencing? n Allow VDN Override? y COR: 1 TN\*: 1 Measured: none

VDN of Origin Annc. Extension\*: 1st Skill\*: 2nd Skill\*: 3rd Skill\*:

\* Follows VDN Override Rules

VECTOR DIRECTORY NUMBER

AUDIX Name:

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Return Destination\*: VDN Timed ACW Interval\*: After Xfer or Held Call Drops\*? n BSR Application\*: BSR Available Agent Strategy\*: 1st-found Used for BSR Polling? n BSR Tie Strategy\*: system Observe on Agent Answer? n Send VDN as Called Ringing Name Over QSIG? n Display VDN for Route-To DAC\*? n VDN Override for ASAI Messages\*: no BSR Local Treatment\*? n Reporting for PC or POM Calls? n Pass Prefixed CPN to VDN/Vector\*? system \* Follows VDN Override Rules VECTOR DIRECTORY NUMBER **VDN VARIABLES\*** Var Description Assignment V1 V2 V3 V4V5 V6 V7 V8 V9 VDN Time-Zone Offset\*: + 00:00 Daylight Saving Rule\*: system Use VDN Time Zone For Holiday Vectoring\*? n Apply Ringback for Auto Answer calls\*? y \* Follows VDN Override Rules

### Vector

#### CALL VECTOR

Number: 90 Name: VHT IVG Ent Multimedia? n Attendant Vectoring? n Meet-me Conf? n Lock? n

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Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y
Prompting? y LAI? y G3V4 Adv Route? y CINFO? y BSR? y Holidays? y
Variables? y 3.0 Enhanced? y
01 wait-time 0 secs hearing ringback
02 set A = digits ADD 12345
03 adjunct routing link 5
04 wait-time 5 secs hearing ringback
05 route-to number 55202 with cov n if unconditionally
06 disconnect after announcement none
07 stop
08
09
10
11
12

It is recommended that adjunct be set to **routing link 1** for TSAPI integrations and **routing link 5** for CVLAN integrations.

# Routing

If the number of concurrent calls reaches the limit configured in the HMS for inboundmaxcalls (default value = 40), all the excessive calls are rejected by the IVG, so Avaya Communication Manager can route those calls to Holding Queue VDN . This is handled via Routing VDN and instructions to handle this scenario are provided in the following sample Routing <u>Vector</u>.

### VDN

VECTOR DIRECTORY NUMBER

Extension: 55200 Name\*: VHT IVG Rte to 48050 Destination: Vector Number 5200 Attendant Vectoring? n Meet-me Conferencing? n Allow VDN Override? y COR: 1 TN\*: 1 Measured: none

VDN of Origin Annc. Extension\*:

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1st Skill\*: 2nd Skill\*: 3rd Skill\*:

\* Follows VDN Override Rules

#### VECTOR DIRECTORY NUMBER

AUDIX Name: Return Destination\*: VDN Timed ACW Interval\*: After Xfer or Held Call Drops\*? n BSR Application\*: BSR Available Agent Strategy\*: 1st-found Used for BSR Polling? n BSR Tie Strategy\*: system

Observe on Agent Answer? n

Send VDN as Called Ringing Name Over QSIG? n

Display VDN for Route-To DAC\*? n VDN Override for ASAI Messages\*: no

BSR Local Treatment\*? n

Reporting for PC or POM Calls? n Pass Prefixed CPN to VDN/Vector\*? system \* Follows VDN Override Rules

#### VECTOR DIRECTORY NUMBER

**VDN VARIABLES\*** 

Var Description Assignment V1 V2 V3 V4 V5 V6 V7 V8 V9 VDN Time-Zone Offset\*: + 00:00 Daylight Saving Rule\*: system Use VDN Time Zone For Holiday Vectoring\*? n Apply Ringback for Auto Answer calls\*? y

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\* Follows VDN Override Rules

### Vector

CALL VECTOR

Number: 5200 Name: VHT IVG 48050 Multimedia? n Attendant Vectoring? n Meet-me Conf? n Lock? n Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y Prompting? y LAI? y G3V4 Adv Route? y CINFO? y BSR? y Holidays? y Variables? y 3.0 Enhanced? y 01 wait-time 0 secs hearing ringback with cov n if unconditionally 02 route-to number 48050 03 wait-time 5 secs hearing ringback 04 route-to number 55202 with cov n if unconditionally 05 disconnect after announcement none 06 stop 07 08 09 10 11

12

# Holding

### VDN

VECTOR DIRECTORY NUMBER Extension: 55202 Name\*: VHT IVG Hold Destination: Vector Number 82 Attendant Vectoring? n Meet-me Conferencing? n Allow VDN Override? n COR: 1 TN\*: 1 Measured: internal Acceptable Service Level (sec): 20 VDN of Origin Annc. Extension\*: 1st Skill\*: 2nd Skill\*:

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3rd Skill\*:

\* Follows VDN Override Rules

#### VECTOR DIRECTORY NUMBER

AUDIX Name: Return Destination\*: VDN Timed ACW Interval\*: After Xfer or Held Call Drops\*? n BSR Application\*: BSR Available Agent Strategy\*: 1st-found Used for BSR Polling? n BSR Tie Strategy\*: system

Observe on Agent Answer? n

Send VDN as Called Ringing Name Over QSIG? n

Display VDN for Route-To DAC\*? n VDN Override for ASAI Messages\*: no

BSR Local Treatment\*? n

Reporting for PC or POM Calls? n Pass Prefixed CPN to VDN/Vector\*? system \* Follows VDN Override Rules

#### VECTOR DIRECTORY NUMBER

**VDN VARIABLES\*** 

Var	Description	Assignment
V1		_
V2		
V3		
V4		
V5		
V6		
V7		
V8		
V9		
		0.00 1# . 00 00

VDN Time-Zone Offset\*: + 00:00 Daylight Saving Rule\*: system Use VDN Time Zone For Holiday Vectoring\*? n Apply Ringback for Auto Answer calls\*? y

\* Follows VDN Override Rules

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### Vector

#### CALL VECTOR

Number: 82 Name: VHT IVG Hold Multimedia? n Attendant Vectoring? n Meet-me Conf? n Lock? n Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y Prompting? y LAI? y G3V4 Adv Route? y CINFO? y BSR? y Holidays? y Variables? y 3.0 Enhanced? y 01 wait-time 0 secs hearing ringback 02 queue-to skill 5 pri m 03 wait-time 30 secs hearing ringback if unconditionally 04 goto step 3 05 disconnect after announcement none 06 stop 07 08 09 10 11

12

# Callback

### VDN

VECTOR DIRECTORY NUMBER Extension: 55203 Name\*: VHT IVG CB Destination: Vector Number 83 Attendant Vectoring? n Meet-me Conferencing? n Allow VDN Override? n COR: 1 TN\*: 1 Measured: none VDN of Origin Annc. Extension\*: 1st Skill\*: 2nd Skill\*: 3rd Skill\*:

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\* Follows VDN Override Rules

#### VECTOR DIRECTORY NUMBER

AUDIX Name: Return Destination\*: VDN Timed ACW Interval\*: After Xfer or Held Call Drops\*? n BSR Application\*: BSR Available Agent Strategy\*: 1st-found Used for BSR Polling? n BSR Tie Strategy\*: system

Observe on Agent Answer? n

Send VDN as Called Ringing Name Over QSIG? n

Display VDN for Route-To DAC\*? n VDN Override for ASAI Messages\*: no

BSR Local Treatment\*? n

Reporting for PC or POM Calls? n Pass Prefixed CPN to VDN/Vector\*? system \* Follows VDN Override Rules

#### VECTOR DIRECTORY NUMBER

**VDN VARIABLES\*** 

Var V1 V2 V3 V4 V5 V6 V7 V8 V9	Description	Assignment
VD	N Time-Zone O	ffset*: + 00:00
Day	/light Saving Ru	ule*: system
Use VDN Time	Zone For Holid	ay Vectoring*? n
Apply Ringba	ck for Auto Ans	wer calls*? y

\* Follows VDN Override Rules

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### Vector

### CALL VECTOR

Number: 83 Name: VHT IVG CB Multimedia? n Attendant Vectoring? n Meet-me Conf? n Lock? n Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y Prompting? y LAI? y G3V4 Adv Route? y CINFO? y BSR? y Holidays? y Variables? y 3.0 Enhanced? y 01 wait-time 0 secs hearing ringback 02 queue-to skill 5 pri h 03 wait-time 30 secs hearing ringback 04 goto step 3 if unconditionally 05 disconnect after announcement none 06 stop 07 08 09 10 11 12



# Connecting VXML Interaction Server (VIS) to Platform Toolkit (PTK)

To connect VIS to the Platform Toolkit (PTK) from the toolkit.properties file:

- 1. Locate the PTK toolkit.properties file (...etc/Virtual Hold/toolkit.properties) located on the VXML Interaction Server (VIS).
- 2. Edit the following line of code in the toolkit.properties file:

#### com.virtualhold.toolkit.baseurl+http:///ocation/VHTPlatformWS-v5/

Where:

*location* is the IP address of the server containing the PTK application (the management instance server IP address).

3. Verify the following lines of code are automatically set as shown to enhance Answering Machine Detection (AMD) performance:

com.virtualhold.toolkit.hvp.amd.url=/vht-ivg/amdRecord.jsp

com.virtualhold.toolkit.hvp.amd.finalsilence=1s

com.virtualhold.toolkit.hvp.amd.asrengine=dtmf

com.virtualhold.toolkit.hvp.amd.sensitivity=0.4

com.virtualhold.toolkit.hvp.amd.maxspeech=20s

com.virtualhold.toolkit.hvp.amd.maxinitialsilence=3s

com.virtualhold.toolkit.hvp.amd.lifethreshold=4.0

- 4. Save the toolkit.properties file. These changes will take effect immediately
- 5. Repeat Steps 1 through 4 on each VIS/IVG server.



# Logging into IVG Holly Management System (HMS)

### Overview

The Holly Management System (HMS) provides centralized configuration and administration of all Holly Voice Platforms installed in the IVG system. There are four management features which require specific attention in IVG systems:

- Workers
- Service Provider
- Affiliates
- Applications

The first step in using the HMS is logging in to the User Interface (UI).

# Logging In and Out

To start the IVG HMS from the server containing the IVG:

- 1. Open a web browser.
- 2. Enter http://server\_address:2020.
- 3. Enter a username and password and click Login.

#### Note:

The username and password for the initial default user is **administrator** and **holly12**. It is highly recommended to change the default password after the first login using the **System Users** option within the **Administration** menu within HMS.



wht			HVP-6.3.5-2317-39929
Powered by the Holly Voice Pla	atform		user: not logged in
		Login	
		5	
	4	Username	
	*	Password	
		Sign In	

To exit the IVG HMS:

1. Select Logout in the IVG HMS Window.



## Activating IVG Workers using HMS

Use the **Workers** option of the **Configuration** menu to verify the required IVG Workers (shown in the screen shot, and listed in the table below) are Started and Running as part of the installation process. If necessary, use the following procedure to start IVG workers.

<b>Ch</b>	vered by the Holly Voice Platform	<all providers="" service=""></all>	▼ <all affiliates=""></all>	HVP-6.3.5-2317-39929[127.0.0.1@hoBy] ▼ sall applications-
Administratio	on Reports Configuration Dashboard			user: administrator Logout
	Workers			
	MANAGE WORKERS			×
	Workers > HOLLY > OPENVXML10			
	Service Name	Status		Q search
	Holly Config Server	Running		HOLLY
	Holly Foreman	Running		openvxml10 C
	Holly ASR Log Manager	Stopped	• 2	
	Holly Voice Browser	() Running		
	Holly Call Control	Running		
	Holly Call Redux	Stopped	• 2	
	Holly CTI Manager	Running		
	Holly Licence Manager	() Running		
	Holly HMS Page Server	() Running		
	Holly HMS Web Server	Running		
	TTS	Stopped	• 2	
	Holly Voice Gateway	() Running		
	Holly VXML Subdialog Server	Running		
	Holly Log Manager	Running		
	Holly SNMP Subagent	Running		
	Tts Hum	Stopped	• 2	

Worker Name	Process Name	Description
Holly Config Server	configserver	Required by all workers to access configuration information and ensure the parameter information is accurate throughout the HMS system.
Holly Foreman	foreman	Required to monitor and restart workers.

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Worker Name	Process Name	Description
Holly Voice Browser	browser	Required for calls using an IVR.
Holly Call Control	callcontrol	Required when using CCXML.
Holly License Manager	hlm	Required for incoming calls. Used to limit the number of calls on a server to prevent oversubscribing. Also returns the configuration and URL for the application.
Holly HMS Page Server	hmspageserver	Required for HMS access.
Holly HMS Web Server	hmsweb	
Holly Voice Gateway	hvg	Required for calls using an IVR.
Holly VXML Subdialog Server	hvss	Required by license manager to access Holly license information.
Holly Log Manager	logmgr	Required for writing diagnostic log information.
Holly SNMP Subagent	subagent	Required for SNMP integration and alarm consolidation in ~/log/ alarms.log file.

To select and activate the required Holly workers:

- 1. Select **Configuration > Workers** within HMS.
- 2. Select the Holly server on the right side of the window.
- 3. Click the start icon (right arrow) for a Holly worker to be started.
- 4. Verify the status of the worker changes to Running.
- 5. Repeat Steps 3 and 4 for the remaining Holly workers that need started.

It is also possible to check the IVG installer log (installer\_log.txt file) to verify the workers have been started. Refer to one of the following topics for an example installer log:

- <u>Single IVG</u>
- <u>Multiple IVG and Local PostgreSQL</u>
- Multiple IVG and Standalone PostgreSQL
- High Availability Virtual Hold with Multiple IVG and Standalone PostgreSQL



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### Adding the VHT Service Provider Using HMS

Use the Service Providers option of the Administration menu to define (or edit) the VHT service provider for this IVG.

#### Note:

Only one Service Provider needs to be added since IVG employs the HVP centralized management feature.

Administration Reports	y Voice Platform Configuration Dashboard	«all service providens»	HVP-6.3.5-2317-39929 * «all affiliates» * «all applications» * user: administrator <u>Logout</u>
Service Provide	Editor		
Select Service Provider			
Service Provider: Domain Name: Domain Description:	<new provider="" service=""></new>		
Service Provider Contac	Details	_	Edit Arnuates
Name: Email: Phone: Address:			
Licence Port Allocation			
Max Available Ports:	0 Warn Ports: 0		
Alarm Recipients			
Alarm Type:	email  Address:	•	Add Replace Delete
Application Parameters			
Key: Preset Parameters:	Value:	*	Set Replace Delete Set
	Delate	the Couries Describes [1]	Devent Cours Consister Deve idea
Service Provide	Numbers		
DNIS Numbers:			Add Replace Delete

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To create or edit the VHT service provider:

- 1. Select Administration > Service Providers within HMS.
- 2. Complete the Select Service Provider, Service Provider Contact Details, Licenses Port Allocation, Alarm Recipients, and Application Parameters areas. Fields are defined as follows:

Note:			
Fields marked with an a	asterisk (*) are required.		
Field	Description		
Select Service Provider			
Service Provider *	Unique name of service provider to be (or already) created ( <b>VHT_ServiceProvider</b> for example)		
Domain Name *	Name of domain containing service provider.		
Domain Description	Description of domain containing service provider. Default value is <b>Domain Name</b> .		
Service Provider Contac	Service Provider Contact Details		
Name *	Name of the service provider contact.		
Email	Email address of service provider contact.		
Phone	Telephone number of service provider contact.		
Address	Address of service provider contact.		
License Port Allocation			
Max Available Ports *	Maximum number of ports available to affiliates attached to this service provider. A warning (configured in <b>Alarm Recipients</b> area) is sent when this value is exceeded.		
	<b>Note:</b> Set this value greater than the total number of Virtual Hold licensed ports (sum of VoiceLicenses, NonVoiceLicenses, VoiceBurstingLicenses, and NonVoiceBurstingLicenses).		

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Field	Description
Warn Ports *	Number of allocated ports used (by the affiliates attached to this service provider) at which a warning is generated. The warning is configured in <b>Alarm Recipients</b> area and gives advance notice of approaching the port allocation limit.
	<b>Note:</b> Set this value greater than the total number of Virtual Hold licensed ports (sum of VoiceLicenses, NonVoiceLicenses, VoiceBurstingLicenses, and NonVoiceBurstingLicenses).
Alarm Recipients	
Alarm Type *	Type of warning generated when default <b>Max Available Ports</b> and <b>Warn Ports</b> limits are exceeded. Available type is <b>email</b> .
Address *	Destination (email address) of warnings generated when default <b>Max Available Ports</b> and <b>Warn Ports</b> limits are exceeded.
Application Parameters	
Кеу	Name of key value pair used by this service provider.
Value	Value of key value pairs used by this service provider.
Preset Parameters	Default parameters used by affiliates and applications attached to this service provider.

#### 3. Click Save Service Provider.

4. Complete the Service Provider **Numbers Available** area. Ensure the DNIS numbers represent the range of numbers available to this service provider.

#### Note:

DNIS numbers are case-sensitive and can be aphanumeric.

- 5. Click Add.
- 6. Click Save Service Provider.

#### Notes:

- 1. Associated affiliates must be deleted before a service provider can be deleted.
- 2. Deleting a service provider deletes the associated service provider groups and users.

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3. Deleting a service provider removes all connections to associated archived log records.



# Adding the VHT Affiliate Using HMS

Use the **Affiliates** option of the **Administration** menu to create (or edit) the VHT affiliate and associate it to the VHT service provider.

Note:

Only one Affiliate needs to be add since IVG employs the HVP centralized management feature.

Powered by the Ho	By Voice Platform				<all providers="" service=""> ▼ «all a</all>	HVP-6.3.5-2317-39929
Administration Reports	Configuration Dashboard					user: administrator Logout
Affiliate Editor						
Select Affiliate						
Service Provider: Affiliate: Domain Name: Domain Description:	VHT <new affiliate=""></new>	• •				
					Edit Service Provider	Edit Applications
Affiliate Contact Details			_			8
Name:						
Email: Phone:						
Address:						
Licence Port Allocation						
Max Available Ports:	0	Warn Ports:	0			(Available 0)
Alarm Recipients						
Alarm Trace	email T					
Adam type.					*	Add Replace Delete
Application Parameters						
Key:			Value:			
Preset Parameters:	Set Application Type To CCXML •				*	Set Replace Delete Set
					Delete the Affiliate	Revert Save Affiliate
Affiliate Numbe	rs					
Numbers Available		_	_	_	_	
DNIS Numbers:		Ý				Add Replace Delete

#### To create or edit the VHT affiliate:

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- 1. Select Administration > Affiliates within HMS.
- 2. Complete the Select Affiliate, Affiliate Contact Details, Licenses Port Allocation, Alarm Recipients, and Application Parameters areas. Fields are defined as follows:

Note:	
Fields marked	d with an asterisk (*) are required.
Field	Description
Select Affiliate	
Service Provider *	Name of service provider to which affiliate is associated (VHT_Affiliate for example)
Affiliate *	Unique name of the affiliate to be (or already) created (VHT_Affiliate for example).
Domain Name *	Name of domain containing service provider.
Domain Description	Description of domain containing service provider.
Affiliate Contact Details	
Name *	Name of affiliate contact.
Email	Email address of affiliate contact.
Phone	Telephone number of affiliate contact.
Address	Address of affiliate contact.
License Port Allocation	
Max Available Ports *	Maximum number of ports available to this affiliate. A warning (configured in <b>Alarm Recipients</b> area) is sent when this value is exceeded.
	<b>Note:</b> Set this value to <b>0</b> indicating that a license from the parent object is used.

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Field	Description
Warn Ports*	Number of allocated ports used (by the applications attached to this affiliate) at which a warning is generated. The warning is configured in <b>Alarm Recipients</b> area and gives advance notice of approaching port allocation limit.
	<b>Note:</b> Set this value to <b>0</b> indicating that a license from the parent object is used.
Alarm Recipie	nts
Alarm Type*	Type of warnings generated when default <b>Max Available Ports</b> and <b>Warn Ports</b> limits are exceeded. Available type is <b>email</b> .
Address *	Destination (email address) of warnings generated when default <b>Max Available Ports</b> and <b>Warn</b> <b>Ports</b> limits are exceeded.
Application Pa	irameters
Keys *	Name of key value pair used by this affiliate.
Value *	Value of key value pair used by this affiliate.
Preset Parameters*	Default parameters used by affiliates and applications that reference the associated service provider.

#### 3. Click Save Affiliate.

4. Complete the Affiliates **Numbers Available** area. Ensure the DNIS numbers represent a unique subset of the range of numbers available to the associated Service Provider.

#### Note:

DNIS numbers are case-sensitive and can be aphanumeric .

- 5. Click Add.
- 6. Click Save Affiliate.

#### Notes:

- 1. Associated applications must be deleted before an affiliate can be deleted.
- 2. Deleting an affiliate deletes the associated affiliate groups and users.
- 3. Deleting an affiliate removes all connections to associated archived log records.

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# Adding VHT Applications Using HMS

Use the **Applications** option of the **Administration** menu to create or edit the inbound (**VHT\_Inbound** for example) and outbound (**VHT\_Outbound** for example) applications and associate them to the appropriate affiliate on this IVG.

Note:

Only these two applications need to be added since IVG employs the HVP centralized management feature.



Wht			HVP-6.3.5-2317-39929
Administration Reports	y Voice Platform Configuration   Dashboard	<all providers="" service=""></all>	* «all affiliates» * «all applications» * user: administrator Logout
Application Edit	or		
Select Application			
Service Provider: Affiliate: Application: Name: Description: Licence Exception URL:	VHT  VHT-Aff  (rew application>  V		
			Edit Affiliate
URL: Fetch Time Out: URLs:	jec.	▲ ▼	Add Replace Delete Move Up Move Down
Licence Port Allocation			
Max Available Ports: Licence Life:	0 Warn Ports: 0		(Available 0)
Alarm Recipients			
Alarm Type:	email  Address:	*	Add Replace Delete
Application Parameters			
Key:	Value:	· · · · · · · · · · · · · · · · · · ·	Set Replace Delete
Preset Parameters:	Set Application Type To CCXML		Set
Application Num	ibers	Delete the Application	] Revert   Save Application
DNIS Numbers:			Add Replace Delete

To create or edit the inbound and then outbound applications for call treatment:

- 1. Select Administration > Applications within HMS.
- 2. Complete the Select Application, URLs, Licenses Port Allocation, Alarm Recipients, and Application Parameters areas. Fields are defined as follows:

#### Note:

Fields marked with an asterisk (\*) are required.

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Field	Description		
Select Application			
Service Provider *	Name of service provider to which this application is associated (VHT_ServiceProvider for example).		
Affiliate *	Name of affiliate to which this application is associated. Set this value to (VHT_Affiliate for example).		
Application *	Unique application name to be used in reports (VHT_Inbound or VHT_Outbound for example).		
Name	Unique name of application to be (or already) created ( <b>VHT_Inbound</b> for inbound or <b>VHT_Outbound</b> for outbound for example).		
Description	Description of application.		
License Exception URL	URL returned with rejected license message (VHT_Inbound for inbound or VHT_Outbound for outbound for example).		
URLs			
URL	URL where this application can be found. Always specify a fetch time out when inserting a URL.		
Fetch Time Out	Time allotted to fetch this URL.		
URLs	Listing of URLs where this application is published. URLs are utilized in the order presented.		
	Notes:		
	1. Use Move Up and Move Down to ensure URLs are listed in desired order.		
	2. Limit number of URLs inserted because fetch time outs are cumulative.		
	3. Ensure last URL listed is local to browser so that access is assured.		
License Port	License Port Allocation		
Max Available	Maximum number of ports available to this application. A warning (configured in <b>Alarm Recipients</b> area) is sent when this value is exceeded.		
רטונא	Note: Set this value to <b>0</b> indicating that a license from the parent object is used.		

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Field	Description
Warn Ports	Number of allocated ports used (by this application) at which a warning is generated. Warning is configured in <b>Alarm Recipients</b> area and gives advance notice of approaching the port allocation limit.          Note:         Set this value to <b>0</b> indicating that a license from the parent object is used.
License Life	Amount of time the License Manager holds on to a license before it assumes the license is no longer in use.
Alarm Recipio	ents
Alarm Type	Type of warnings generated when default <b>Max Available Ports</b> and <b>Warn Ports</b> limits are exceeded. Available type is <b>email</b> .
Address	Destination (email address) of warnings generated when default <b>Max Available Ports</b> and <b>Warn Ports</b> limits are exceeded.
Application P	arameters
Note: At a minimum, the following parameters are required for the inbound IVR: ap.connhdrstodlg = 1 failure_destination = <i>location</i> where <i>location</i> is the IP address to which calls are transferred when VIS fails to execute and inbound call treatment is not delivered. type = application/voicexml+xml	
Note: At a minimum, the following parameter is required for the outbound IVR: type = application/voicexml+xml	
Key	Name of any key value pairs used by this application.
Value	Value of any key value pairs used by this application.
Preset Parameters	Default parameters used by this application.

#### 3. Click Save Application.

4. Complete the Application **Numbers Available** area. Ensure the DNIS numbers represent a unique subset of the range of numbers available to the associated affiliate (**VHT\_Affiliate** for example).

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DNIS numbers are case-sensitive and can be aphanumeric .

- 5. Click Add.
- 6. Click Save Application.

#### Note:

Deleting an application removes all connections to associated archived log records.

7. Repeat Steps 2 through 6 for the associated outbound application (VHT\_Outbound for example).



### **IVG Performance Configuration**

### Overview

This topic details example performance data, default performance enhancements, and how these enhancements that can customized to improve IVG system performance.

# Sample Performance Data

While actual performance is dependent on the IVG system, internal VHT acceptance testing has achieved the following performance level(s) when all recommended configuration procedures were followed.

Operating System	Integration	# of CPUs	RAM Memory	Total Ports	Total Calls Per Hour	Average Memory Usage	Average CPU Usage
Red Hat	Avaya	4	8 GB	250	8991	3.2 GB	50%

# Performance Configuration

The following sections detail requirements and performance configuration items (both automatically and manually set) and how to configure them. This content is divided unto the following topics:

- <u>Server Components</u>
- Virtual Machine (Hypervisor)
- Operating System
- Holly Voice Platform

### **Server Components**

The following sections identify the Virtual Hold recommendations for common server components.

### CPUs

Virtual Hold recommends the use of at least two, quad core high clock speed (2.95 MHz or faster) processors.

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#### **Network Interfaces**

Virtual Hold recommends the use of 1 GB Network Interface Cards (NICs).

#### **Disk Space**

Virtual Hold recommends thick provisioned hard disks of 60 GB or larger.

### Virtual Machine (Hypervisor)

IVG software has been tested using the following virtualized environment:

• VMWARE ESXi (version 5.5 or higher), 64-bit compatible.

### **Operating System**

The following sections detail Virtual Hold requirements and recommendations (both automatically and manually set) for the operating system and how to set them.

#### Version

Virtual Hold requires CentOS 6.8 and RHEL 6.8 (both 64-bit only).

#### /tmp as tmpfs [Manual Configuration]

#### Note:

It is recommended to perform this procedure before executing any calls.

As the Holly Voice Platform (HVP) writes optional call recordings and caches data temporarily to the /tmp/holly directory, a negative performance impact is seen if /tmp is left at its default Red Hat configuration as a normal disk-based file system location. It is recommended that /tmp be mounted as a tmpfs file system. The following is an example command in /etc/fstab to enable this addition on startup.

#### tmpfs /tmp tmpfs defaults size=memory\_size 0 0

where:

*memory\_size* = As a general rule, set this value to 50% of the RAM memory available to the system.

Repeat this procedure on all servers containing an IVG.

#### **Realtime Option [Automatic Configuration]**

This option places the processes responsible for handling RTP audio into a higher priority real time process class. Audio

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is a realtime environment and quality suffers if packets are delayed or jittered. Raising the priority of these processes minimizes the chances of these delays occurring. To enable Realtime feature at the operating system level:

- 1. Have a root user create a 99-realtime.conf file in the ...\etc\security\limits.d directory.
- 2. Ensure this file contains the following lines:

@realtime - rtprio 99 @realtime - memlock unlimited Eg.

3. Have the root user create a group named **realtime** and add the holly user to it using the following commands.

groupadd realtime usermod -a -G realtime holly

- 4. Restart this server.
- 5. Repeat this procedure on all servers containing an IVG.

### **Holly Voice Platform**

The following sections detail HVP requirements and recommendations (both automatically and manually set) and how to configure them.

#### Version

IVG installs Version 6.3 of the Holly Voice Platform.

#### **HMS Settings**

Use the **Holly Configuration** option of the **Configuration** menu to create (or edit) performance enhancements to this IVG.



					HVP-6.3.5-2317
Wht					
Powered by the Holl	y Voice Platform		-all service providers-	▼ -all affiliat	csall applications-
Administration Reports	Configuration Dashboard				user: administrator LOS
Holly Configurati	ion				
fieldy configurat					
Select a Component					
Component:	Audio Provider - SIP	•			
Pool:	holly	•			
Host:	(default)	<ul> <li>Refresh</li> </ul>			
et at component level	Set at pool level	Set at host level	Unused	at selecte	d level
component default	pool bolly				
aatheader:	User-to-User		0	Modify	Delete
ackretnes:	0		0	Add	
alawovernde:	0		0	Add	Delete
amddetect:	1		0	Modify	Detete
amddetectduration:	50.000			Add	
answereartymedia:	11000		0	Add	
basercpserverporc:	1		0	Modify	Delete
busydetect.	6		0	Add	Detete
concel new colliver new of	503		0	Add	
cancel retries:	6		0	Add	
caps:	0		0	Add	
capx:	1		0	Add	
codecsupport:	g711ulaw,g711alaw,rfc2833		0	Add	
decadicdetect:	0		0	Add	
diffserv:	0×00		0	Add	
distributercount:	4			Add	

This configuration only needs to be made once because the parameters are being configured at the pool level. Such changes apply to all Holly Voice Platforms (HVPs) installed as members of the pool.

To edit the HVP performance related configuration:

- 1. Select Configuration > Holly Configuration within HMS.
- 2. Configure the **Component** and **Pool** parameters as follows:

Field	Description
Component	Component to be configured. Set this value to <b>Audio Provider - SIP</b> .
Pool	Pool or group of IVG servers (holly for example).

3. Configure the distributercount parameter to 2 (default value is 4). [Manual Configuration]

#### Note:

The amount of processes used by the **realtime** parameter (refer to Step 5) is determined by the **distributercount** parameter. The **distributercount** parameter is the number of SIP threads available to distribute and mix the audio and RTP channels. Set the **distributercount** parameter to the number of physical CPU cores, not including hyperthreads, allocated to a VM. The distributers are responsible for handling RTP audio. As an example, for a four vCPU VM that contains four CPU threads and two CPU cores, set **distributercount** to 2.

#### 4. Click **Add** or **Modify** for this parameter.

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- 5. Ensure the **realtime** parameter is set to **1** (default value). [Automatic Configuration]
- 6. If necessary, click Add or Modify for this parameter.
- 7. Ensure the tonedetect parameter is set to 0 (disabled the default value). [Automatic Configuration]

This option is used when DTMF is delivered to the Holly voice platform in-band as a tone in the audio stream. Enabling the **tonedetect** option causes usage of extra processing for every call so it recommended to disable this option. Reset the value or click **Delete** to return this option to the default value.

- 8. If necessary, click Add or Modify for this parameter.
- 9. Configure the **Component** and **Pool** parameters as follows:

Field	Description
Component	Component to be configured. Set this value to <b>Holly Globals</b> .
Pool	Pool or group of IVG servers ( <b>holly</b> for example).

- 10. Ensure the CC parameter is set to 1 (default value). [Automatic Configuration]
- 11. If necessary, click Add or Modify for this parameter.
- 12. Configure the Component and Pool parameters as follows:

Field	Description
Component	Component to be configured. Set this value to <b>Holly Voice Browser</b> .
Pool	Pool or group of IVG servers (holly for example).

10. Configure the **callevents** parameter to contain the minimum required number of call events generating log entries because (none by default) the platform logs a large amount of events to the database. This excessive logging of call events should be avoided in production systems as it consumes processing resources. At a minimum, the **fetch** event should be removed. At a maximum, all events can be removed. The complete list of available call events is: [Automatic Configuration]

asr\_session log\_element recognition\_start recognition\_end record\_start record\_end transfer\_start

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- transfer\_end disconnect fetch error\_critical error\_severe error\_warning note exit placecall\_start placecall\_end sip\_session grammar\_activation
- 11. Configure the **jsruntimesizekb** parameter to **40960**. This setting should improve performance in high call volume systems using JavaScript. [Manual Configuration]
- 12. Click Add or Modify for this parameter.
- 13. Ensure the dthreads parameter is set to 1 (default value). [Manual Configuration]

This option handles outbound CCXML calls at VHT. If jitter (incomplete voice prompts, intermittent call response, etc.) is present during high load call, it may ne necessary to increment this value. However, be aware the a setting of **4** in system using four vCPUs was tested and caused other problems. A setting of **2** would be suggested. In some cases, the **distributercount** and **dthreads** options interacted. For example, a four vCPU system handling a large load of concurrent inbound and outbound calls may require setting both of them to **1** so they do not unnecessarily impact Tomcat processing.

- 14. Click **Add** or **Modify** for this parameter.
- 15. Configure the Component and Pool parameters as follows:

Field	Description
Component	Component to be configured. Set this value to <b>Holly Log Manager</b> .
Pool	Pool or group of IVG servers (holly for example).

- 14. Ensure the **disklogging** parameter is set to **1** (default value). [Automatic Configuration]
- 15. If necessary, click Add or Modify for this parameter.
- 16. Configure the **Component** and **Pool** parameters as follows:

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Field	Description
Component	Component to be configured. Set this value to <b>Holly Essentials</b> .
Pool	Pool or group of IVG servers (holly for example).

- 14. Select the Trace Level tab.
- 15. Ensure all parameters are set to 2: Status Messages. [Automatic Configuration]
- 16. If necessary, click **Add** or **Modify** for this parameter.

### **Adjusting Holly Resource Levels**

The following Holly Call Control and Browser resource levels should be configured to a value greater than the total number of Callback licensed ports on each IVG. This ensures there are always more resources available than needed for the available licenses. These levels are currently set to a high value by default through use of the hvp\_param.cfg file by the IVG installer.

Holly Configuration > Call Control:

maxcreateccxmlsessions (default value = 999)

maxexternalsessions (default value = 999)

maxnewcallsessions (default value = 999)

maxsessions (default value = 999)

Holly Essentials (Telephony):

Number of Ports per Server (default value = 400)

Maximum Concurrent Inbound Calls per Server (default value = 400)

Maximum Concurrent Outbound Calls per Server (default value = 400)

These values are based on the baseline system used for IVG performance testing. Adjustment of these values is expected to achieve the best performance. Refer to <u>Interactive Voice Gateway (IVG) Technical Overview</u> for baseline system specifications.

To set these resource levels for this IVG, use the **Configuration > Holly Configuration** menu within HMS.

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### IVG External Media Files

A client's collection of voice files can reside on a media server separate from the VXML Interaction Server (VIS) in systems using Interactive Voice Gateways (IVGs). The external voice project can be edited independently outside of Eclipse and then deployed to the server without building a new VXML project or .war file. This allows for quicker deployment and easier customization of the voice files.

The standard procedures for using external voice files are described in the **Customizing External Media Files** topic within the <u>VXML Interaction Server Installation Guide</u> or <u>VXML Interaction Server Configuration Guide</u>. One difference in systems using IVGs is that voice files are located in the .../usr/local/tomcat7/webapps/voices directory within the IVG directory structure. Other than this difference, VIS and the accompanying external voice files are utilized in the standard manner.



### Configuring Data Purging

The data purging values for logtokeep, logtodelete, and datatodelete are automatically configured during IVG Installation in the install\_hvp.cfg file, and log to /export/home/<holly user>/log/logmgr. These values may be adjusted post-installation by manually modifying the values.

To update the data purging values:

1. Run the following command as a root user using a Linux text editor:

#### /var/spool/cron/holly

2. Locate lines 03 and 04 (example below):

00 3 \* \* \* /usr/bin/ruby /export/home/holly/bin/logmgr\_expire -d 30 -k 10 >> /\$ 00 4 \* \* \* /bin/sh /export/home/holly/bin/datalog\_expire.sh 10 >> /dev/null 2>\$

#### 3. Modify the following values:

Field		Description	Default Value
logmgr_expire	-d	Number of days of logs to be deleted	30
	-k	Number of days of logs to be kept	10
datalog_expire		Number of days of data to be deleted	10

- 4. Save the file.
- 5. Restart the Cron service for these changes to take effect.