

VoiceGenie 7.2

SIP Proxy

System Reference Guide

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Introduction

This guide serves as the system reference manual for the VoiceGenie 7.2 SIP Proxy software. It is intended to provide a complete reference for all aspects related to the configuration, Metrics and alarming of the SIP Proxy.

The following table gives definitions of some acronyms that are used throughout this document:

Acronyms	Full Definitions
ASR	Automated Speech Recognition (Engines/Technologies)
CLC	Command Line Console – A command line interface that can be used to query information and issue commands
MRCP	Media Resource Control Protocol – Adopted by the VoiceGenie Media Platform to control ASR and TTS resources
SRM	Speech Resource Management – A component integrated into the VoiceGenie Media Platform to provide Speech Recognition and Synthesis functionalities to the application developers
SMC	System Management Console – A web based tool for administering clusters of VoiceGenie VoiceXML Platforms
OA&M	Operation, Administration and Management
TTS	Text To Speech (Engines/Technologies)

The following sections may contain references to terminology that has become obsolete since the last release, NeXusPoint 6.4x. Here is a mapping between these terms:

Historical Terms	New Terms
PhoneWeb Software /	VoiceGenie 7.2 Software
NeXusPoint 6.4.x Software	
Cluster Management Platform (CMP)	OA&M Framework
Voice Resource Manager (VRM)	Speech Resource Management (SRM)
VoiceGenie Management Console (VMC)	System Management Console (SMC)

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Directory Structure

SIP Proxy home directory will reside in /usr/local/ccp-proxy. The following table lists the subdirectories/files and their description:

File (relative to SIP Proxy home)	Description
bin/ccpproxy	SIP Proxy executable
config/ccpproxy.cfg	Local SIP Proxy configuration file
config/ccpproxy_provision.dat	Local SIP Proxy provisioning file
config/ccp-proxy.xml	SIP Proxy definition file
Lib/libccure.so	SIP Proxy library file
Lib/libccurest.so	SIP Proxy library file
logs/CMP.log.ccpproxy*	SIP Proxy log files

CCP-RM is also required to be installed on the same system, which will reside in /usr/local/ccp-rm. The following table lists the subdirectories and files:

File (relative to CCP-RM home)	Description
bin/ccprm	CCP-RM executable
config/ccprm.cfg	Local CCP-RM configuration file
config/ccprm_provision.dat	Local CCP-RM provisioning file
config/ccp-rm.xml	CCP-RM definition file
scripts/start_ccprm	CCP-RM start script
logs/CMP.log.ccprm*	CCP-RM log files

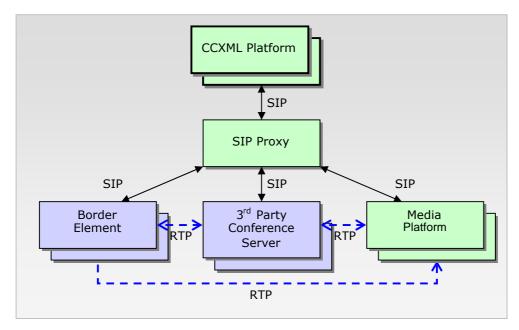




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System Architecture

The SIP Proxy manages multiple instances of CCXML Platforms, Media Platforms, and conference servers. Border elements (such as a media gateway) send SIP requests to the SIP Proxy and the requests are forwarded the appropriate SIP services, such as CCXML Platform, Media Platform or conference server. The following diagram shows elements managed by the SIP Proxy:



Green boxes denote VoiceGenie products, and purple boxes denote third-party elements.

Chapter 3: System Architecture





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Prerequisites

The VoiceGenie SIP Proxy requires the following components to be installed and configured:

- 1. VoiceGenie OA&M Framework
- **2.** Redundancy Manager and Linux bonding driver Optional:

Media Platform or CCXML Platform

4.1 Deployment Order

The OA&M Framework must be installed first.

After installing the OA&M Framework, please deploy the rest of the components in the following order:

- 1. SIP Proxy
- 2. Media Platform (plus ASR/TTS)
- 3. CCXML Platform

(The CCXML Platform must be the last component to be deployed.)

To install and configure the components other than SIP Proxy, please refer to their respective installation and configuration guides. In addition to the SIP Proxy installation and configuration details, this document provides the additional configuration instructions for Media Platform and CCXML Platform to integrate into the SIP Proxy cluster.

4.2 SIP Proxy Installation

Required files:

Component	Filename
Linux Bonding Driver (Linux only)	bonding-7.0.x-x.tar.gz
CCP Redundancy Manager	ccp-rm-7.2.x-x.tar.gz
SIP Proxy	ccp-proxy-7.2.x-x.tar.gz

Installation Steps:

- 1. Open System Management Console, go to the Configuration tab, and find Product Manager. Upload the required files listed above.
- 2. Create configuration profiles in Config Profile Manager for each component listed above.
- 3. Use Deployment manager to deploy each component in the order listed in the above table. Select the machine(s) that SIP Proxy will be deployed on and ensure all 3 components are deployed.
- 4. Check Deployment History to make sure the product is deployed successfully.
- 5. Save license keys as /usr/local/phoneweb/config/vglicense.txt; create the /usr/local/phoneweb/config directory manually if the directory does not already exist.
- 6. Set up Redundancy Manager Cluster Mapping. Go to Configuration tab and click on RM Cluster Mapping.

RM Cluster Mapping Configuration

To create a new Redundancy Manager Cluster, click on Create RM Cluster.

Create RM Cluster

To add a member to an entry, choose the Redundancy Manager from the drop down list, entry member string and click on Add.

Click on Remove to remove a member from a RM Cluster entry.

Click on Delete to delete an entry.

Redundancy Manager Cluster ID: 16				
Cluster Members				
RM:	Member ID	Member String		
10.0.0.144 (11)	1	10.0.0.144:9801	Remove	
Delete				

Click on Create RM Cluster and a new box with a cluster will be shown. You will find the IP address of each SIP Proxy machine available in a dropdown box; select the desired machine. In the Member String text box, enter the IP address, with port 9801, then click Add. The resulting screenshot with one SIP Proxy is shown above.

Please refer to the *SIP Proxy User's Guide* for additional installation and configuration details. Configuring Media Platform and CCXML Platform only discusses the configuration modifications required for the SIP Proxy to operate with the CCXML Platform and Media Platform.





Configuring Media Platform and CCXML Platform

Changes documented in this section apply only if Media Platform or CCXML Platform is installed with proper license.

The Call Manager (listed under Media Platform) requires the following configuration changes in order to integrate with the CCXML Platform. To change the configuration, click on Call Manager under SMC > Configuration tab, select radio button for the configuration name, and click Edit, to edit the following parameters:

Required for Conferencing capability

- sessmgr.modules = VXML Remdial Conference (hold down the Control key, and click each of the three values in the menu, to select them together)
- sessmgr.appmodules = VXML:VXML Remdial:RemoteDial Conference:Conference
 - (hold down the Control key, and click each of the three values in the menu, to select them together)
- sessmgr.conference.conference = Conference
 (type Conference in text box, and click Add button)

Required for Dialog Server functionality

- sip.transfermethods = REFER (select REFER from menu)
- sip.defaultblindxfer = REFER (select REFER from drop-down menu)
- sip.referxferhold = 0(please enable this parameter by clicking the checkbox beside the parameter, and select 0 from drop-down menu)

Click Update button to apply the changes. Media Platform must be restarted in order for changes to take effect.

Chapter 5: Configuring Media Platform and CCXML Platform5.1 All-in-one installation (CCXML Platform, SIP Proxy and Media Platform

Configuration should be further modified according to the type of installation.

5.1 All-in-one installation (CCXML Platform, SIP Proxy and Media Platform on same machine)

After deploying the SIP Proxy, CCXML Platform, and Media Platform, please modify the following configuration parameters through SMC, to set up an allin-one installation.

In SMC, go to the Configuration tab. For each component below, click on the name in the left-hand menu, select the radio button for the configuration name, and click Edit, to edit the parameters.

CCXML Interpreter (listed under CCXML Platform)

- 1. sip.transport.0 change to transport0 udp:any:5068
- 2. ccpccxml.sip.proxy change to <IP address of this machine>:<SIP Proxy port>

Note: Note about ccpccxml.sip.proxy parameter:

CCXML Platform can refer to SIP Proxy with loop-back address only if 127.0.0.1 is listed as one of the responsible domains in SIP proxy's proxy.sip.proxy.respaddr configuration parameter.

Call Manager (listed under Media Platform)

sip.transport.0 – enable and change to transport0 udp:any:5066

5.2 Distributed Installation

In a distributed environment, the SIP Proxy can be used to handle multiple instances of Media Platforms and other devices such as conference servers. Please modify the following configuration parameters through SMC, to set up a distributed installation.

In SMC, go to the Configuration tab. For each component below, click on the name in the left-hand menu, select the radio button for the configuration name, and click Edit, to edit the parameters.

CCXML Interpreter (listed under CCXML Platform)

ccpccxml.sip.proxy - change to <IP address of the SIP Proxy>:<SIP Proxy port>





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Configuring SIP Proxy

The SIP Proxy must be configured with proper mappings in order for the SIP Proxy to correctly forward SIP requests to and from the Media Platform and CCXML Platform. There are 4 tables defined by the SIP Proxy that will need to be modified; they are described in detail in the SIP Proxy System Reference Manual:

- 1. **SIP Service Table** defines all available SIP services within the cluster. A load balancing scheme can be defined for each SIP Service.
- **2. SIP Resource Types Table** defines a template for SIP resources that share common attributes.
- **3. SIP Resources Table** defines the list of SIP resources. Each SIP Resource provides one or more SIP Services and each SIP Resource belongs to only one SIP Resource Type.
- **4. SIP Services Mapping Table** defines a set of rules that maps incoming requests to a SIP Service. This table can also translate SIP Request URIs based on regular expression rules.

Here are the step-by-step instructions for defining the table entries for CCXML configuration:

1. Define SIP Services

Define 3 SIP Services named ccxmlservice, voicexml, and conference.

For each one, select the corresponding Required Capability from the drop-down menu. (The Load Balancing Scheme can be left as Least Used for now.)

SIP Service Configuration

To create a new SIP Service Entry enter the SIP Service Name, select a Load Balancing Scheme and the Required Capability, then click on Create.



The following entries already exist.

To update an entry change the value in the text box and click on Update. Click on Delete to delete an entry.



2. Define SIP Resource Types

One entry should be created for groups of SIP resources sharing the same property (capabilities, registration method, ports, and monitoring method). Set the number of ports available on each SIP Resource Type. For VoiceGenie, the number of ports should be equivalent to the number of licenses for the CCXML or Media Platform (check vglicense.txt for the values at the end of the lines ccxml connection... or vggateway in, out...).

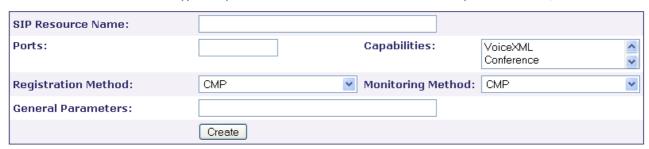
For SIP Resource types with conference capability, please add confresourcetypemaxsize=32 into the General Parameters field as shown in the diagram below (replace 32 with the maximum number of participants capable per conference).



In the Capabilities menu, indicate what this type of platform will be used for (to select more than one capability, hold down the Control key and click each one).

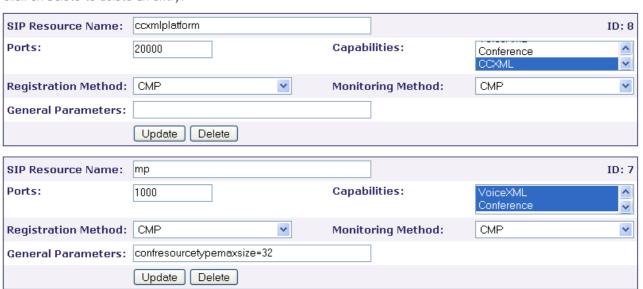
SIP Resource Type Configuration

To create a new SIP Resource Type Entry enter the SIP Resource Name and all other pertinent details, then click on Create.



The following entries already exist.

To update an entry change the value in the text box and click on Update. Click on Delete to delete an entry.



3. Define SIP Resources

For each SIP Resource (CCXML Platform or Media Platform) installed in the cluster, create a SIP Resource entry that identifies its SIP IP address or hostname, port number, associated SIP Resource Type, and the SIP Service(s) that it will provide.

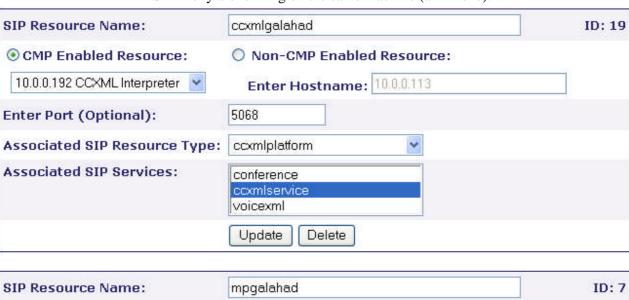
For CCXML Platforms, select ccxmlplatform as the SIP Resource Type and ccxmlservice as the SIP Service. If you defined other names for your SIP Resource Types and SIP Services, in steps #2 and #1 above, use the corresponding names here.

For Media Platforms, select mp as the SIP Resource Type and voicexml, conference as the SIP Services (hold down the Control

key to select multiple SIP Services). Again, if you defined other names for your SIP Resource Types and SIP Services, in steps #2 and #1 above, use the corresponding names here.

Note that the associated SIP Services you select for a SIP Resource should be the same as the Capabilities that are enabled in the Associated SIP Resource Type.

The following diagram assumes CCXML Platform, Media Platform, and SIP Proxy are running on the same machine (all-in-one).





Note: For all-in-one installations, there will be two entries with identical names in the drop-down menu under CMP Enabled Resource. Please select the first one for Media Platform and select the second identical entry for CCXML Platform.

For a distributed installation, the port numbers should be 5060.

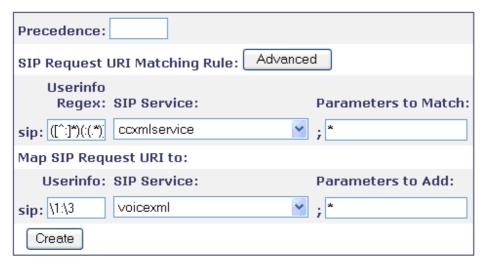
4. Define SIP Service Mapping



The SIP Proxy can forward requests from the CCXML Platform to a VoiceXML dialog or a conference by mapping the SIP request URI. The following diagram shows the initial view of the SIP Service Mapping Configuration page.

SIP Service Mapping Configuration

To create a new SIP Service Mapping Entry enter the matching rule and the SIP Service that it maps to, then click on *Create*. For more Advanced capabilities click on *Advanced*.



Click on the Advanced button in any entry to open the Advanced view, which allows you to define the entire mapping entry in a single text box.

Add the following 3 rules:

a. This rule forwards SIP requests from CCXML Platform to a VoiceXML service. The SIP Request URI start with sip:dialog*. In the Create a new SIP Service Mapping Entry text box, enter:

```
1
ccxmlservice
sip:dialog([^:]*)(:(.*))?
*
dialog\1:\3
*
sipservice=voicexml *
```

Then click the Create button.

b. This rule forwards SIP requests from CCXML Platform to a conference service. The SIP Request URI starts with sip:conf*. In the Create a new SIP Service Mapping Entry text box, enter:

2

```
ccxmlservice
sip:conf([^:]*)(:(.*))?

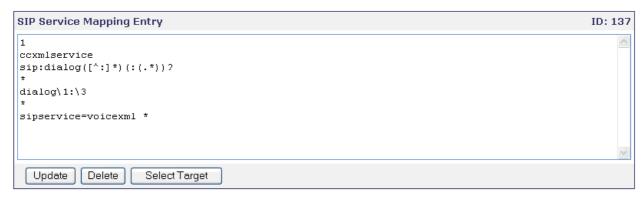
*
conf\1:\3
*
sipservice=conference *
Then click the Create button.
c. This rule forwards any SIP requests from any external SIP device to the CCXML Platform. The CCXML Platform will load the page file:///usr/local/ccp-ccxml/config/default.ccxml. In the Create a new SIP Service Mapping Entry text box, enter:
3
external
sip:([^:]*)(:(.*))?
*
ccxml
*
sipservice=ccxmlservice ccxml=file:///usr/local/ccp-ccxml/config/default.ccxml
```

Then click the Select Target button on each rule and target it to the SIP Proxy

At this point, the list of rules in the SIP Service Mapping (Advanced view) should look like the following screenshot:

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Then click the Create button.







The SIP Service Mapping rules can be customized as needed. Please talk to your system architect, should there be any question about the correct rules which need to be configured.

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Configuration

7.1 SIP Proxy Configuration

The following table lists the configuration parameters that apply to the SIP Proxy.

Name	Description	Default Value
cmp.proxy	The IP or hostname of the CMP Proxy that CLC to connect to	127.0.0.1
cmp.proxy_port	The port number of the CMP proxy to connect to	8700
cmp.heartbeat	The interval, in seconds, to send a periodic heartbeat message from the component to the CMP Proxy	20
cmp.reconnect	The interval, in seconds, between reconnection attempts to the CMP Server	5
cmp.log_file	This full path to the log file of the CCP-Proxy	/usr/local/ccp-proxy /logs/CMP.log.ccpproxy
cmp.size_option	Rollover all log files by size or by time	TRUE
cmp.rollover_size	The size limit, in MB, for rollover when rolling over by size	10
cmp.num_rollover_files	The number of files to roll through before they are overwritten when rolling over by size	5
cmp.rollover_mins	The interval of time, in minutes, between rollover when rolling over by time	1440
cmp.rollover_time	The time at which the log files are rolled over when rolling over by time	4:00

Name	Description	Default Value
cmp.email	If the EMAIL sink is specified, the email address be used	name@domain.com
cmp.log_sinks	Sinks that will be used by this component, possible sinks are: FILE, UPSTREAM, SYSLOG, SNMP, EMAIL	FILE UPSTREAM
cmp.trace_flag	Enables tracing (Log 5 filter)	FALSE
cmp.pid_option	Appends PID of the process to the name of the trace file so that they are not overwritten when the process restarts	FALSE
cmp.log_queue_limit	The number of logs that can be queued for processing before the calling thread is throttled so that the logging thread does not fall behind indefinitely	5000
cmp.log_write_buffer_size	The size of the buffer, in bytes, for log event preallocation	2560
cmp.log_write_buffer	The size of the buffer, in bytes, to be used for block writing to the disk, a value of 0 implies no buffering	65536
cmp.log_write_buffer_stale_ timeout	The longest time that a log can remain in the buffer before being written to disk	2000
cmp.log_write_buffer_idle_ timeout	The amount of time during which no logs are received after which the buffer is written to disk	1000
cmp.metrics	log mask for metrics data	0 1
cmp.log_0	Log mask for data logged at log level 0	
cmp.log_1	Log mask for data logged at log level 1	
cmp.log_2	Log mask for data logged at log level 2	
cmp.log_3	Log mask for data logged at log level 3	
cmp.log_4	Log mask for data logged at log level 4	
cmp.log_5	Log mask for data logged at log level 5	
cmp.guaranteed_logs_to_file	Specify if logs that are guaranteed to be sent upstream should be logged to a temp file	true



Name	Description	Default Value
cmp.unsent_log_file	Specify the name of the temp log file to log to if cmp.guaranteed_logs_to_file	/usr/local/ccp- proxy/logs/
		guaranteed.log.ccpproxy
rmserviceagent.ccprmport	Defines the port number of the CCP-RM service manager.	6001
	This port number is referred to as RMServiceMgrBase.ServerPort on the CCP-RM configuration. The port numbers must match.	
	Default value is 6001.	
proxy.session_timeout	Defines the session timeout period for calls that use up a port on a resource. if CCP-Proxy has not forwarded any req for this call within the timeout period, the port will be freed from the assigned resource. Default value is 300000 ms (5 minutes).	300000
proxy.update_period	Defines the time period between each checkpoint update sent to the peer members. Default value is 5000 ms.	5000
proxy.sip.proxy.respaddr	The set of addresses or domains that the proxy is responsible for. If hostname/IP of the SIP Request-URI of an incoming SIP message is part of the list defined by this configuration, SIP service mapping is applied for determining where to route. Otherwise, SIP message is routed based on the Route header or the SIP Request-URI.	
	e.g. sip.proxy.respaddr = 10.0.0.107,10.0.0.108,10.0.0.109	
proxy.sip.proxy.dnsname	DNS name for the proxy in a clustered unicast configuration. A specific port can also be optionally specified as follows: proxy.company.com:5060. If the proxy is in unicast configuration and the DNS name is not configured, the local IP address will be used in the Record-Route.	

Name	Description	Default Value
proxy.sip.proxy.uactype	Determines whether the UAC will send messages to the proxies using unicast or multicast e.g. sip.proxy.uactype = unicast	
proxy.sip.transport.#	Defines the transport instance ID to configure. The list of transport instance ID must be defined in consecutive and increasing order starting from 0. If 0, 1, 3 are defined, 3 will be ignored.	transport0 udp:any:5060
	Defines transport layer for SIP stack and the network interfaces that are used to process SIP requests	
	The format is:	
	<pre>proxy.sip.transport.x = transport_name type:ip:port [parameters]</pre>	
	• Max Length = 64 characters	
	• transport_name is any string;	
	• type is udp/tcp;	
	• ip is the IP address of the network interface that accepts incoming SIP messages. any (all network interfaces) is the default value;	
	• port is the port number where SIP stack accepts incoming SIP messages. 5060 is default value;	
	• [parameters] defines any extra SIP transport parameters.	
	• mcast is the multicast address which stack will accept multicast SIP messages. The multicast port should not be specified here. It will be set to the local port specified earlier.;	
	mcast-if is the network interface which will accept multicast messages.	
proxy.sip.timer.ci_proceeding	Defines a timer for client transaction in the proceeding state. if a final response is not received within this value in milliseconds, the client transaction is considered terminated.	120000
	Default value is 120000 (120 seconds).	

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Name	Description	Default Value
proxy.sip.route.dest.x	Defines an IP routing table to determine which SIP Proxy transport will be used to forward SIP requests.	
	Here is a sample routing table and the corresponding configuration parameters:	
	Destination Netmask Transport Metric	
	10.0.0.0 255.255.255.0 0 0	
	10.0.0.0 255.255.255.0 1 0	
	192.0.0.0 255.255.255.0 2 0	
	10.0.1.0 255.255.255.0 2 0	
	Configuration	
	sip.route.dest.0 = 10.0.0.0 255.255.255.0 0 0	
	sip.route.dest.1 = 10.0.0.0 255.255.255.0 1 0	
	sip.route.dest.2 = 192.0.0.0 255.255.255.0 2 0	
	sip.route.dest.3 = 10.0.1.0 255.255.255.0 2 0	
	To select an interface, take the outgoing IP address after DNS has been resolved. From the list of interfaces with the matching protocol, starting from the top entry, mask the IP address with Netmask column and compare with Destination column. If Destination matches the masked value, then stop and use SIP Transport under the Transport column.	
	If no route matches, proxy will select the transport defined in proxy.sip.route.default.udp or proxy.sip.route.default.tcp.	
proxy.sip.route.default.udp	Default route for UDP transport. The number is the index to proxy.sip.transport.x.	0
proxy.sip.route.default.tcp	Default route for TCP. The number is the index to proxy.sip.transport.x	

Name	Description	Default Value
proxy.sip.threadpoolsize	The size of the thread pool for handling DNS queries	4
proxy.sip.mtusize	Defines the Maximum Transmission Unit (MTU) of the network interfaces. If a SIP request size is within 200 bytes of this value, the request will be sent on a congestion controlled transport protocol, such as TCP.	1500
proxy.sip.maxtcpconnections	Defines the maximum number of TCP connections that can be established concurrently. If the maximum number of TCP connections has been reached, new SIP requests to establish TCP connections will be rejected.	100
proxy.sip.sessionexpires	Defines the SIP session timer expiry value.	1800
proxy.sip.min_se	Defines the minimum allowable value for the SIP session timer interval.	90
registrar.sip.transport.#	Defines registrar transport layer for SIP stack and the network interfaces that are used to process SIP requests	transport0 udp:any:5062
	<pre>sip.transport.x = transport_name type:ip:port [parameters]</pre>	
	where	
	transport_name is any string;	
	type is udp;	
	ip is the IP address of the network interface that accepts incoming SIP messages. any (all network interfaces) is the default value.	
	port is the port number where SIP stack accepts incoming SIP messages. 5062 is default value.	
	[parameters] defines any extra SIP transport parameters.	
	mcast is the multicast address which stack will accept multicast SIP messages.	
	mcast-if is the network interface which will accept multicast messages.	



Name	Description	Default Value
registrar.sip.registrar.domain	A comma-delimited list of domains accepted by this registrar. Only the host part of the strings defined by the domain entry of this configuration and request-uri of the REGISTER request will be compared. If this configuration value has empty value, comparision will be skipped. Otherwise, if a REGISTER request registers with a domain that is not in this list, the request will be rejected with a 404 Not Found	
registrar.sip.registrar. maxexpirytime	Defines the maximum expiry time (in seconds) of this registrar. If the client requests an expiry time longer than this value, this value will be sent back.	60
registrar.sip.registrar.minexpir ytime	Defines the minimum expiry time (in seconds) of this registrar. If the client requests an expiry time longer than this value, this value will be sent back.	60
monitor.sip.transport.0	Please see proxy.sip.transport.0	transport0 udp:any:5064
monitor.sip.proxy. optionsinterval	Defines the interval in milliseconds between the sending of OPTIONS message to monitor SIP resources.	5000
monitor.sip.localuser	SIP user presented in OPTIONS requests. The specified text will be presented in the From: field of the form sip:user@host[:port].	VoiceGenie
monitor.sip.localhostname	Provides configurability of the host address part of Contact, Call-ID and From headers.	
	If this parameter is not specified, then the IP Address of the local system will be used.	
	If this value is not defined, monitor.sip.localport will be ignored.	
	This parameter can also be used to provide the fully qualified domain name in SIP requests.	
	Example: monitor.sip.localhostname=sip.voic egenie.com	

Name	Description	Default Value
monitor.sip.localport	Similar to monitor.sip.localhostname, the parameter monitor.sip.localport provides configurability of the port part of Contact, Call-ID and From Headers. If this parameter is not specified, the default	
	SIP port number of 5064 is used. Note that if monitor.sip.localhostname is not defined, monitor.sip.localport will be ignored.	

7.2 Redundancy Manager Configuration

The following table describes the configuration parameters for the Redundancy Manager. Please do not modify configuration parameters without consulting with Genesys Telecommunications.

Name	Description	Default Value
ccp.cmp.ignoremetrics	Ignore Metrics logs received from CMP Engine; this saves CPU time to not parse messages that will be discarded	1
ccure.client0	This parameter defines a CCure client component	MPAC Server
ccure.client0.heartbeatinterval	CCure client heart beat interval in milliseconds	10000
ccure.client0.validateexpiry	Configure the expiry value for client validation requests. CCP-RM periodically sends validation requests and expects a reply within this expiry timer. If the CCure client fails to respond within this timer, CCP-RM re-sends the validation requests. Please see ccure.expirytimes for the number of retries before CCP-RM deems a CCure client to be out of service. Unit is milliseconds.	10000
ccure.client1	This parameter defines a CCure client component	etsi_mtpl3_0
ccure.client1.heartbeatinterval	CCure client heart beat interval in milliseconds	10000



Name	Description	Default Value
ccure.client1.validateexpiry	Configure the expiry value for client validation requests. CCP-RM periodically sends validation requests and expects a reply within this expiry timer. If the CCure client fails to respond within this timer, CCP-RM re-sends the validation requests. Please see ccure.expirytimes for the number of retries before CCP-RM deems a CCure client to be out of service. Unit is milliseconds.	10000
ccure.client2	This parameter defines a CCure client component	isup_0
ccure.client2.heartbeatinterval	CCure client heart beat interval in milliseconds	10000
ccure.client2.validateexpiry	Configure the expiry value for client validation requests. CCP-RM periodically sends validation requests and expects a reply within this expiry timer. If the CCure client fails to respond within this timer, CCP-RM re-sends the validation requests. Please see ccure.expirytimes for the number of retries before CCP-RM deems a CCure client to be out of service. Unit is milliseconds.	10000
ccure.client3	This parameter defines a CCure client component	security_0
ccure.client3.heartbeatinterval	CCure client heart beat interval in milliseconds	10000
ccure.client3.validateexpiry	Configure the expiry value for client validation requests. CCP-RM periodically sends validation requests and expects a reply within this expiry timer. If the CCure client fails to respond within this timer, CCP-RM re-sends the validation requests. Please see ccure.expirytimes for the number of retries before CCP-RM deems a CCure client to be out of service. Unit is milliseconds.	10000

Name	Description	Default Value
ccure.port0	CCure accept port address	9100
ccure.heartbeatinterval	CCure heart beat interval in milliseconds	10000
ccure.validateexpiry	Configure the expiry value for validation requests. CCP-RM periodically sends validation requests and expects a reply within this expiry timer. If the CCure client fails to respond within this timer, CCP-RM re-sends the validation requests. Please see ccure.expirytimes for the number of retries before CCP-RM deems a CCure client to be out of service. Unit is milliseconds.	10000
ccure.expirytimes	Number of retries allowed for failed validation requests before considering a CCure client is out of service.	3
RMComm.TCPBondingLocalPort	TCP port number for CCP-RM cluster communication	9801
RMComm.HeartBeatTimer	CCP-RM communication heart beat timer in milliseconds	2000
RMClusterMgr.ElectionTimer	CCP-RM cluster manager election timer in milliseconds	3000
RMCCPSS7ServiceMgr. StartUpTimer	CCP-RM CCPSS7 service manager startup timer	2000
RMCCPSS7ServiceMgr. HandshakeDeferTimer	CCP-RM CCPSS7 service manager handshake defer timer in milliseconds	5000
RMCCPSS7ServiceMgr. SubServiceStateChangeTimer		5000
RMServiceMgrBase.ServerPort	TCP port number for accepting CCP-RM clients, such as CCP-SS7.	6001
vg.nic.eth0	Ethernet link detection input path	/proc/net/bonding/bond0
vg.nic.linkattribute	Ethernet link detection attribute	MII Status:
vg.nic.upvalue	Ethernet link detection up value	up







Health SNMP Gets

Using SNMP Get, a number of health parameters about the VoiceGenie software are retrievable. This section outlines what health information can be retrieved for SIP Proxy and CCP-RM.

8.1 SIP Proxy

The name prefix is

- .iso.org.dod.internet.private.enterprises.vg.voiceXMLGateway
- .vgData.sippScalarTable.sippScalarTableEntry.

Name	OID	Туре	Description
CCPPROXY-HEALTHDATA- CCPPROXYSTATE	.1.3.6.1.4.1.7469.3.9.16.1.28	Scalar	SIP Proxy State
CCPPROXY-HEALTHDATA- TOTAL-REQUESTS- FORWARDED	.1.3.6.1.4.1.7469.3.9.16.1.29	Scalar	Total requests forwarded
CCPPROXY-HEALTHDATA- CONF-CREATED	.1.3.6.1.4.1.7469.3.9.16.1.30	Scalar	Total number of conferences created
CCPPROXY-HEALTHDATA- REQUESTS-FORWARDED- PAST-5MINS	.1.3.6.1.4.1.7469.3.9.16.1.31	Scalar	Number of requests forwarded in the past 5 minutes
CCPPROXY-HEALTHDATA- PEAK-REQUESTS- FORWARDED	.1.3.6.1.4.1.7469.3.9.16.1.32	Scalar	Peak requests forwarded
CCPPROXY-HEALTHDATA- RETRANSMISSIONS	.1.3.6.1.4.1.7469.3.9.16.1.33	Scalar	Number of retransmissions

Name	OID	Туре	Description
CCPPROXY-HEALTHDATA-INVITE-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.34	Scalar	Number of INVITE messages received
CCPPROXY-HEALTHDATA-ACK-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.35	Scalar	Number of ACK messages received
CCPPROXY-HEALTHDATA- BYE-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.36	Scalar	Number of BYE messages received
CCPPROXY-HEALTHDATA- CANCEL-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.37	Scalar	Number of CANCEL messages received
CCPPROXY-HEALTHDATA-INFO-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.38	Scalar	Number of INFO messages received
CCPPROXY-HEALTHDATA- OPTIONS-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.39	Scalar	Number of OPTIONS messages received
CCPPROXY-HEALTHDATA- UNKNOWN-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.40	Scalar	Number of unknown messages received
CCPPROXY-HEALTHDATA-INVITE-SENT	.1.3.6.1.4.1.7469.3.9.16.1.41	Scalar	Number of INVITE messages sent
CCPPROXY-HEALTHDATA-ACK-SENT	.1.3.6.1.4.1.7469.3.9.16.1.42	Scalar	Number of ACK messages sent
CCPPROXY-HEALTHDATA- BYE-SENT	.1.3.6.1.4.1.7469.3.9.16.1.43	Scalar	Number of BYE messages sent
CCPPROXY-HEALTHDATA- CANCEL-SENT	.1.3.6.1.4.1.7469.3.9.16.1.44	Scalar	Number of CANCEL messages sent
CCPPROXY-HEALTHDATA-INFO-SENT	.1.3.6.1.4.1.7469.3.9.16.1.45	Scalar	Number of INFO messages sent
CCPPROXY-HEALTHDATA- OPTIONS-SENT	.1.3.6.1.4.1.7469.3.9.16.1.46	Scalar	Number of OPTIONS messages sent
CCPPROXY-HEALTHDATA- UNKNOWN-SENT	.1.3.6.1.4.1.7469.3.9.16.1.47	Scalar	Number of unknown messages sent
CCPPROXY-HEALTHDATA-BAD-MESSAGE-RECEIVED	.1.3.6.1.4.1.7469.3.9.16.1.48	Scalar	Number of bad messages received
CCPPROXY-HEALTHDATA- 1XX-RECEIVED	.1.3.6.1.4.1.7469.3.9.17.1.49	Tabular	Number of 1xx messages received
CCPPROXY-HEALTHDATA- 2XX-RECEIVED	.1.3.6.1.4.1.7469.3.9.17.1.50	Tabular	Number of 2xx messages received



Name	OID	Туре	Description
CCPPROXY-HEALTHDATA- 3XX-RECEIVED	.1.3.6.1.4.1.7469.3.9.17.1.51	Tabular	Number of 3xx messages received
CCPPROXY-HEALTHDATA- 4XX-RECEIVED	.1.3.6.1.4.1.7469.3.9.17.1.52	Tabular	Number of 4xx messages received
CCPPROXY-HEALTHDATA- 5XX-RECEIVED	.1.3.6.1.4.1.7469.3.9.17.1.53	Tabular	Number of 5xx messages received
CCPPROXY-HEALTHDATA- 6XX-RECEIVED	.1.3.6.1.4.1.7469.3.9.17.1.54	Tabular	Number of 6xx messages received
CCPPROXY-HEALTHDATA- 1XX-SENT	.1.3.6.1.4.1.7469.3.9.17.1.55	Tabular	Number of 1xx messages sent
CCPPROXY-HEALTHDATA- 2XX-SENT	.1.3.6.1.4.1.7469.3.9.17.1.56	Tabular	Number of 2xx messages sent
CCPPROXY-HEALTHDATA- 3XX-SENT	.1.3.6.1.4.1.7469.3.9.17.1.57	Tabular	Number of 3xx messages sent
CCPPROXY-HEALTHDATA- 4XX-SENT	.1.3.6.1.4.1.7469.3.9.17.1.58	Tabular	Number of 4xx messages sent
CCPPROXY-HEALTHDATA- 5XX-SENT	.1.3.6.1.4.1.7469.3.9.17.1.59	Tabular	Number of 5xx messages sent
CCPPROXY-HEALTHDATA- 6XX-SENT	.1.3.6.1.4.1.7469.3.9.17.1.60	Tabular	Number of 6xx messages sent

8.2 Call Control Platform Redundancy Manager

The name prefix is

- $. is \verb|o.org.dod.internet.private.enterprises.vg.voiceXMLG at eway| \\$
- .vgData.sippScalarTable.rmgrScalarTableEntry.

Name	OID	Туре	Description
CCPRM-HEALTHDATA- STARTED	.1.3.6.1.4.1.7469.3.9.18.1.22	Scalar	CCPRM Start Time
CCPRM-HEALTHDATA- MASTER-SERVER-ID	.1.3.6.1.4.1.7469.3.9.18.1.25	Scalar	Master Server ID
CCPRM-HEALTHDATA- MYSERVER-ID	.1.3.6.1.4.1.7469.3.9.18.1.26	Scalar	My server ID

Name	OID	Туре	Description
CCPRM-HEALTHDATA- NETWORK-STATUS	.1.3.6.1.4.1.7469.3.9.18.1.27	Scalar	Network Status
CCPRM-HEALTHDATA- SERVICE-MANAGER- STATUS	.1.3.6.1.4.1.7469.3.9.19.1.23	Tabular	Service Manager Status
CCPRM-HEALTHDATA- SLAVES-SERVER-ID	.1.3.6.1.4.1.7469.3.9.19.1.24	Tabular	Slave Server ID







Logging Traps

The OID prefix is .1.3.6.1.4.1.7469.251.1.316. To get the OID of a trap, just append the prefix with the suffix column. For example, VGLOG-CCPPROXY-WARNING-LICENSE has an OID of .1.3.6.1.4.1.7469.251.1.316.155190023.

9.1 Severity - Critical (LOG_0)

Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPRM- UNRECOVE RABLEERR	156238081	CKCFG SWRS REVG	Cannot start ccp-rm	Bad configuration	Check configuration and restart software. Report to Genesys Telecommunicati ons if problem is unresolved	Uncoverable Error

9.2 Severity - Error (LOG_1)

Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPRM- CONFIGERR	156238337	CKCFG	Software may not start	Incorrect configuration parameters	Check configuration with IP addresses and ports	Configuration error

Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPRM- SOCKETER R	156238339	SWRS	Failed to create TCP accept socket	Conflicting ports	Check configuration and restart software	Socket Error
VGLOG- CCPPROXY- ERROR-NO- CONF- CREATED	155189764	CKCFG	Cannot find active server to forward request to; request is rejected (480 Temporari ly Unavailab le)	No conference defined in the cluster or not running	Check operational state of conference server; check SIP Resources and Resource Type Tables	Cannot find a server to start a conference
VGLOG- CCPPROXY- ERROR-NO- CONF- RESRC	155189765	СКОР	Conference resources are full; rejecting request with 480 Temporari ly Unavailab le	Conference resources are used up	Check the operational states of conference servers or check configuration	Failed to create conference due to lack of resources
VGLOG- CCPPROXY- ERROR-NO- SERVER- FOUND	155189766	CKCFG	No active server to forward message to; rejecting request (480 Temporari ly Unavailab le)	Servers are not running or not configured	Check the operational states of servers or check configuration	Cannot find a server to forward message



Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPPROXY- ERROR-NO- SERVER- RESRC	155189767	СКОР	Server resources are full; rejecting request with 480 Temporari ly Unavailab le	Server resources are used up	Check the operational states of servers or check configuration	Failed to forward message due to lack of resources
VGLOG- CCPCMP- RESPONSE- TO-QUERY	157286912	CKNW CKOP	Server is not synchronize d with CMP server	Network disconnection ; CMP server/proxy is not running	state of CMP server	CMP failed to respond to query/snapsh ot
VGLOG- CCPCMP- SUBSCRIPTI ON- FAILURE	157286913	REVG	Servers will get out of sync with others	Message corruption	Report to Genesys Telecommunicati ons	Failed to subscribe/uns ubscribe to component

Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPPROXY- ERROR- BAD-	155189768	CKCFG	Fail to forward message; reject with	Ambiguous configuration in SIP Service	Check SIP Service Mapping Table	Invalid regular expression;
CONFIG			485 Ambiguous	Mapping Table		No conference parameters defined in message for conference;
						Neither host/IP nor SIP Service defined for conference;
						No confmaxsiz e parameter defined for conference;
						No confreserv e parameter defined for conference;
						confreserv e parameter greater than confmaxsiz e parameter for conference;
						Host/IP %s does support sip service %s but confmaxsiz e is greater than confresour cetypemaxs
						ize; Unrecognized host/IP



Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPPROXY- ERROR- INITIALIZA TION	155159769	CKCFG	Fail to start ccp-proxy	Incorrect configuration	Check CCP- Proxy configuration	Fail to initialize

9.3 Severity – Warning (LOG_2)

Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPRM- INVALIDMS G	156238593	REVG	Affects checkpoint synchronizat ion	message corruption	Report to Genesys Telecommunicati ons	INVALID CCP-RM Message
VGLOG- CCPRM- INVALIDCO NFIG	156238594	CKCFG	Cluster is not working	Incorrect cluster configuration	Stop entire cluster and fix CCP-RM cluster configuration	INVALID cluster Configuration
VGLOG- CCPRM- NETWORKP ROBLEM	156238596	CKNW	Service is out of service	LAN has been disconnected	Check LAN connection	LAN problem
VGLOG- CCPPROXY- WARNING- LICENSE	155190023	СКОР	Exceeding 90% license limit; will reject requests when reaching 100%	Too many requests or too little resources	Check operational state of the servers; add more resources if necessary	Exceeded 90% license limit on concurrent sessions
VGLOG- CCPPROXY- NOTICE- LICENSE	155190278	СКОР	Exceeding 80% license limit; will reject requests when reaching 100%	Too many requests or too little resources	Check operational state of the servers; add more resources if necessary	Exceeded 80% license limit on concurrent sessions

Name	OID suffix	Response Code	Impacts	Causes	Recommended Actions	Message
VGLOG- CCPPROXY- WARNING- BAD- CONFIG	155190024	CKCFG	SIP Service Mapping points to a specific IP address but the server does not support the server that is mapped. This will cause the service to be miscounted.		Check SIP Service Mapping Table or examine request URI	Host/IP %s does not support sip service







General Parameters for SIP Resource Types

Parameter Name		Description		
	confresourcetypemaxsize	Maximum allowed size for a conference		

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SIP Service URI parameters

URI Parameter Name	Description	
sipservice	SIP Service name; this name corresponds to the SIP Service Table	
confinstid	A unique ID that represents a conference instance. All incoming SIP requests with the same conference ID will be forwarded to the same conference server.	
confreserve	Number of ports to be reserved when an instance of conference is created. This parameter affects the first call to a conference instance.	
confmaxsize	Maximum number of participants to a conference instance. This parameter affects the first call to a conference instance.	