

Genesys Application Note

Alcatel OXE R11 With Genesys VPS 8.1.7

Version 1.0

The information contained herein is proprietary and confidential and cannot be disclosed or duplicated without the prior written consent of Genesys Telecommunications Laboratories, Inc.

Copyright © 2014 Genesys Telecommunications Laboratories, Inc. All rights reserved.

About Genesys

Genesys is the world's leading provider of customer service and contact center software - with more than 4,000 customers in 80 countries. Drawing on its more than 20 years of customer service innovation and experience, Genesys is uniquely positioned to help companies bring their people, insights and customer channels together to effectively drive today's customer conversation. Genesys software directs more than 100 million interactions every day, maximizing the value of customer engagement and differentiating the experience by driving personalization and multichannel customer service - and extending customer service across the enterprise to optimize processes and the performance of customer-facing employees. Go to www.genesys.com for more information.

Each product has its own documentation for online viewing at the Genesys Documentation website or on the Documentation Library DVD, which is available from Genesys upon request. For more information, contact your sales representative.

Notice

Although reasonable effort is made to ensure that the information in this document is complete and accurate at the time of release, Genesys Telecommunications Laboratories, Inc. cannot assume responsibility for any existing errors. Changes and/or corrections to the information contained in this document may be incorporated in future versions.

Your Responsibility for Your System's Security

You are responsible for the security of your system. Product administration to prevent unauthorized use is your responsibility. Your system administrator should read all documents provided with this product to fully understand the features available that reduce your risk of incurring charges for unlicensed use of Genesys products.

Trademarks

Genesys and the Genesys logo are registered trademarks of Genesys Telecommunications Laboratories, Inc. All other company names and logos may be trademarks or registered trademarks of their respective holders. © 2014 Genesys Telecommunications Laboratories, Inc. All rights reserved.

Table of Contents

1		Introduction5				
2	(Genesys Software Versions				
3	-	Third-Party Components				
4	-	Tes	t Setup	6		
	4.	1	Set Up	6		
	4.2	2	Alcatel OXE Configuration	8		
		4.2.	1 Alcatel OXE Trunk to SIP Server Configuration	8		
	4.3	3	Hierarchical Multi-Tenancy	11		
	4.4	4	VPS Components Deployment and Configuration	13		
	4.	5	Creating Switch	13		
	4.6	6	Creating Resource Group	13		
	4.	7	Configuration of DN in SIP Switch, Specific to OXE Interop	13		
		4.7.	1 Properties of TRUNK DN to point at OXE gateway	13		
5	-	Tes	t Cases Executed	16		
	5.	1	Test Project	16		
	5.2	2	Transfer Scenarios	16		
	5.3	3	IVR Centric Scenarios	16		
	5.4	4	Routing Strategy Used For Testing	17		
	ļ	5.4.	1 Routing to Agent Group on SIP Server	17		
	ļ	5.4.	2 Play Announcement and Collect Digits	18		
	ļ	5.4.	3 Play Application and Routing to Agent depending on the Input Value	19		
	į	5.4.	4 Play Application and Route to Agent	20		
	5.	5	VXML Application Used For Testing	21		
			1 Blind Transfer Application with Route Request block designed using nposer			
			2 Bridge Transfer Application with RouteRequest block designed using nposer	22		
	ļ	5.5.	3 DTMF Application with Input block designed using Composer	23		

6		Tro	oubleshooting	24
	6.1	1	Capturing SIP Traces on OXE	24
7	(Glo	ossary and Acronyms	25

1 Introduction

This Integration testing of Voice Platform Solution 817 with Alcatel OXE document presents the integration test results for testing 8.1.7 Voice Platform Solution (VPS) with Alcatel OXE R11 performed by the QA Team as a part of 8.1.7 VPS project. The main objective of testing is to confirm the ability of VPS 8.1.7 work with Alcatel OXE according to requirements.

2 Genesys Software Versions

Table 1: Genesys software versions used

Component	Version
SIP Server	8.1.101.10
Stat Server	8.1.000.08
URS	8.1.200.16
VP Media Control Platform (MCP)	8.1.700.59
VP Resource Manager (RM)	8.1.700.71
Switch (GW)	Alcatel OXE: R11.0-k1.400-25-f-fr- c0s1
VP Supplementary Gateway	8.1.700.02
VP Call Control Platform (CCP)	8.1.700.60
CTI-Connector	8.1.700.54
IVR-TServer	8.1.001.01
DB Server	8.1.000.01
Configuration Server	8.1.000.16
IRD	8.1.200.14
Message Server	8.1.000.01
Composer	8.1.003.73

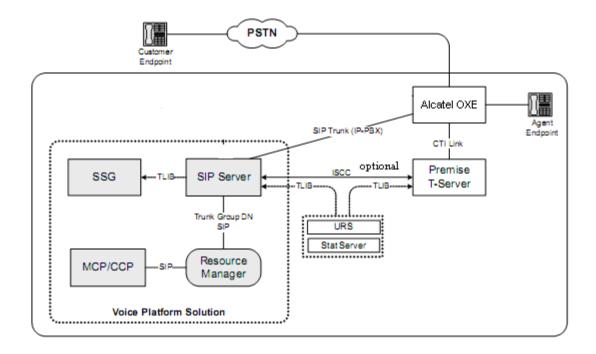
3 Third-Party Components

Alcatel OXE: OmniPCX Enterprise R11.0-k1.400-25-f-fr-c0s1

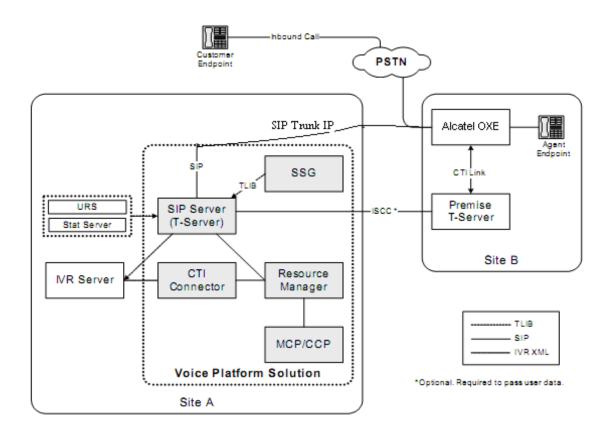
Endpoints: Epi(SIP)Phone, Xlite

4 Test Setup

4.1 Set Up



Deployment without IVR Server



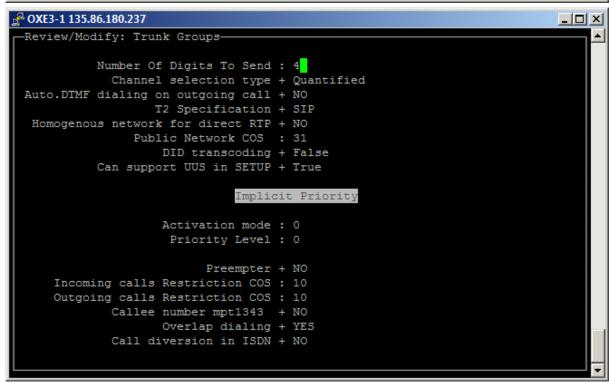
Deployment with IVR Server

4.2 Alcatel OXE Configuration

4.2.1 Alcatel OXE Trunk to SIP Server Configuration

Create a SIP Trunk Group.

```
₽ OXE3-1 135.86.180.237
                                                                           Review/Modify: Trunk Groups-
             Node Number (reserved) : 3
                     Trunk Group ID: 305
                   Trunk Group Type + T2
                   Trunk Group Name : N3-SIP
             UTF-8 Trunk Group Name : N3-SIP
             Number Compatible With: -1
                     Remote Network: 2
                 Shared Trunk Group + False
                   Special Services + Nothing
                        Node number: 3
               Transcom Trunk Group + False
           Auto.reserv.by Attendant + False
           Overflow trunk group No. : -1
                    Tone on seizure + False
                Private Trunk Group + False
                Q931 Signal variant + ABC-F
                 SS7 Signal variant + No variant
           Number Of Digits To Send : 4
             Channel selection type + Quantified
```



 In MGR, go to SIP->SIP Ext Gateway and point the SIP Trunk Group to the Genesys SIP Server host and port. In the example below we are using SIP External Gateway 0.

```
Review/Modify: SIP Ext Gateway
                                   Node Number (reserved)
Instance (reserved)
SIP External Gateway ID
                                                                                                                  : 0
                                                       Gateway Name :
SIP Remote domain :
PCS IP Address :
SIP Port Number :
                                                                                                                       OXE_GUP_SIP
135.86.179.2
                                                                                                                       5060
UDP
                         Transport type
Belonging Domain
Registration ID
Registration ID P_Asserted
Registration timer
SIP Outbound Proxy
                                                                                                                       False
                                                       Supervision timer
                                                    Trunk group number
Pool Number
                                                                 Outgoing realm
                                                       Outgoing username
                                                       Outgoing Password
                                                        Incoming username
                                                        Incoming Password
  RFC 3325 supported by the distant
DNS type
SIP DNS1 IP Address
SIP DNS2 IP Address
SDP in 18x
Minimal authentication method
INFO method for remote extension
To EMS
SRTP
Routing Application
                                                                                                                        False
DNS A
                                                                                                                       True
SIP Mone
True
False
RTP only
False
                Routing Application
Ignore inactive/black hole
Contact with IP address
Dynamic Payload type for DTMF
100 REL for Outbound Calls
100 REL for Incoming Calls
Gateway type
                                                                                                                        False
False
97
                                                                                                                        Supported
Not Requested
Standard type
100 REL for Incoming Galls
Gateway type
Re-Trans No. for REGISTER/OPTIONS
P-Asserted-ID in Calling Number
Trusted P-Asserted-ID header
Diversion Info to provide via
Proxy identification on IP address
Outbound calls only
SDP relay on Ext. Call Fwd
SDP Transparency Override
RFC 5009 supported / Outbound call
Nonce caching activation
FAX Procedure Type
                                                                                                                        False
False
                                                                                                                       raise
History Info
False
False
Default
                                                                                                                        False
                                                                                                                       Not Supported
NO
T38 only
```

• In MGR, go to TRANSLATOR -> Network Routing Table and create an entry that points to the above SIP External Gateway (0 in our case).

• In MGR, go to TRANSLATOR -> Numbering Plan and create a prefix that points to the Trunk Group (405, for example) and the Network Routing Table created above (10, for example).

The Number will be the prefix required to seize the trunk. The Number of Digits will be the length of the DNIS, including the prefix, provided by the OXE. In our example, we are passing a seven-digit number with the first three digits being formed on the prefix (405). In SIP Server, we can register seven-digit SIP endpoints with prefix 405. Or, in the SIP Server Switch we can have an Inbound Trunk device with prefix 405 replaced by nothing, and have four-digit SIP endpoints.

```
Review/Modify: Numbering Plan

Node Number (reserved): 4
Instance (reserved): 1
Number: 405

Prefix Meaning + Routing No.
Domain Identifier: 0
Network Number: 10
Node Number/ABC-F Trunk Group: 405
Number of Digits: 7
Number With Subaddress (ISDN) + NO
Default X25 ID.pref. + NO
```

Additional Configuration on the OXE switch to allow reINVITE from SIP Server

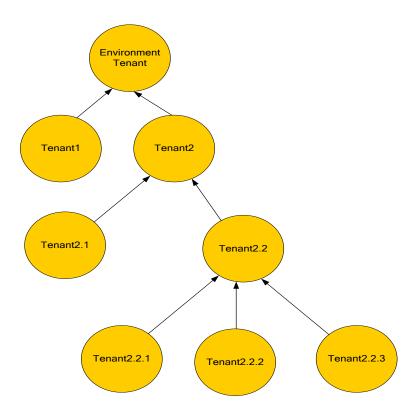
In MGR (manager), set the following options:

- SIP --> SIP Proxy ->Only authenticated incoming calls = False
- system --> Other system param --> SIP Parameters --> Via Header_ Inbound Calls Routing = TRUE

4.3 Hierarchical Multi-Tenancy

The key concept of the tree structure in Management Framework is the introduction of a parent pointer. Each tenant object, other than the root tenant (called Environment), uses the parentTenantDBID to reference its parent tenant object.

Before the introduction of hierarchy multi-tenancy, tenancy is structured as flat tenants and the tenants exist as peers to each other. HMT and flat tenants can co-exist with each other, and multiple hierarchies can be built out of the flat tenants as multiple root-level tenants.

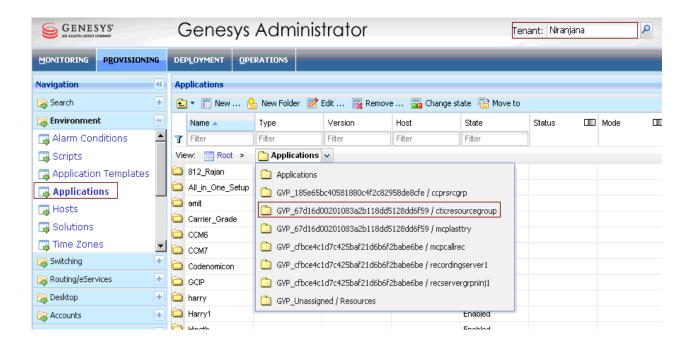


Some of the main characteristics of using a hierarchal model for GVP are as follows:

- 1. Inheritance of preferences and properties from the parent tenant
- 2. Allocation of physical resources from parent tenant to child tenants
- 3. Allocation of DNs from parent tenant to child tenants

While creating the Resource Group, the appropriate tenant under the Resource needs to be allocated and selected in the Tenant selector. Finally, when the Resource Group is configured, the Resource is moved under the Tenant, which can be viewed by selecting the appropriate Resource Group name in the Application window's Drop Down list (highlighted in the figure below.)

Apart from this, Resource can be "exclusively" assigned to either the parent tenant or any of the child tenants by the inclusion of "exclusive" check box during the creation of the resource groups.



4.4 VPS Components Deployment and Configuration

Refer to the GVP Deployment Guide at: http://docs.genesys.com/Documentation/GVP.

4.5 Creating Switch

Refer to the GVP Deployment Guide at: http://docs.genesys.com/Documentation/GVP.

4.6 Creating Resource Group

Create the Resource Groups for the following (refer to the GVP deployment guide if required):

- Media Control Platform
- Call Control Platform
- CTI Connector
- Gateway

4.7 Configuration of DN in SIP Switch, Specific to OXE Interop

4.7.1 Properties of TRUNK DN to point at OXE gateway

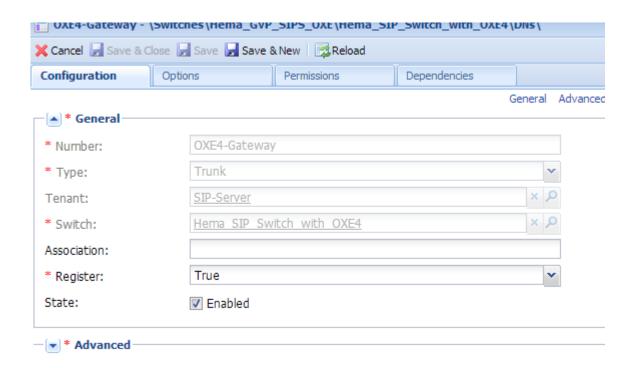
a) Provisioning --> Switching --> Switches --> Choose the Switch --> DNs --> New Configuration:

Number: Choose any number

Type: Choose the desired option from the drop down menu

Tenant: Choose the desired Tenant

Switch: The particular SIP Switch is chosen



b) Options --> New

Section: TServer

contact: Provide the IP address and SIP port of switch gateway

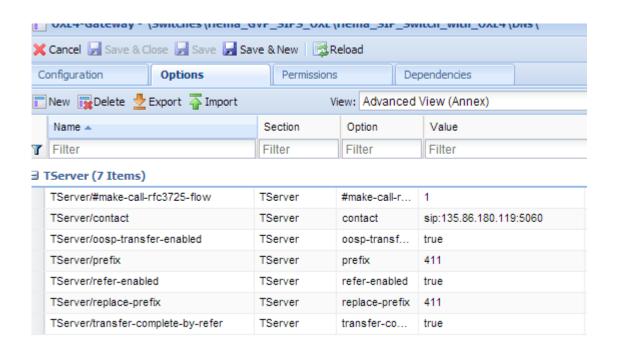
oosp-transfer-enabled: Provide the values True/False

prefix: 411

refer-enabled: Provide the values True/False

replace-prefix: 411

The prefix is set to 411 since the users on OXE have prefix 411.



Note: For Alcatel OXE testing, TServer\refer-enabled was set to true. However, this can be set to false when the user requires SIP Server to remain in the call.

For all other GVP related DNs required for testing, refer to the GVP deployment guide.

5 Test Cases Executed

Test cases written for the solution-level testing comprise primarily of positive test cases that are based on use cases, as well as a few related negative test cases. Each test case added to the solution testing verifies some aspect of the functionality.

We have tried our best to keep each test case unique so that we can achieve maximum completeness in the testing, per the schedule of VPS 817.

Load and performance test cases are not covered, per the VPS testing. Jira is the test management system.

5.1 Test Project

Jira Test Project was used to schedule the resources. The actual test cases are covered in test specification document: ODS-OXE-GVP8-SIPServer-TestCases.docm.

5.2 Transfer Scenarios

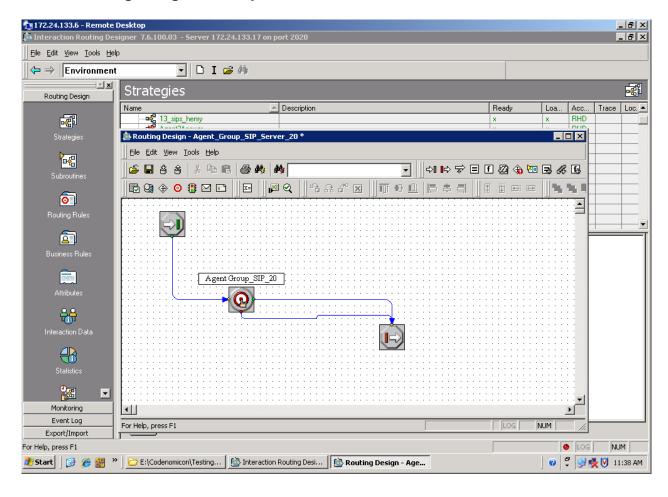
VXML Bridge, Blind, and Consultation transfers were tested. Transfers were tested to both RP, a direct extension on SIP Server and to an extension on the OXE switch.

5.3 IVR Centric Scenarios

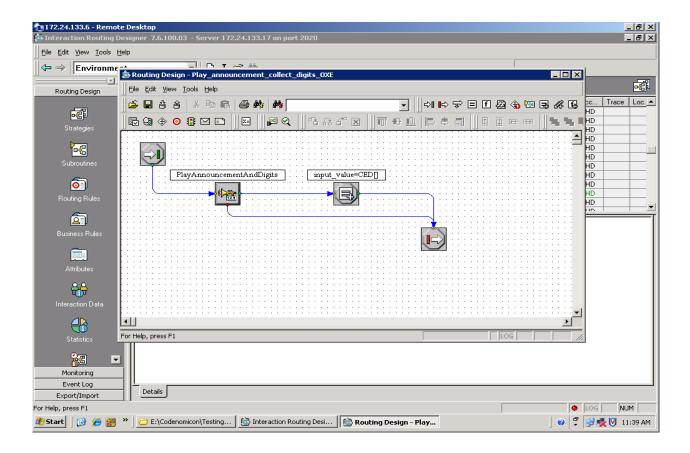
In this configuration, the IVR Server is involved in Behind-Mode with respect to SIP Server; simple inbound calls and playing of supported treatments were tested. SIP Server is added to the connections of I-Server for IVR centric scenarios.

5.4 Routing Strategy Used For Testing

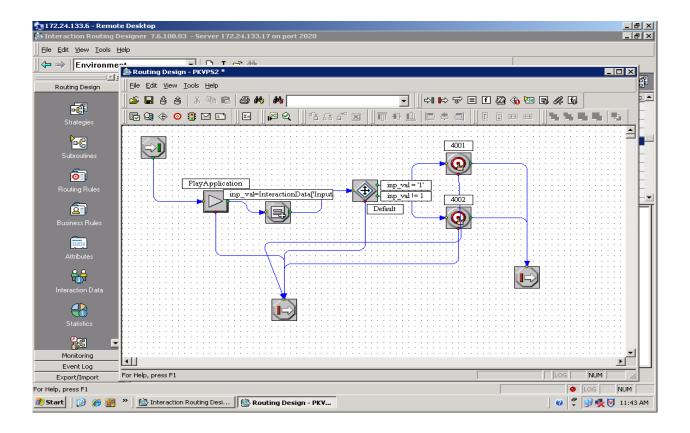
5.4.1 Routing to Agent Group on SIP Server



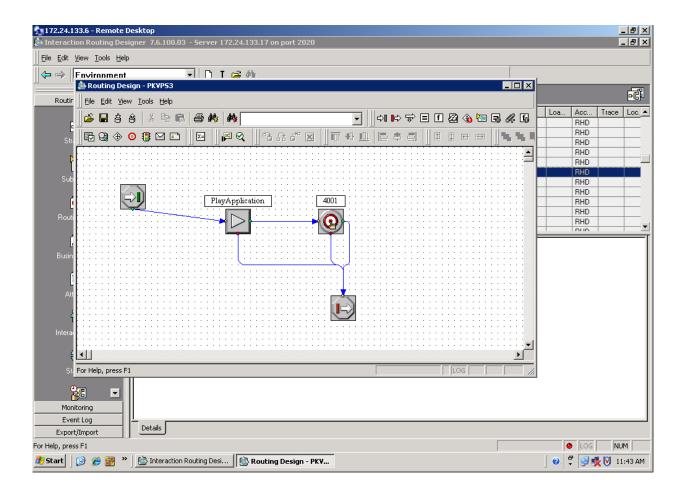
5.4.2 Play Announcement and Collect Digits



5.4.3 Play Application and Routing to Agent depending on the Input Value

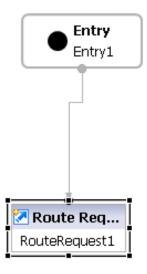


5.4.4 Play Application and Route to Agent



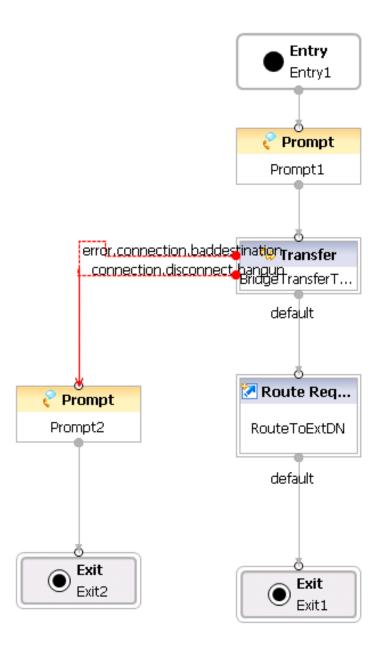
5.5 VXML Application Used For Testing

5.5.1 Blind Transfer Application with Route Request block designed using Composer



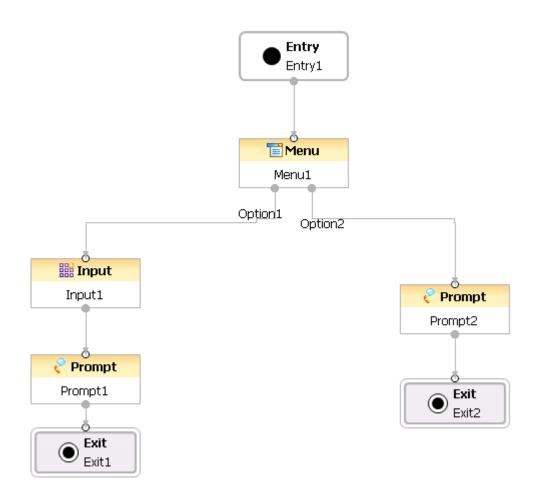
Description: The VXML application consists of Entry1 block, Prompt1 block with a text message and Route Request1 block with the destination provisioned as Route Point at SIP Server, Transfer Type=Blind, Method=REFER.

5.5.2 Bridge Transfer Application with RouteRequest block designed using Composer



Description: The VXML application consists of Entry1 block, Prompt1 block with a text message and Route Request1 block with the destination provisioned as Route Point at SIP Server, Transfer Type=Bridge, Method=Bridge, Prompt2 block with a text message and Exit block.

5.5.3 DTMF Application with Input block designed using Composer



Description: The VXML application consists of Entry1 block; Prompt1 block with a text message, Input1 block prompts the user to enter the DTMF Input, Prompt2 block with a text message and Exit1 block.

6 Troubleshooting

6.1 Capturing SIP Traces on OXE

- CH options
 tuner km ctr
 trc init
 mtracer -a-u-g >> <to a log trace file>
 tuner +cpu +cpl +at +xtr +s +tr hybrid=on
 actbdg all=off fct=on sip=on abcf=on rtp=on voip=on ei=on cnx=on comp=on
 acdv2=on mtracer -aug
- Sipmotor trace motortrace 6 traced >> <to a log trace file>

7 Glossary and Acronyms

Term	Definition
ССР	Genesys GVP Call Control Platform Application
СТІ	Computer Telephony Integration
DNIS	Dialed Number Identification Service
DTMF	Dual Tone Multie Frequency
GVP	Genesys Voice Portal Suite
GW	Gateway
НТТР	Hypertext Transfer Protocol
IP	Internet Protocol
IRD	Genesys Interaction Routing Designer Application
MCP	Genesys GVP Media Control Platform
PSTN	Public System Telephone Network
RM	Genesys GVP Resource Manager
RP	Genesys Routing Point Device
RTP	Real-Time Transport Protocol
SDP	Session Description Protocol
SIP	Session Initiation Protocol
SIP-S	Genesys SIP Server Application
SS	Genesys Stat Server Application
SSG	Genesys GVP Supplementary Services Gateway Application
URS	Genesys Universal Routing Server Application