




Genesys Application Note

BroadWorks R19 With Genesys VPS 8.1.7

Version 1.0



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1 INTRODUCTION

This **Integration testing of Voice Platform Solution 817 with BroadWorks** document presents the integration test results for testing 8.1.7 Voice Platform Solution (VPS) with BroadWorks R19 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 BroadWorks 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) | BroadWorks: R19 |
| 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

BroadWorks: R19

Endpoints: Epi(SIP)Phone, Xlite

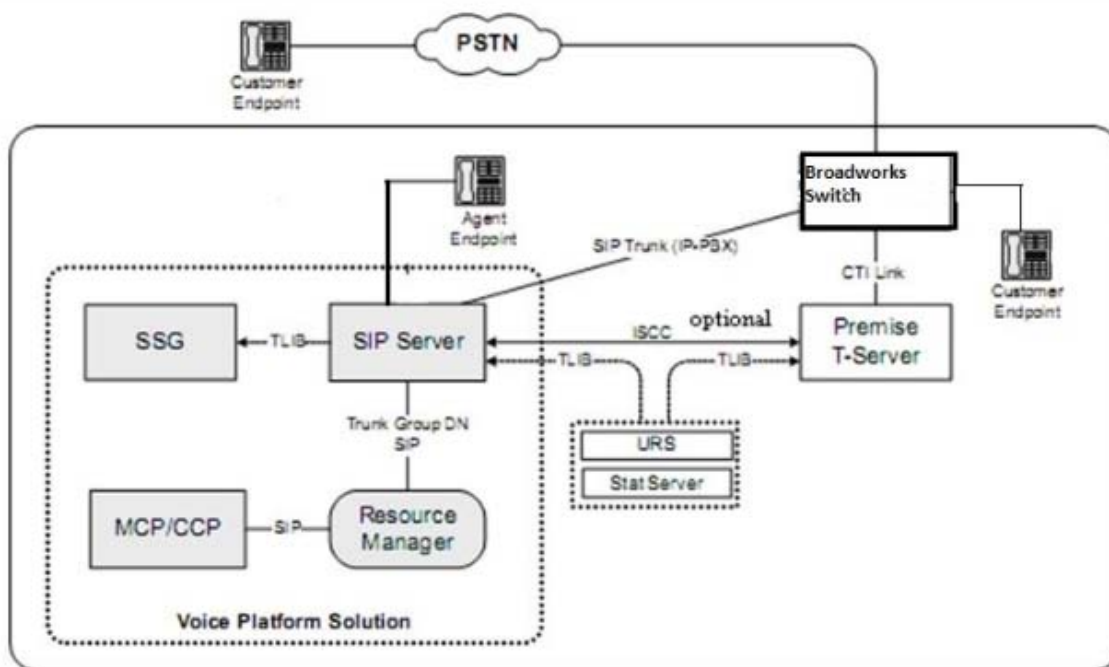
4 REFERENCE

The following BroadSoft Reference documents were used to configure the switch:

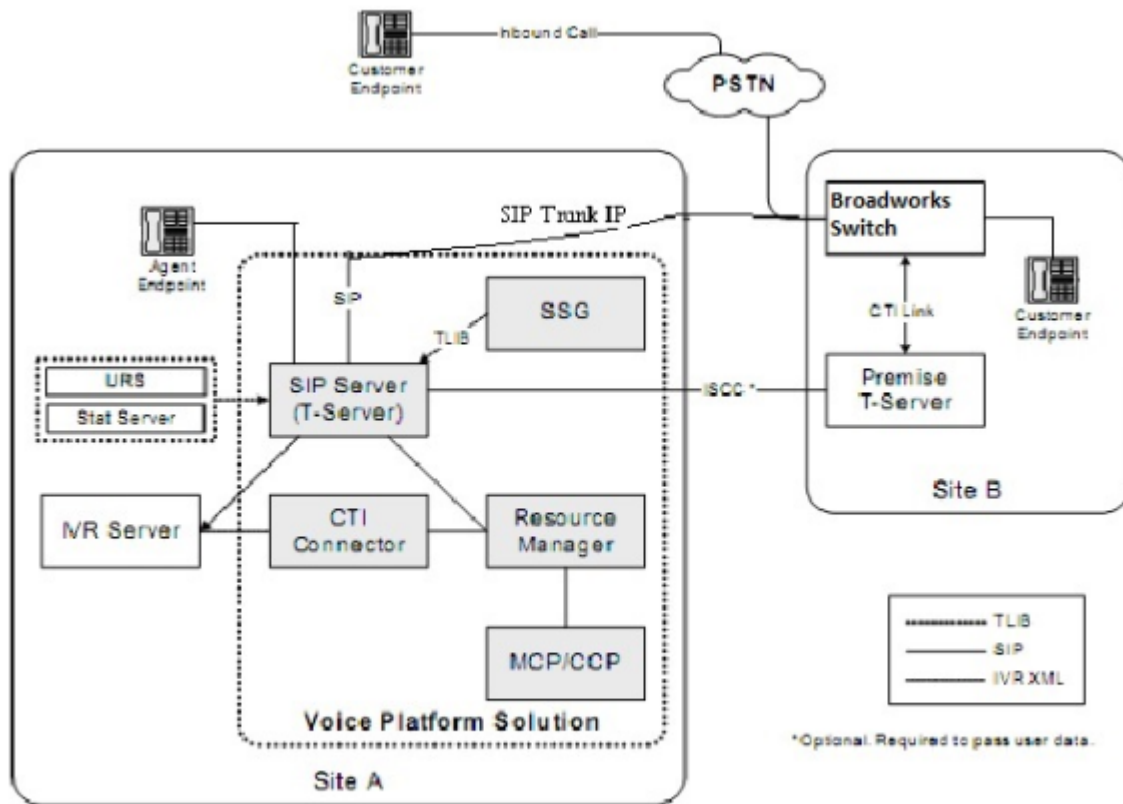
- BroadWorks Business Trunking Configuration Guide Rel 18.0
- BroadWorks SIP Trunking Solution Guide Rel 19.0

5 TEST SETUP

5.1 Set Up



Deployment without IVR Server

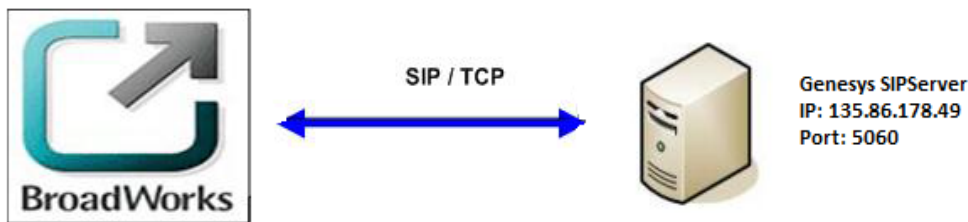


Deployment with IVR Server

5.2 BroadWorks Configuration

The SIP interface between Genesys GVP/SIP Server and BroadWorks is Enterprise Trunk. Enterprise Trunk is able to use REFER method to Blindtransfer the call back to the BroadWorks switch.

The diagram in the figure below provides a simplified example of Genesys SIP Server deployment with BroadWorks.



The following are the hosts IP Addresses in Genesys Lab:

BroadWorks Application Server: 135.86.182.195

Genesys SIP Server: 135.86.178.49

Objective:

- Create EnterpriseTrunk between BroadWorks and Genesys SIP Server
- Configure Extensions on BroadWorks (when calling these numbers from BroadWorks, BroadWorks uses SIP Enterprise Trunk to the Genesys SIP Server to reach these numbers)

5.2.1 BroadWorks Enterprise/Business Trunk Configuration

- Log in to the system Profile Web page

Options:

- [Profile](#)
- [Resources](#)
- [Services](#)
- [System Services](#)
- [Call Center](#)
- [Communication Barring](#)
- [Meet-Me Conferencing](#)
- [Utilities](#)

Profile

Basic

[Service Providers](#)

Add, modify, or remove service providers.

[Enterprises](#)

Add, modify, or remove enterprises.

[Groups](#)

Display all groups in the system.

[Users](#)

Display all users in the system.

[Service Instances](#)

Display all service instances in the system.

[Administrators](#)

Add, modify, or remove system administrators or provisioning administrators.

[Schedules](#)

Add, modify, or remove schedules.

Advanced

[Dialable Caller ID](#)

Automatically prepend digits to the incoming caller ID of public calls so the caller ID is presented in dialable format.

- Business Trunking License Allocation

For Enterprise Trunk configuration, business trunking license should be allocated to the Enterprise. This configuration depends on the value purchased or planned by customer.

Example: The settings at the Genesys lab:

Options:

- [Profile](#)
- [Resources](#)
- [Services](#)
- [Call Center](#)
- [Communication Barring](#)
- [Meet-Me Conferencing](#)
- [Utilities](#)

Trunking Call Capacity

Displays the number of business trunking license units and bursting maximum number of simultaneous calls available to distribute to groups for Trunking Groups.

Number of Business Trunking License Units for this Enterprise:

Bursting Maximum Number of Trunking Simultaneous Calls:

☐ Unlimited

☒ Limited To:

- Identity/Device Profile Type Policies

BroadWorks supports a number of device policies, which shape the SIP interface that BroadWorks presents to that device.

A new BroadWorks device profile type needs to be created for trunking with Genesys SIP Server.

Log in as a system administrator, browse to Resources -> Identity/Device Profile Types, and create a new Trunking device profile type.

Example: This is the Identity/Device Profile type policy in the Genesys lab:

Options:

- Identity/Device Profile Type

Identity/Device Profile Type Modify

Modify an existing identity/device profile type.

OK Apply Delete Export Cancel

Identity/Device Profile Type: GenesysSIPDeviceProfile
 Signaling Address Type: Intelligent Device Addressing
☐ Obsolete

Standard Options

Number of Ports: ☒ Unlimited ☐ Limited To

Ringback Tone/Early Media Support: ☒ RTP - Session
☐ RTP - Early Session
☐ Local Ringback - No Early Media

Authentication: ☐ Enabled
☒ Disabled
☐ Enabled With Web Portal Credentials

Hold Normalization: ☐ Unspecified Address
☐ Inactive
☒ RFC3264

☐ Registration Capable ☐ Authenticate REFER
☒ Static Registration Capable ☐ Video Capable
☒ E164 Capable ☒ Use History Info Header
☒ Trusted

Advanced Options

☐ Route Advance ☐ Forwarding Override
☐ Wireless Integration ☐ Conference Device
☒ PBX Integration ☐ Mobility Manager Device
☐ Add P-Called-Party-ID ☐ Music On Hold Device
☐ Auto Configuration Soft Client ☐ Requires BroadWorks Digit Collection
☐ Requires BroadWorks Call Waiting Tone ☐ Requires MWI Subscription
☐ Advice of Charge Capable ☐ Support Call Center MIME Type
☐ Support Emergency Disconnect Control ☐ Support Identity In UPDATE and Re-INVITE
☐ Enable Monitoring ☒ Support RFC 3398
☐ Static Line/Port Ordering

Reset Event: ☐ reSync ☐ checkSync ☒ Not Supported

Trunk Mode: ☒ User ☐ Pilot ☐ Proxy

Hold Announcement Method: ☒ Inactive ☐ Bandwidth Attributes

Unscreened Presentation Identity Policy: ☒ Profile Presentation Identity
☐ Unscreened Presentation Identity
☐ Unscreened Presentation Identity With Profile Domain

Web Based Configuration URL Extension:

Device Configuration Options: ☒ Not Supported ☐ Device Management ☐ Legacy

- Trunking device profile instance with the above profile type

Create a Trunking device profile instance as shown in the following figure. The device profile instance in GenesysLab is created at the System level.

- Enterprise Trunk Configuration

We will create a placeholder Enterprise Trunk. This information is used in Device Configuration in the future.

From Profile Web page for the enterprise, click Services link.

From Services Web page, click Enterprise Trunk, then add the site's preferred attribute.

For example, in the Genesys lab:

Add Enterprise Trunk using Weighted Routing

Create a new enterprise trunk.

Assign Trunk Groups

Assign Priorities

Add Users

Assigned Users

* Enterprise Trunk Name: x

Maximum number of reroute attempts:

Maximum number of reroute attempts within a priority:

Route Exhaustion Action: ☒ None
☐ Forward to Phone Number / SIP-URI:

Enter search criteria below

| Available Trunk Groups | | Assigned Trunk Groups |
|------------------------|---|-----------------------|
| <div></div> | <input type="button" value="Add >"/> <input type="button" value="Remove <"/> <input type="button" value="Add All >>"/> <input type="button" value="Remove All"/> | <div></div> |

- Trunk Group Configuration

After the Identity/Device Profile is created, the trunk group configuration can be started. Go to the Group page where the trunk group is to be added:

- Click Add.
- Enter the unique Trunk Group name.

In Device Category, select Identity/Device Profile, and then select the Identity/Device Profile created earlier.

Note: At this point, do not add a Pilot user (we will visit this step again).

In the example below, we are adding a prefix 815 when the trunk is seized to call TrunkUsers. When calling these users the trunk replaces prefix 012905 with 815. In SIP Server we can register eight-digit DN's with prefix 815 for example 81551220. Or, in the SIP Server switch, we have an Inbound Trunk device with prefix 815 replaced by nothing and have five-digit SIP endpoints.

- Options:
- [Profile](#)
 - [Resources](#)
 - [Services](#)
 - [Service Scripts](#)
 - [Acct/Auth Codes](#)
 - [Call Center](#)
 - [Calling Plan](#)
 - [Communication Barring](#)
 - [Meet-Me Conferencing](#)
 - [Utilities](#)

Trunk Group Add

Create a new trunk group.

* Name:

Department:

* Maximum Active Calls Allowed:

Maximum Active Incoming Calls Allowed:

Maximum Active Outgoing Calls Allowed:

☐ Enable Authentication

Authentication User Name:

Type new authentication password:

Re-type new authentication password:

Trunk Group Identity: @

OTG/DTG Identity:

☒ Enable Trunk Group Prefix

☒ Allow calls directly to trunk group with Trunk Identity

☐ Allow calls directly to trunk group with DTG Identity

☐ Include Trunk Identity for Calls to Trunk Group

☐ Include DTG Identity for Calls to Trunk Group

☐ Include Trunk Identity for Calls from Trunk Group

☐ Include OTG Identity for Calls from Trunk Group

☐ Enable Network Address Identity

☒ Allow Unscreened Calls

☐ Allow Unscreened Emergency Calls

☐ Route To Peering Domain

Peering Domain:

Pilot User Call Optimization Policy: ☒ Optimize for User Services ☐ Optimize for High Call Volume

Pilot User Calling Line Asserted Identity Usage Policy: ☒ Use default System Policy ☐ Use this Trunk Group Policy:

Pilot User Calling Line Identity Usage Policy:

Pilot User Charge Number Usage Policy:

Device Category: ☒ Identity/Device Profile ☐ None

Identity/Device Profile Name:

☐ Add Pilot User

- Trunk Group User Creation: create users for the trunk group GenesysEnterpriseTrkGrp. In the Profile Web page of the trunk group created, select Trunk Group User Creation.

Options:

- Profile
- Utilities

Profile

Basic

Profile

Display and configure information such as name, department, device and pilot user for this trunk group.

Call Forwarding Always

Configure the call forwarding always parameters for this trunk group.

Capacity Management

Configure the maximum, bursting capacity and capacity exceeded parameters for this trunk group.

Stateful Trunk Group Rerouting

Configure the stateful trunk group rerouting parameters for this trunk group.

Unreachable Destination

Configure the unreachable destination parameters for this trunk group.

Advanced

Trunk Group User Creation

Create users in bulk for a trunk group.

To create a few TrunkGroupUsers, use the "Add Using DNs" tab for testing from the available range of numbers and assign to the TrunkGroup.

Options:

- Profile
- Utilities

Create Trunk Group Users using DNs

Allows the selection of one to many DIDs which will be created as trunk group lines. This task runs in batch mode. Reports will be generated after completion the display the status of the user creation.

OK Cancel

* Task Name: GenesysTrunkGroupUser x

User Id Format: Extension @ 135.86.182.195

☐ Populate Extension

Line/Port Format: Extension @ 135.86.182.195

☐ Populate Contact

Contact Format: Extension @

Available Range(s)

1290553204 - 1290553220
1290554211 - 1290554220

Add >

Available Phone Number(s)

Add >

Remove <

Add All >>

Remove All

Assign to Trunk Group

Available Service Packs

Assigned Service Packs

Add >

Remove <

Add All >>

Remove All

Available User Services

Assigned User Services

Advice Of Charge
Alternate Numbers
Anonymous Call Rejection
Attendant Console
Authentication
Automatic Callback
Automatic Hold/Retrieve
Barge-in Exempt
Basic Call Logs
BroadTouch Business Communicator Desktop
BroadTouch Business Communicator Desktop - Audio

Add >

Remove <

Add All >>

Remove All

Example in the Genesys Lab:

The screenshot shows the BroadSoft interface for 'Trunk Group User Creation'. The breadcrumb trail is 'System > ent1 > ent1grp2 > Trunk Group > GenesysEnterpriseTrkGrp'. The user is 'Welcome Default Administrator'. On the left, under 'Options:', 'Profile' is selected. The main area has a title 'Trunk Group User Creation' and a subtitle 'Create and view bulk user creation tasks for a trunk group'. Below this are buttons: 'OK', 'Add Using DN's', 'Add Using Extensions', and 'Cancel'. A table lists four users, all with a status of 'Completed' and an error count of 0. Each row has an 'Edit' link. The table columns are: Name, Status, Total Users To Create, Users Created, Error Count, and Edit. The last row is 'GenesysTrunkGroupUser51219'. At the bottom of the table is '[Page 1 of 1]' and another set of buttons: 'OK', 'Add Using DN's', 'Add Using Extensions', and 'Cancel'.

| Name | Status | Total Users To Create | Users Created | Error Count | Edit |
|----------------------------|-----------|-----------------------|---------------|-------------|----------------------|
| GenesysTrunkGroupUser51216 | Completed | 1 | 1 | 0 | Edit |
| GenesysTrunkGroupUser51217 | Completed | 1 | 1 | 0 | Edit |
| GenesysTrunkGroupUser51218 | Completed | 1 | 1 | 0 | Edit |
| GenesysTrunkGroupUser51219 | Completed | 1 | 1 | 0 | Edit |

Example of Trunk Group User:

The screenshot shows the 'Trunk Group User Creation Status' page. The breadcrumb trail is 'System > ent1 > ent1grp2 > Trunk Group > GenesysEnterpriseTrkGrp'. The user is 'Welcome Default Administrator'. On the left, under 'Options:', 'Profile' is selected. The main area has a title 'Trunk Group User Creation Status' and a subtitle 'The status page can be viewed anytime during the Pending, Executing, Completed or Failed status of the task. User creation reports can be viewed after completion of the task. User creation reports may or may not be available for failed tasks.' Below this are buttons: 'OK' and 'Delete'. The main content area displays details for 'GenesysTrunkGroupUser51219'. The status is 'Completed'. It shows '1 Users to be Created' and '1 Users Created'. There are links for 'Success Log Report' and 'Error Log Report'. It also shows 'Create From: DN', 'User Id Format: Extension DN@135.86.182.195', 'Populate Extension: false', 'Line/Port Format: Extension DN@135.86.182.195', 'Populate Contact: false', 'Contact Format: Extension DN@', 'DNs Used: +44-1290551219', 'Service Packs Assigned:', and 'User Features Assigned: Basic Call Logs'. At the bottom are buttons: 'OK' and 'Delete'.

- Business Trunking User Configuration

From the Profile Web page for the user, click the Addresses link.

On the Addresses Web page:

- Select the "Trunking" button
- Enter the Trunk Group Name created

Options:

- Profile
- Outgoing Calls
- Call Control
- Calling Plans
- Messaging
- Utilities

Addresses

Addresses allows you to view and maintain your phone number and other identities that are used to make and receive calls.

Phone Number: Activated

Extension:

☐ Identity/Device Profile
 ☒ Trunking
 ☐ None

Trunking

Trunk Group: GenesysEnterpriseTrkGrp

* Line/Port:

Contact sip:

sip:

sip:

sip:

sip:

Alternate Trunk Identity:

Enterprise Trunk:

Aliases: sip: 51220@135.86.182.195

sip: @

sip: @

sip: @

Note: One of the main criteria Trunk Group must meet for it to be added in Enterprise Trunk is for the trunk group to have an Identity/Device Profile and a pilot user assigned.

- Edit Trunk Group Configuration to add PilotUser
- Add the trunking user created above as PilotUser

Trunk Group modify
Modify the selected trunk group.

OK Apply Delete Cancel

* Name: GenesysEnterpriseTrkGrp x

Department: None v

* Maximum Active Calls Allowed: 10

Maximum Active Incoming Calls Allowed: 5

Maximum Active Outgoing Calls Allowed: 5

☐ Enable Authentication

Authentication User Name:

Type new authentication password:

Re-type new authentication password:

Trunk Group Identity: GenesysEnterpriseTrkGrp @ 135.86.182.195 v

OTG/DTG Identity: genentrunkgroup

☒ Enable Trunk Group Prefix: 815

☒ Allow calls directly to trunk group with Trunk Identity

☐ Allow calls directly to trunk group with DTG Identity

☐ Include Trunk Identity for Calls to Trunk Group

☐ Include DTG Identity for Calls to Trunk Group

☐ Include Trunk Identity for Calls from Trunk Group

☐ Include OTG Identity for Calls from Trunk Group

☐ Enable Network Address Identity

☒ Allow Unscreened Calls

☐ Allow Unscreened Emergency Calls

☐ Route To Peering Domain

Peering Domain: None v

Pilot User Call Optimization Policy: ☒ Optimize for User Services
☐ Optimize for High Call Volume

Pilot User Calling Line Asserted Identity Usage Policy: ☒ Use default System Policy
☐ Use this Trunk Group Policy: Unscreened Originating Calls v

Pilot User Calling Line Identity Usage Policy: No Calls v

Pilot User Charge Number Usage Policy: No Calls v

Device Category: ☒ Identity/Device Profile ☐ None

Identity/Device Profile Name: GenesysSIPDevice (System)

Pilot User: 51220@135.86.182.195

[Configure Identity/Device Profile](#)

Enter search criteria below

User ID v Starts With v + Search

| Pilot User | User ID | Last Name | First Name | Phone Number | Extension | Department | Edit |
|-------------------------------------|----------------------|-----------|------------|----------------|-----------|------------|----------------------|
| <input type="checkbox"/> | 51216@135.86.182.195 | 51216 | 51216 | +44-1290551216 | | | Edit |
| <input type="checkbox"/> | 51217@135.86.182.195 | 51217 | 51217 | +44-1290551217 | | | Edit |
| <input type="checkbox"/> | 51218@135.86.182.195 | 51218 | 51218 | +44-1290551218 | | | Edit |
| <input type="checkbox"/> | 51219@135.86.182.195 | 51219 | 51219 | +44-1290551219 | | | Edit |
| <input checked="" type="checkbox"/> | 51220@135.86.182.195 | 51220 | 51220 | +44-1290551220 | | | Edit |

- Edit Enterprise Trunk Configuration to add the Trunk Group and users.

- Options:
- [Profile](#)
 - [Resources](#)
 - [Services](#)
 - [Call Center](#)
 - [Communication Barring](#)
 - [Meet-Me Conferencing](#)
 - [Utilities](#)

Modify Enterprise Trunk using Weighted Routing

Modify an existing enterprise trunk.

OK Apply Delete Cancel

Assign Trunk Groups **Assign Priorities** **Add Users** **Assigned Users**

* Enterprise Trunk Name: GenesysEnterpriseSIPServer

Maximum number of reroute attempts: 1

Maximum number of reroute attempts within a priority: 1

Route Exhaustion Action: ☒ None
☐ Forward to Phone Number / SIP-URI:

Enter search criteria below

Trunk Group Name Starts With + Search

Available Trunk Groups **Assigned Trunk Groups**

GenesysEnterpriseTrkGrp. (ent1grp2)

Add > Remove < Add All >> Remove All

OK Apply Delete Cancel

- Options:
- [Profile](#)
 - [Resources](#)
 - [Services](#)
 - [Call Center](#)
 - [Communication Barring](#)
 - [Meet-Me Conferencing](#)
 - [Utilities](#)

Assign Users

Assign users to an enterprise trunk.

OK Apply Delete Cancel

Assign Trunk Groups **Assign Priorities** **Add Users** **Assigned Users**

Enter search criteria below

User ID Starts With + Search

Available Users **Users to be Assigned**

51216.51216 (51216@135.86.182.195)
51217.51217 (51217@135.86.182.195)
51218.51218 (51218@135.86.182.195)
51219.51219 (51219@135.86.182.195)

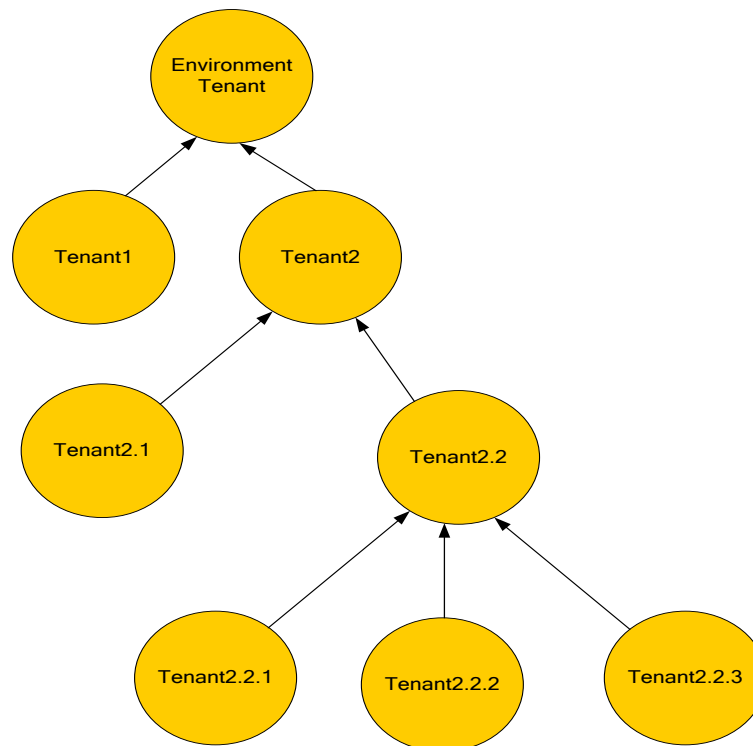
Add > Remove < Add All >> Remove All

OK Apply Delete Cancel

5.3 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 parent TenantDBID 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



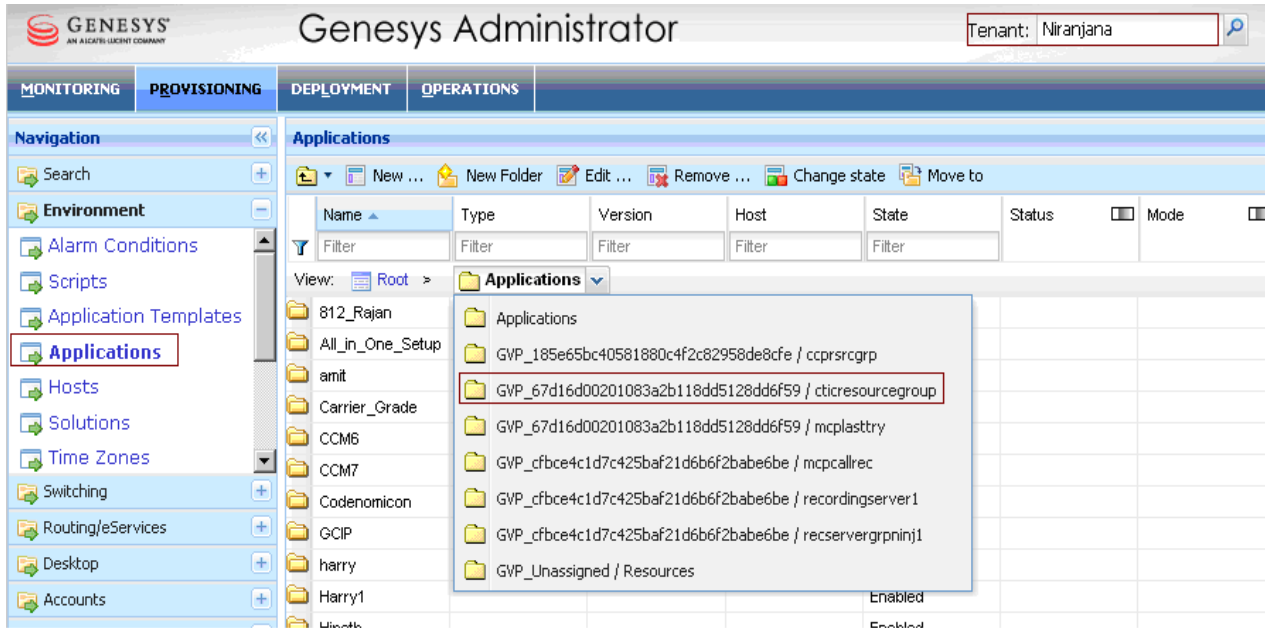
Some of the main characteristics of using a hierarchal model for GVP are as follows:

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.



5.4 VPS Components Deployment and Configuration

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

5.5 Creating Switch

Refer to the GVP Deployment guide at: <http://docs.genesys.com/Documentation/GVP>.

5.6 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

5.7 Configuration of DN in SIP Switch, Specific To BroadWorks Interop

5.7.1 Properties of Trunk DN to point at BroadWorks gateway

a) Provisioning --> Switching --> Switches --> Choose the Switch --> DN's --> New Configuration:

Number: Choose any number

Type: Choose Trunk from the drop down menu

Tenant: Choose the desired Tenant

Switch: The particular SIP Switch is chosen

The screenshot shows the 'Broadworks-Gateway' configuration window for a new DN. The window has a title bar with the path 'Switches\Hema_GVP_SIPS_Broadworks\Hema_SIPSwitch_with_Broadworks\DNs\'. Below the title bar is a menu bar with 'Cancel', 'Save & Close', 'Save', 'Save & New', and 'Reload'. Below the menu bar is a tabbed interface with 'Configuration', 'Options', 'Permissions', and 'Dependencies'. The 'Configuration' tab is active, showing a 'General' section with the following fields:

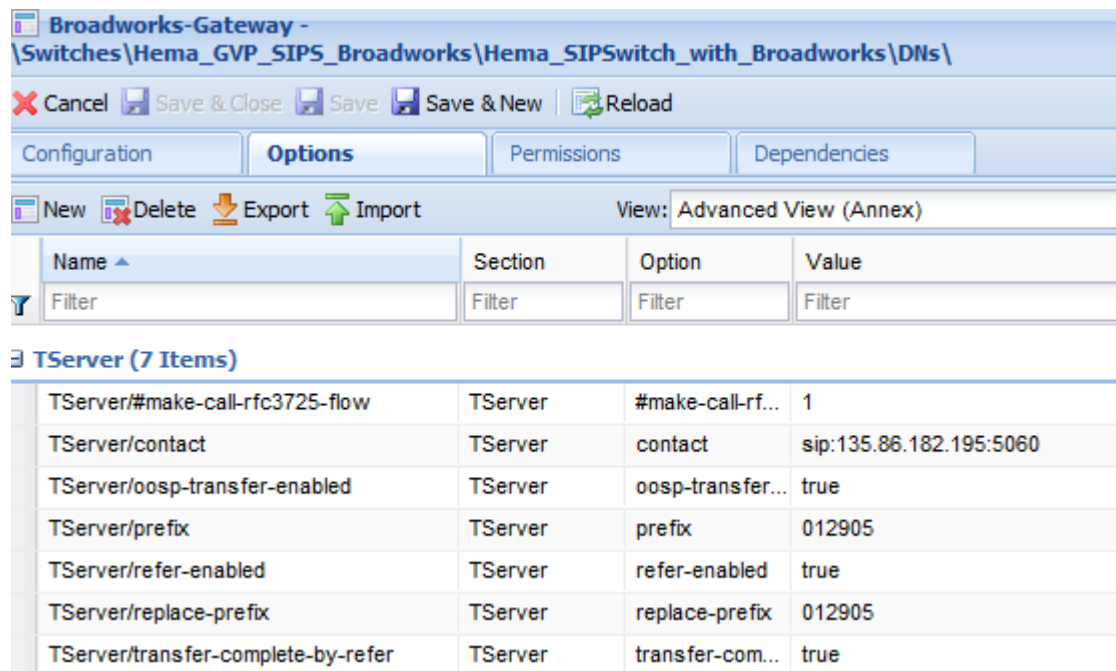
- * Number: Broadworks-Gateway
- * Type: Trunk (dropdown menu)
- Tenant: SIP-Server (text field with search and delete icons)
- * Switch: Hema SIPSwitch with Broadworks (text field with search and delete icons)
- Association: (empty text field)
- * Register: True (dropdown menu)
- State: ☒ Enabled

Below the 'General' section is an 'Advanced' section, which is currently collapsed.

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: 012905
refer-enabled: Provide the values True/False
replace-prefix: 012905

The prefix is set to 012905 since the users on BROADWORKS have prefix 012905.



The screenshot shows the 'Broadworks-Gateway' configuration window, specifically the 'Options' tab. The window title is '\Switches\Hema_GVP_SIPS_Broadworks\Hema_SIPSwitch_with_Broadworks\DNS\'. The interface includes buttons for 'Cancel', 'Save & Close', 'Save', 'Save & New', and 'Reload'. Below these are tabs for 'Configuration', 'Options' (selected), 'Permissions', and 'Dependencies'. A toolbar contains 'New', 'Delete', 'Export', and 'Import' buttons, along with a 'View: Advanced View (Annex)' dropdown. A table with columns 'Name', 'Section', 'Option', and 'Value' is displayed. Below the table, a section titled 'TServer (7 Items)' contains a list of configuration items.

| Name | Section | Option | Value |
|--------|---------|--------|--------|
| Filter | Filter | Filter | Filter |

| TServer (7 Items) | | | |
|------------------------------------|---------|------------------|-------------------------|
| TServer/#make-call-rfc3725-flow | TServer | #make-call-rf... | 1 |
| TServer/contact | TServer | contact | sip:135.86.182.195:5060 |
| TServer/oosp-transfer-enabled | TServer | oosp-transfer... | true |
| TServer/prefix | TServer | prefix | 012905 |
| TServer/refer-enabled | TServer | refer-enabled | true |
| TServer/replace-prefix | TServer | replace-prefix | 012905 |
| TServer/transfer-complete-by-refer | TServer | transfer-com... | true |

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

6 TEST CASES EXECUTED

Test cases written for the solution-level testing comprise primarily of positive test cases that are based on use cases and 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.

6.1 Test Project

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

6.2 Transfer Scenarios

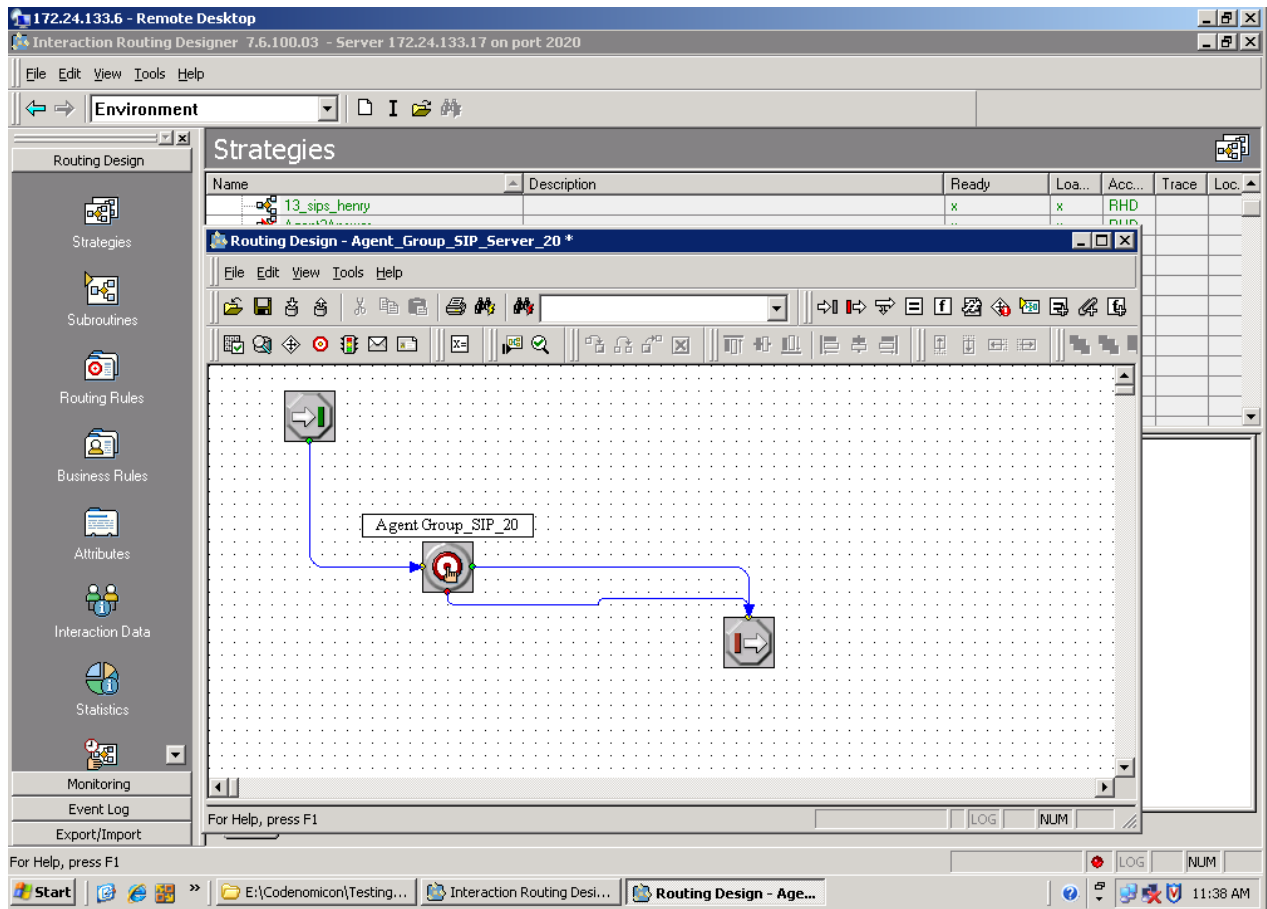
VXML Bridge, Blind, and Consultation transfers were tested. Transfers were tested to both RP, a direct extension on SIP-Server and to an extension on BROADWORKS switch.

6.3 IVR Centric Scenarios

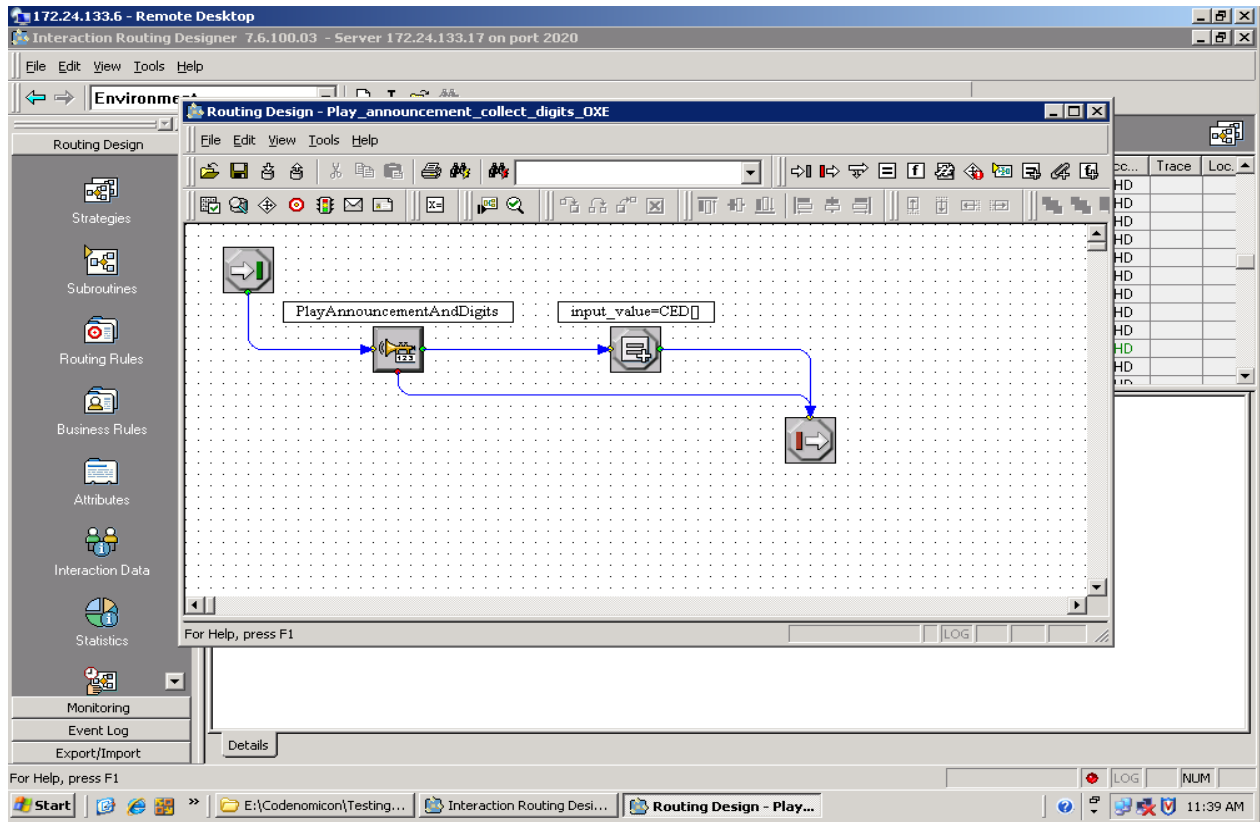
In this configuration, the IVR Server is involved in Behind-Mode with respect to SIP Server; simple inbound calls and playing of supported treatments were tested. SIP Server is added to the connections of I-Server for IVR centric scenarios.

6.4 Routing Strategy Used For Testing

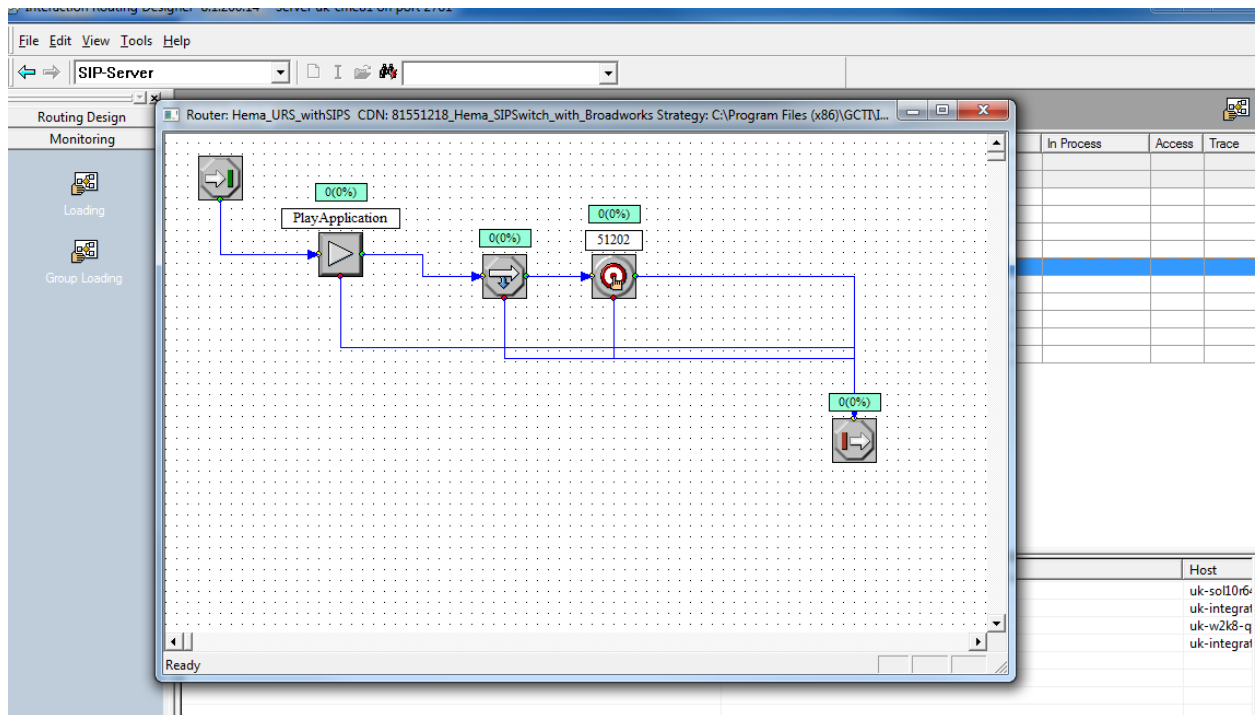
6.4.1 Routing to Agent Group on SIP Server



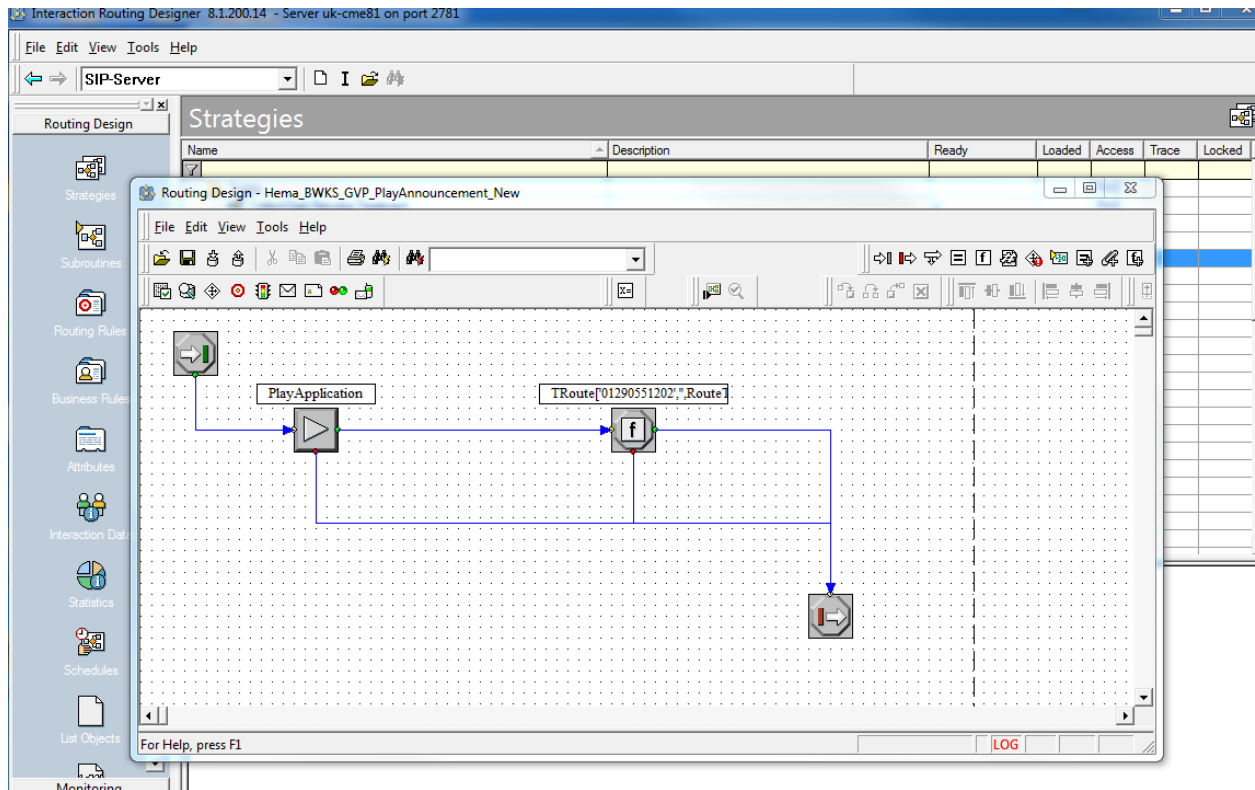
6.4.2 Play Announcement and Collect Digits



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

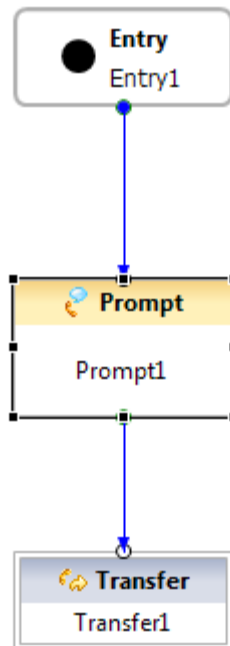


6.4.4 Play Application and Route to Agent



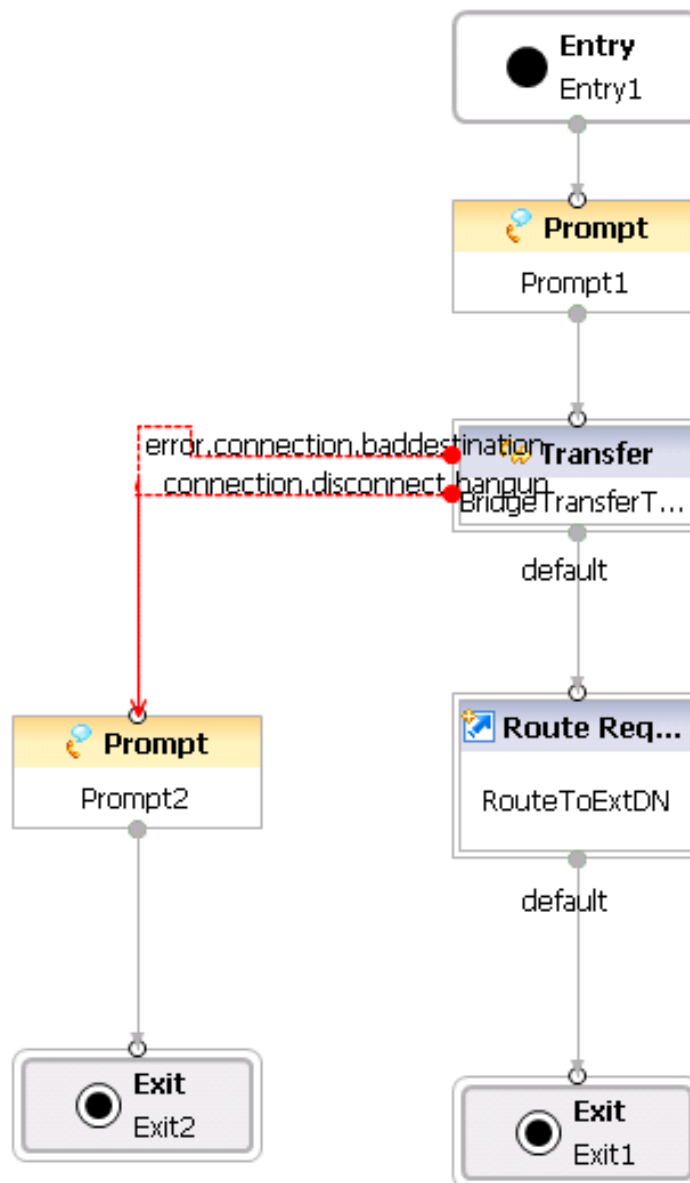
6.5 VXML Application Used For Testing

6.5.1 Blind Transfer Application designed using Composer



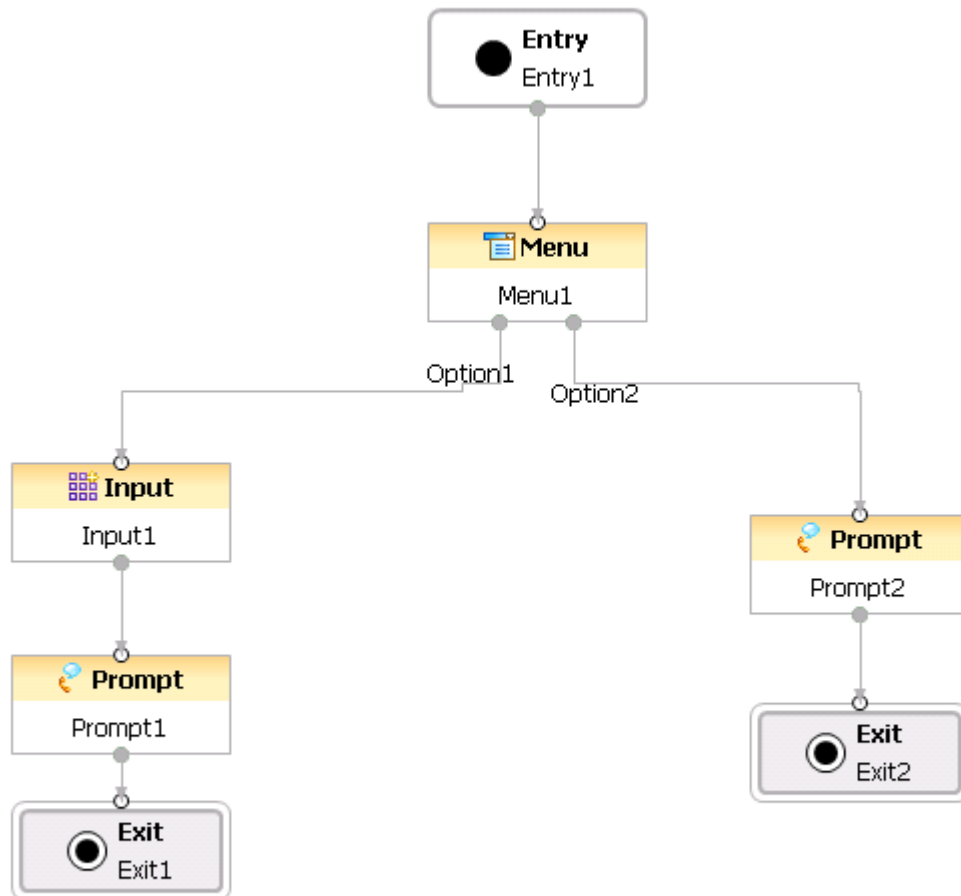
Description: The VXML application consists of Entry1 block, Prompt1 block with a text message and Transfer block with a destination provisioned as Extension on the BroadWorks switch, Transfer Type=Blind, and Method=Refer.

6.5.2 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.

6.5.3 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.

7 TROUBLESHOOTING

7.1 Capturing Switch Logs on BroadWorks

- Log in to BroadWorks Application Server
- Go to directory: /bw/broadworks/logs/appserver
- File XSLog<date/time>.txt has the call logs
- File PSLog<date/time>.txt has the configuration logs
- Get the files if required using sftp/winscp

7.2 Using Verify Translation and Routing Tool in BroadWorks

This tool can be used to Run test calls. By selecting SIP Message you can verify how the BroadWorks responds to your SIP messages.

- Log in onto BroadWorks Profile Web page
- In Utilities select “Verify Translation and Routing”
- Select SIP Message
- Enter the SIP message to be used
- Select Execute VTR request
- Check the response

The screenshot shows the BroadWorks web interface. At the top left is the BroadSoft logo with the tagline "Innovation calling." and a "System" link. At the top right is a "Welcome Default Administrator" message. A left-hand navigation menu lists various options: Profile, Resources, Services, System Services, Call Center, Communication Barring, Meet-Me Conferencing, and Utilities (which is expanded). The main content area is titled "Verify Translation and Routing" and includes the instruction "Run test calls and gather information about the translations, routing, and services for a given call." Below this, there is a "Select VTR Type:" section with two radio buttons: "Parameters" and "SIP Message" (which is selected). A large text input field is provided for "Enter a SIP message to be used:". Below the input field is a link labeled "Execute VTR request.". At the bottom of the main area, there is a section for "VTR Result:" followed by a large text area for the output. "OK" buttons are located at the top and bottom of the main content area.

8 GLOSSARY AND ACRONYMS

| Term | Definition |
|-------|--|
| CCP | Genesys GVP Call Control Platform Application |
| CTI | Computer Telephony Integration |
| DNIS | Dialed Number Identification Service |
| DTMF | Dual Tone Multie Frequency |
| GVP | Genesys Voice Portal Suite |
| GW | Gateway |
| HTTP | 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 |