



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for Configuring Genesis GenSwitch to Interoperate with Avaya Communication Server 1000 R7.5 – Issue 1.0**

### **Abstract**

These Application Notes describe a compliance-tested configuration consisting of Genesis Systems Corporation GenSwitch PBX Management solution and Avaya Communication Server 1000 7.5.

Genesis offers a unified management and reporting solution which provides a simplified, unified interface for less technically skilled users to administer endpoints on Avaya Communication Server 1000. This compliance test focused on the integration of Genesis GenSwitch with Avaya Communication Server 1000 R7.5.

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

## 1. Introduction

These Application Notes describe a compliance-tested configuration consisting of Genesis Systems Corporation GenSwitch PBX Management solution and Avaya Communication Server 1000 R7.5.

Genesis offers a unified management and reporting solution which provides a simplified interface for less technically skilled users to administer endpoints on a variety of communication systems, including Avaya Communication Server 1000. This compliance test focused on the integration of Genesis GenSwitch with Communication Server 1000 R7.5.

The GenSwitch solution uses RLogin interface from an application server to communicate with Communication Server 1000 using one of Communication Server 1000 pseudo TTY (PTY) ports. Users access the server using a web browser in order to perform administrative tasks.

## 2. General Test Approach and Test Results

The compliance test focused on the capability to perform station Adds, Moves, Changes and Deletes in the attached Avaya Communication Server 1000 system.

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

### 2.1. Interoperability Compliance Testing

The compliance test validated the ability of the application to Add, Move, Change and Delete digital and IP stations. Additionally, tests were performed to confirm the ability to recover from network outages and server reboots.

### 2.2. Test Results

The objectives described in **Section 2.1** were verified.

### 2.3. Support

Information, Documentation and Technical support for Genesis products can be obtained at:

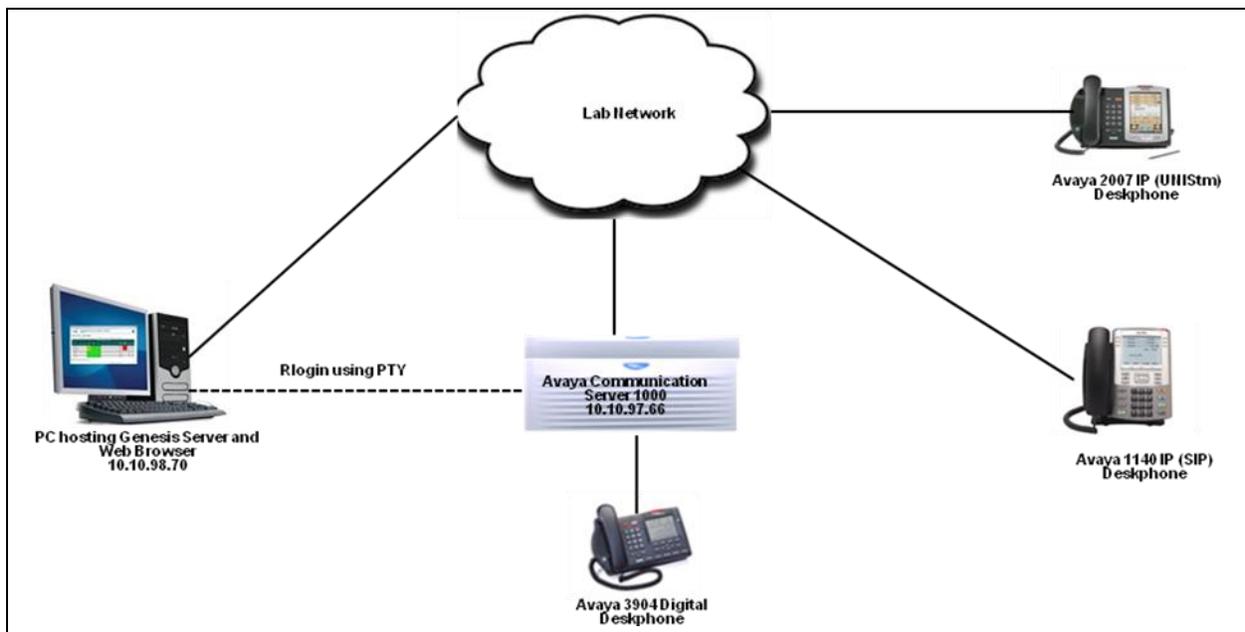
- Phone: 1 (888) 993-2288 or 1 (604) 530-9348
- Web: <http://www.buygenesis.com>
- Email: [support@buygenesis.com](mailto:support@buygenesis.com)

### 3. Reference Configuration

**Figure 1** illustrates the compliance test configuration consisting of:

- Avaya Communication Server 1000
- Various IP and Digital endpoints
- Windows PC hosting the Genesis Server and browser access to the GenSwitch UI.

The Genesis Server connects to the Communication Server 1000 using Rlogin interface and is thereby able to administer the system using the GenSwitch UI.



**Figure 1 – Genesis Compliance Test Configuration**

## 4. Equipment and Software Validated

The following equipment and version were used in the reference configuration described above:

<b>Equipment/Software</b>	<b>Release/Version</b>
Avaya Communication Server 1000	7.50
Avaya IP Phones <ul style="list-style-type: none"><li>• 2007(UNIStm)</li><li>• 1140 (SIP)</li></ul>	0621C8L 4.03.12.00
Avaya Digital Phones <ul style="list-style-type: none"><li>• 3904</li></ul>	N/A
Genesis GenSwitch installed on MS Windows XP Pro	7.11 (rev. 3.0.4)

## 5. Configure Avaya Communication Server 1000

This document assumes that the Communication Server 1000 was properly installed and configured. For detailed information on how to install, configure and administer Communication Server 1000 refer to **Section 9**. Assumption is also made that an administrative user account is created on the Communication Server 1000 that provides access to overlays (LD) 10, 11, 18, 20, 21, 22, 23, 32, 95. Access to these overlays is required by GenSwitch for administering Communication Server 1000.

### 5.1. Configure Pseudo TTY (PTY) Port

Communication Server 1000 Command Line Interface (CLI) was used in configuring the PTY port. Login to the Communication Server 1000 CLI (not shown) and access overlay (LD) **17** to add a PTY port. A PTY port is required so that GenSwitch server can access the Communication Server 1000 using Rlogin. Screen below shows an already configured PTY port that was used during compliance testing.

```
ADAN  TTY 5
CTYP PTY
DNUM 5
PORT 0
DES GenSwitch
FLOW NO
USER MTC SCH BUG
TTYLOG 0
BANR YES
```

## 6. Configure Genesis GenSwitch

Genesis engineer, or an approved installer will install and initially configure all server components including Site information. Details of the steps are beyond the scope of this document. Refer to **Section 9** for detail configuration of Genesis Server.

### 6.1. Genesis GenSwitch Configuration Details

The GenSwitch application is accessed via web browser. Enter <http://<hostname>/GenWeb/> where <hostname> is the IP address or qualified domain name of the Genesis server.

Login to the system using the credentials supplied by the installer as shown in the screen below.

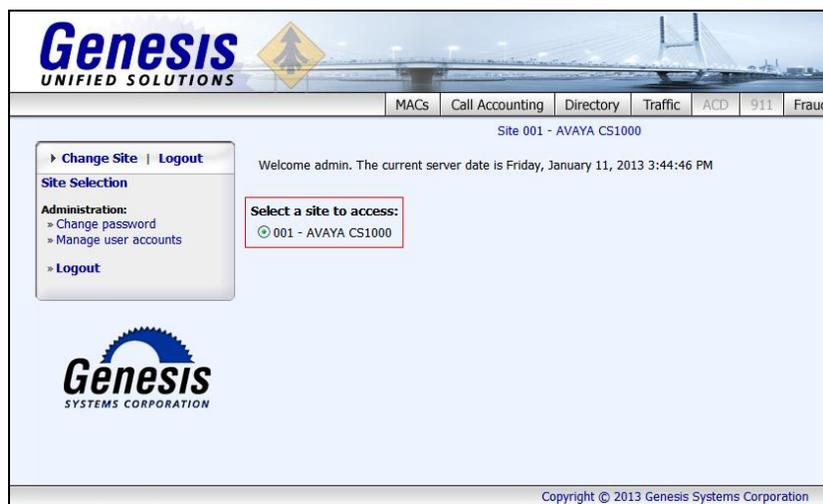


The screenshot shows the Genesis GenSwitch login interface. At the top, there is a navigation bar with tabs for MACs, Call Accounting, Directory, Traffic, ACD, 911, and Fraud. Below the navigation bar, there is a login form with the following elements:

- Username:** admin
- Password:** masked with four dots
- Login** button

The page also features the Genesis logo and the text "Please login for system access." and "Copyright © 2013 Genesis Systems Corporation" at the bottom.

If the system is configured for more than one site, select the site to interact with and choose the tab for the **MACs** application as shown in the screen below. During compliance testing only one site was configured on Genesis system.

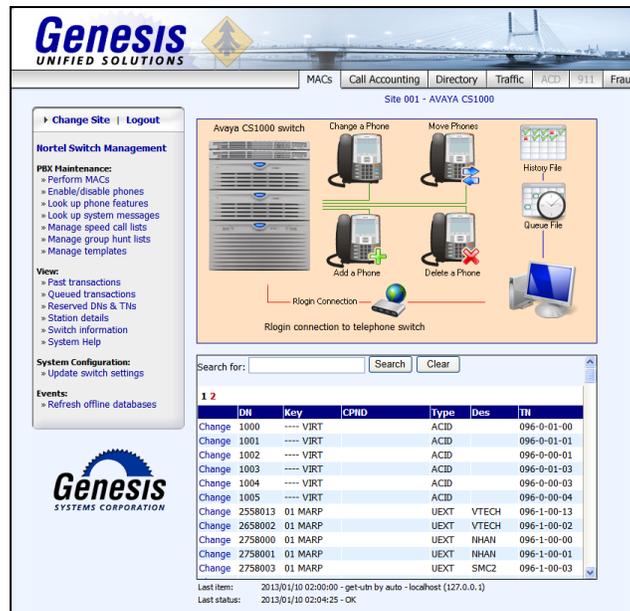


The screenshot shows the Genesis GenSwitch site selection interface. At the top, there is a navigation bar with tabs for MACs, Call Accounting, Directory, Traffic, ACD, 911, and Fraud. Below the navigation bar, there is a site selection form with the following elements:

- Change Site | Logout** button
- Site Selection** section with a radio button selected for "001 - AVAYA CS1000"
- Administration:** Change password, Manage user accounts, Logout

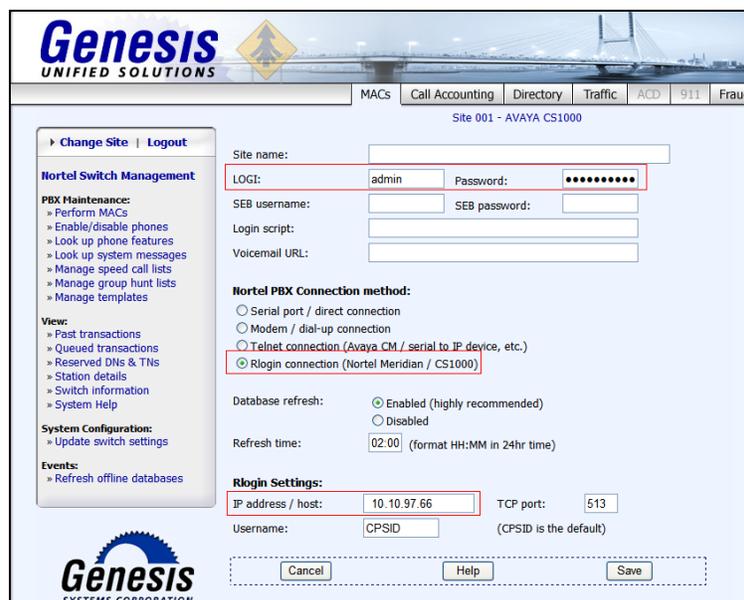
The page also features the Genesis logo and the text "Welcome admin. The current server date is Friday, January 11, 2013 3:44:46 PM" and "Copyright © 2013 Genesis Systems Corporation" at the bottom.

The initial **Nortel Switch Management** screen provides a list of all administered stations on the selected system, and a visual diagram of the tasks. Clicking on the objects in the diagram or the links in the navigation panel will launch the respective task screens.



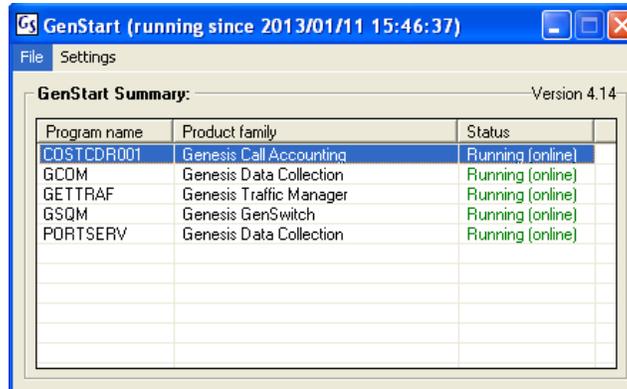
To configure the login settings, on the navigation panel, click **System Configuration** → **Update switch settings** and provide appropriate administrative account **Username** and **Password** as mentioned in **Section 5**. Select **Rlogin connection (Nortel Meridian/CS1000)** for the **Nortel PBX Connection method**. In the **Rlogin Settings**, enter the IP address of Communication Server 1000 in the **IP address/host** field. The rest of the values can remain at default.

Click **Save** to complete the task.



## 7. Verification Steps

Verify that the GenSwitch (GSQM) application is online by selecting **show** from the **GenStart** icon (not shown) in the Windows System Tray on the Genesis server.



The screenshot shows the GenStart application window with a menu bar containing 'File' and 'Settings'. The main area displays a 'GenStart Summary' table with the following data:

Program name	Product family	Status
COSTCDR001	Genesis Call Accounting	Running (online)
GCOM	Genesis Data Collection	Running (online)
GETTRAF	Genesis Traffic Manager	Running (online)
GSQM	Genesis GenSwitch	Running (online)
PORTSERV	Genesis Data Collection	Running (online)

Each service can be started, shutdown or restarted by right clicking and choosing the appropriate option from the popup menu (not shown).

Phones were added, moved, changed and removed from Communication Server 1000 using the GenSwitch application. Following is a walkthrough of screens used to add a station to illustrate use of the application. These application notes will not cover each type of transaction in detail. For details on this and other tasks, refer to **Section 9** for GenSwitch user documentation.

Click on the **Add phone** radio button or icon on the main Perform MACs page which is accessed by either clicking the **Perform MACs** link in the navigation panel or clicking on the **Add a phone** icon on the **Nortel Switch Management** screen shown in the beginning of **Section 6.1**.

Select the **Phone type** (*IP phone* in this illustration), an appropriate template by clicking the **Select** link (*2007* selected in this illustration), and provide an **Extension Number (DN)**, **Set name (CPND)** and **Terminal number (TN)**. The drop down menu provides the user to select an available DN and TN.

Click **Continue** to proceed to the next screen.

Genesis UNIFIED SOLUTIONS

MACs Call Accounting Directory Traffic ACD 911 Fraud

Site 001 - AVAYA CS1000

Change Site | Logout

**Nortel Switch Management**

**PBX Maintenance:**

- » Perform MACs
- » Enable/disable phones
- » Look up phone features
- » Look up system messages
- » Manage speed call lists
- » Manage group hunt lists
- » Manage templates

**View:**

- » Past transactions
- » Queued transactions
- » Reserved DNs & TNs
- » Station details
- » Switch information
- » System Help

**System Configuration:**

- » Update switch settings

**Events:**

- » Refresh offline databases

Change phone  Change phones  Add phone  Move phones  Delete phone

Phone type:  Analog phone  Digital phone  IP phone

Extension number (DN): 58601 or  Verify

Set name (CPND): Test Phone

Terminal number (TN): 096 0 00 23 or

Show Reserved DNs & TNs

	Type	Description
Select	2007	IP Set
Select	UEXT	SIP Set
Select	UEXT	SIP test



Cancel Help Continue

Screen below shows an IP phone added using the template. User can click on **Phone Settings** to make changes as required to the template. If no changes are required, then adding of phone can be completed by clicking on the **Post Transaction** button.

The screenshot displays the Genesis Unified Solutions web interface. At the top, there is a navigation bar with tabs for MACs, Call Accounting, Directory, Traffic, ACD, 911, and Fraud. Below this, the site is identified as 'Site 001 - AVAYA CS1000'. On the left, a sidebar menu includes 'Change Site | Logout', 'Nortel Switch Management', 'PBX Maintenance' (with sub-items like Perform MACs, Enable/disable phones, etc.), 'View' (with sub-items like Past transactions, Queued transactions, etc.), 'System Configuration' (with sub-item Update switch settings), and 'Events' (with sub-item Refresh offline databases). The main content area is titled 'Add a Phone:' and includes links for 'Phone picture' and 'TN printout'. It features a large image of a Nortel IP phone with a 'Phone Settings' button overlaid on the screen. Above the phone image, the following information is displayed: 'TN: 096 0 00 23', 'DN: 58601', 'Type: 2007', and 'Name: Test Phone'. Below the phone image, there is a question 'When should this transaction be posted to the telephone switch?' with two radio button options: 'Now' (selected) and 'Later: yyyy/mm/dd'. A 'Time' field is set to '23:00'. At the bottom, a dashed box contains buttons for 'Exit', 'Help', 'CallPilot', 'Refresh TN', and 'Post Transaction'.

The next four screens shows options for an user to change the phone settings. In the examples shown below options for **Digital Keys**, **Class of Service**, **Features** and **CPND Names** are seen.

**Genesis UNIFIED SOLUTIONS**

MACs Call Accounting Directory Traffic ACD 911 Fraud

Site 001 - AVAYA CS1000

Change:  Description  Class of Service  Features  Digital Keys  CPND Names

**Digital Key Settings:**

Select a Key to Modify: 00 SCR 58601

Initial Value: 00 SCR 58601

Current Value: SCR 58601

Apply

Available Key Features:

- BLANK KEY
- ACD KEYS
- OTHER KEYS
- HOTLINE/INTERCOM KEYS
- DN KEYS
  - MCN - Multiple Call Non-Ringing key
  - MCR - Multiple Call Ringing key
  - PVN - Private Line Non-Ringing key
  - PVR - Private Line Ringing key
  - SCN - Single Call Non-Ringing key
  - SCR - Single Call Ringing key
- SPEED CALL KEYS

Single Call Ringing key  
 - Format: SCR yyyy (cccc or D) zzzz  
 - yyyy - DN  
 - (cccc or D) - CLID table entry or key number of a DN to reference the CLID table (0 is default)

Edit Description

Cancel Help Save

**Genesis SYSTEMS CORPORATION**

**Genesis UNIFIED SOLUTIONS**

MACs Call Accounting Directory Traffic ACD 911 Fraud

Site 001 - AVAYA CS1000

Change:  Description  Class of Service  Features  Digital Keys  CPND Names

**Class of Service (COS) Settings:**

Description	Value
Select Abandoned call record	ABDA
Select Access Restrictions	CTD
Select Agent Greeting	AGRD
Select Alarm Security	ASCD
Select Audible Reminder	ARHD
Select Auth. Code Class of Service	AUTU
Select Automatic Answerback	AAD
Select Automatic Hold	AHD
Select Boss Secretary Feature	BFED
Select Call Detail Message	CDMA
Select Call Forward	CFTD
Select Call Forward Busy	FBD
Select Call Forward Hunt	CFHD
Select Call Forward No Answer	FND
Select Call Forward to External	CFXA

Unrecognized COS Values:

MUTA  
MWTD  
DVLD

Save COS

UNR, Access Restrictions - UNR: Unrestricted. CUN: Conditionally Unrestricted. CTD: Conditionally Toll Denied

**Genesis SYSTEMS CORPORATION**

**Genesis UNIFIED SOLUTIONS**

MACs | Call Accounting | Directory | Traffic | ACD | 911 | Fraud

Site 001 - AVAYA CS1000

Change Site | Logout

**Nortel Switch Management**

**PBX Maintenance:**

- » Perform MACs
- » Enable/disable phones
- » Look up phone features
- » Look up system messages
- » Manage speed call lists
- » Manage group hunt lists
- » Manage templates

**View:**

- » Past transactions
- » Queued transactions
- » Reserved DNs & TNs
- » Station details
- » Switch information
- » System Help

**System Configuration:**

- » Update switch settings

**Events:**

- » Refresh offline databases

**Change:**  Description  Class of Service  Features  Digital Keys  CPND Names

**Phone Feature Settings:**

Select ERL	0
Select ECL	0
Select FDN	50000
Select TGAR	1
Select LDN	NO
Select NCOS	7
Select SGRP	0
Select RNPG	0
Select SCI	0
Select SSU	
Select LNRS	16
Select XLST	
Select SCPW	
Select SFLT	NO
Select CAC_MFC	0
Select CPND_LANG	ENG



Type: 2007

**Change Selected Feature:**

Feature Value:

**Add a New Feature:**

Feature:

Value:

NCOS, Network Class of Service group number. (0)-3: CDP. (0)-7: BARS or NFCR. (0)-15: NARS. (0)-99: Network Class of Service group number.

**Genesis SYSTEMS CORPORATION**

**Genesis UNIFIED SOLUTIONS**

MACs | Call Accounting | Directory | Traffic | ACD | 911 | Fraud

Site 001 - AVAYA CS1000

Change Site | Logout

**Nortel Switch Management**

**PBX Maintenance:**

- » Perform MACs
- » Enable/disable phones
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**View:**

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**System Configuration:**

- » Update switch settings

**Events:**

- » Refresh offline databases

**Change:**  Description  Class of Service  Features  Digital Keys  CPND Names

**CPND Name Settings:**

Editing Key 00 (DN 58601)

Key	DN	Name
Select 00	58601	Test Phone

Initial CPND Name: Test Phone

Current CPND Name:

CPND, Calling Party Name Display Name. aaaa,bbbb: First name comma Last name. For example, John Doe is entered as John,Doe. The first single comma is treated as the delimiter. Up to 27 characters (including the comma) may be input. The last occurrence of the first comma group serves as the name

**Genesis SYSTEMS CORPORATION**

Click **View** → **Queued Transactions** in the navigation panel to see pending tasks. A typical task will take ten to thirty seconds to process. Tasks which are scheduled to run at a specific time will appear in the Queue until the scheduled time. Click on the **Select** link to review details of a pending task (not shown).

Transaction Queue ( 2 total entries) - Last refresh: 2013/01/11 16:13:04

	Site	Status	Execution date	Creation date	Action
Select	001	Ready	2013/01/11 16:12:57	2013/01/11 16:12:57	out-cpnd
Select	001	Queued	2013/01/11 16:12:58	2013/01/11 16:12:58	new-cpnd

Refresh queue every 10 seconds

Reschedule View Details Delete Item Help Exit

Click **View** → **Past Transactions** to see past tasks. A task that has successfully processed will appear with a green **Done** in the **Status** column. A task that fails will appear with an error description in red in the **Status** columns. Details of errors can be viewed by clicking the **Details** link in the first column.

Past Transactions (333 total entries) -

	Site	Status	Execution date	Creation date	Action	Username
Details	001	Done	2012/11/27 14:47:21	2012/11/27 14:47:21	new-tn	admin
Details	001	SCH0360	2012/11/27 11:12:21	2012/11/27 11:12:21	new-tn	admin
Details	001	SCH0360	2012/11/26 16:55:48	2012/11/26 16:55:48	new-tn	admin
Details	001	SCH2119	2012/11/26 16:55:48	2012/11/26 16:55:49	new-cpnd	admin
Details	001	Done	2012/11/26 16:52:04	2012/11/26 16:52:04	new-cpnd	admin
Details	001	Done	2012/11/26 16:52:03	2012/11/26 16:52:03	out-cpnd	admin
Details	001	SCH2269	2012/11/26 16:50:41	2012/11/26 16:50:41	new-tn	admin
Details	001	SCH2119	2012/11/26 16:50:41	2012/11/26 16:50:42	new-cpnd	admin
Details	001	Done	2012/11/26 14:45:41	2012/11/26 14:45:41	new-tn	admin
Details	001	Done	2012/11/26 10:32:07	2012/11/26 10:32:07	out-tn	admin
Details	001	Done	2012/11/26 10:22:58	2012/11/26 10:22:58	chg-tn	admin
Details	001	Done	2012/11/26 10:21:09	2012/11/26 10:21:09	chg-tn	admin
Details	001	SCH5019	2012/11/26 10:19:18	2012/11/26 10:19:18	chg-tn	admin
Details	001	SCH5019	2012/11/26 10:09:46	2012/11/26 10:09:46	chg-tn	admin
Details	001	Done	2012/11/26 10:09:44	2012/11/26 10:09:44	new-cpnd	admin

Help Hide automatic downloads Exit

## 8. Conclusion

These Application Notes describe the procedures required to configure Genesis Systems Corporation GenSwitch PBX Management solution for performing Moves, Adds, Changes and Removes to stations on Avaya Communication Server 1000 R7.5. The GenSwitch application successfully passed compliance testing.

## 9. Additional References

This section references the product documentation relevant to these Application Notes. All Avaya documents can be found at <http://support.avaya.com>

- *Software Input Output Reference — Administration Avaya Communication Server 1000 7.5 NN43001-611, Standard 05.13 September 2012.*

Product documentation for Genesis GenSwitch Solution can be found at <http://www.buygenesis.com/documents.htm>.

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