



Avaya Solution & Interoperability Test Lab

Application Notes for Graham Technology ciboodle with Avaya Communication Manager and Avaya Application Enablement Services - Issue 1.1

Abstract

These Application Notes describe the configuration steps required for Graham Technology ciboodle to successfully interoperate with Avaya Communication Manager and Avaya Application Enablement Services (AES). Graham Technology ciboodle will also be referred to as ciboodle in this document.

ciboodle is a server based, thin client, multi-channel contact centre and agent desktop solution. ciboodle integrates to Avaya AES via the Java Telephony Application Programmer Interface (JTAPI) to achieve full agent state and call control.

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 the configuration steps required for Graham Technology ciboodle to successfully interoperate with Avaya Communication Manager and Avaya Application Enablement Services (AES).

ciboodle is a server based, thin client, multi-channel contact centre and agent desktop solution. The ciboodle core software runs on any Java 2 Platform Enterprise Edition (J2EE) compliant application server. The agent desktop application is then customized depending on business requirements.

For the compliance testing, JBoss was used as the J2EE compliant application server and the Graham Technology CTI Test Harness application was used as the agent desktop application.

ciboodle connects to the Avaya AES using the Java Telephony Application Programmer Interface (JTAPI).

Figure 1 shows the configuration used in the compliance testing.

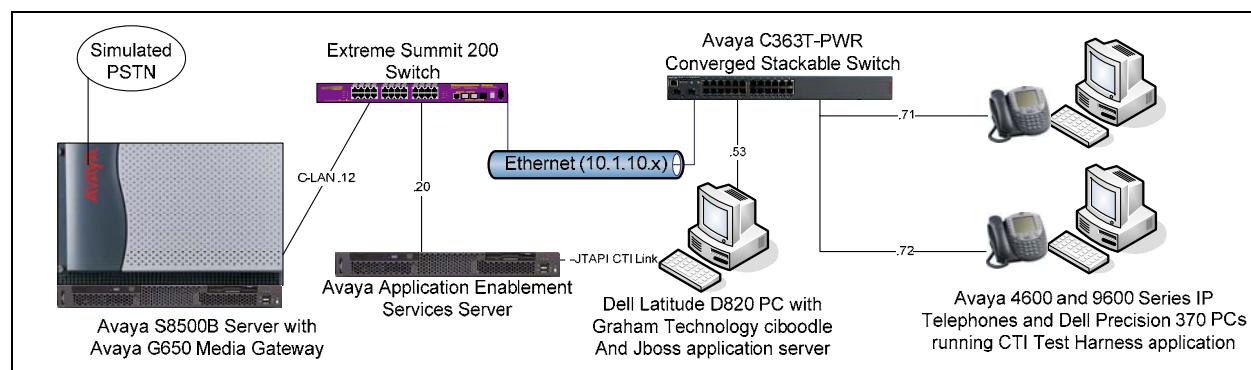


Figure 1: Network Diagram of the Compliance Tested Configuration.

Please note that the Avaya configuration sections refer to the CTI link as the Telephony Service Application Programmer Interface (TSAPI). This is because JTAPI is mapped to TSAPI on the Avaya AES.

2. Equipment and Software Validated

The following equipment and software were used for the sample configuration.

Equipment	Software
Avaya S8500B Server	Avaya Communication Manager 4.0.1 (R014X.00.1.731.2), Service Pack 14300
Avaya G650 Media Gateway	N/A
Avaya S8500B Server	Avaya Application Enablement Services 4.0.1 (patch 1)
Avaya 4610SW IP Telephones	2.8 (H.323)
Avaya 4602SW IP Telephones	2.3 (H.323)
Avaya 9620 IP Telephones	1.5 (H.323)
Dell Latitude D820 PC	Windows XP Professional 2002, Service Pack 2 Graham Technology ciboodle 2.6 JBoss Application Server 3.2.7
Dell Precision 370 PCs	Windows XP Professional 2002, Service Pack 2 Graham Technology CTI Test Harness 2.2.52U

3. Configure Avaya Communication Manager

This section provides the procedures for administering the CTI link for the TSAPI service using Avaya Communication Manager

Please note that it is expected that the installer is familiar with configuring stations, agents, vectors, VDNs etc. on Avaya Communication Manager as the focus of these Application Notes is on the configuration of the TSAPI interface only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of Avaya Communication Manager, etc., refer to the Avaya Communication Manager product documentation in reference [1].

The System Administration Terminal (SAT) interface was used for all Avaya Communication Manager configuration.

3.1. Administer CTI Link for the TSAPI Service

This section assumes that the Internet Protocol (IP) service to the Avaya AES is previously administered. Information on how to do this is available in the Avaya AES product documentation in reference [2].

Use the “add cti-link x” command, where “x” is an available CTI link number, to add a new CTI link. Enter an available extension number in the **Extension** field. Note that the CTI link number and extension number may vary. Enter “ADJ-IP” in the **Type** field, and a descriptive name in the **Name** field. The remaining fields may be left at their default values. Submit these changes.

add cti-link 3	Page 1 of 2
CTI Link: 3	CTI LINK
Extension: 13300	
Type: ADJ-IP	
Name: TSAPI CTI Link 3	COR: 1

4. Configure Avaya Application Enablement Services

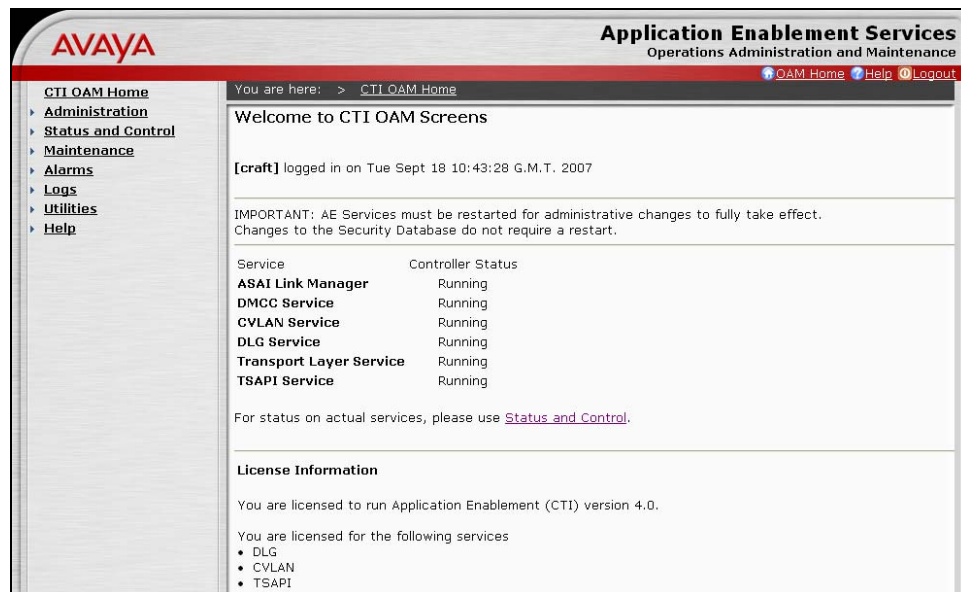
This section provides the procedures for configuring Avaya AES. The procedures fall into the following areas.

- Verify Avaya AES licensing.
- Administer TSAPI link.

Basic configuration related to the switch connection between Avaya Communication Manager and Avaya Application Enablement Services is assumed to have been established.

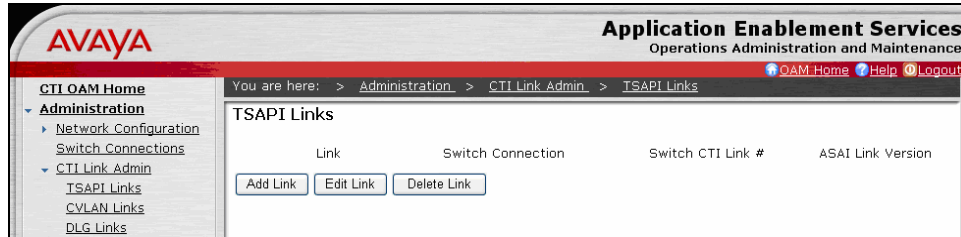
4.1. Verify Avaya Application Enablement Services Licensing

Initialise the AES OAM web interface by browsing to “<http://x.x.x.x/8443/MVAP/index.jsp>”, where “x.x.x.x” is the IP address of the AES, and log in (not shown). From the OAM Home screen select **CTI OAM Admin** (not shown) to bring up the CTI OAM Home menu. Verify the TSAPI service is licensed at the Welcome to CTI OAM Screens screen by ensuring that “TSAPI” is in the list of services in the License Information section.



4.2. Administer TSAPI link

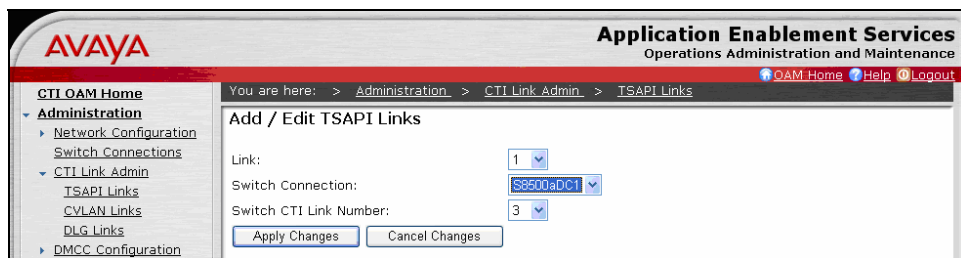
From the CTI OAM Home menu, select **Administration > CTI Link Admin > TSAPI Links**. On the TSAPI Links screen, select **Add Link**.



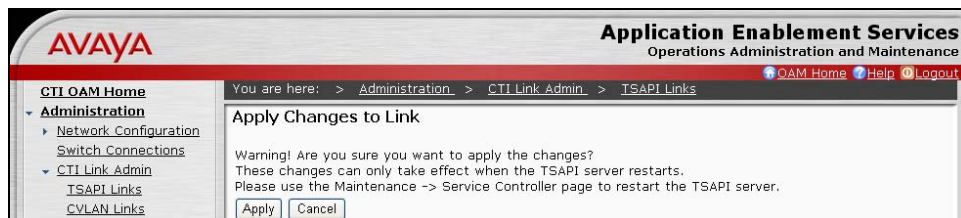
On the Add/Edit TSAPI Links screen, enter the following values.

- **Link:** Use the drop-down list to select an unused link number.
- **Switch Connection:** Choose the switch connection being used from the drop-down list. The switch connections can be viewed and configured by selecting **Administration > Switch Connections**.
- **Switch CTI Link Number:** Use the drop-down list to select the link number corresponding to the CTI link number configured in **Section 3.1**.

Once completed, select **Apply Changes**.



On the Apply Changes to Link screen, select **Apply**.



The AES must be restarted to effect the changes made in this section. From the CTI OAM Home menu, select **Maintenance > Service Controller**. On the Service Controller screen, select **Restart AE Server**.



On the Restart AE Server screen, select **Restart**.



Wait at least 10 minutes and select **Maintenance > Service Controller**. On the Service Controller screen (see above), verify that all services are showing “Running” in the **Controller Status** column.

5. Configure Graham Technology ciboodle

This section provides the procedures for configuring Graham Technology ciboodle on the application server.

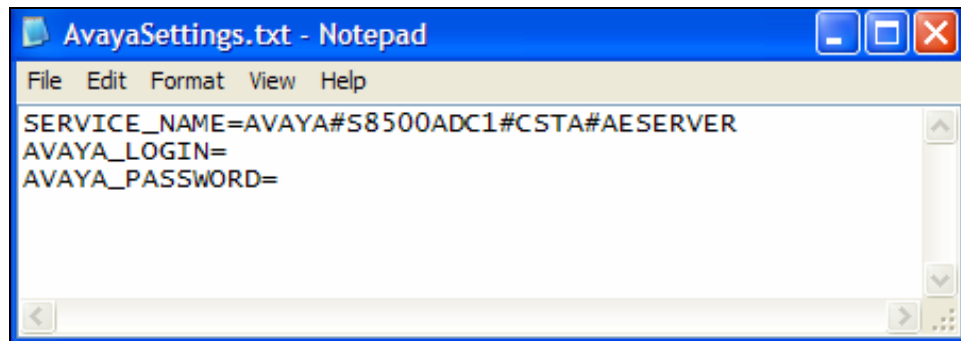
Please note that it is expected that the installer is familiar with configuring users etc. on ciboodle as the focus of these Application Notes is on the configuration of the JTAPI interface only. For all other provisioning information, such as software installation, installation of optional components, basic configuration of ciboodle, etc., refer to the ciboodle product documentation in reference [3].

5.1. Administer CTI Link

On the application server running ciboodle, create a file named “AvayaSettings.txt” and open this file for editing in a text editor (e.g., Notepad). Configure the file as follows:

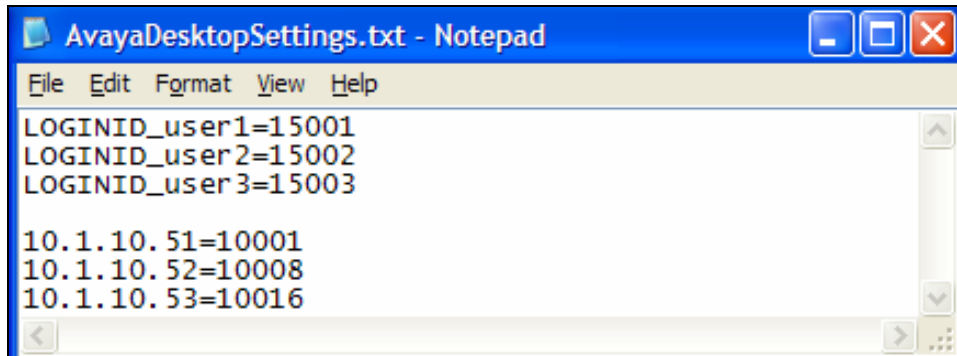
- On the first line enter “SERVICE_NAME=” followed by the TLINK of the TSAPI service created on the AES. The TLINK string can be found via the AES CTI OAM Home menu by selecting **Administration > Security Database > TLinks**
- On the second line enter “AVAYA_LOGIN=” followed by an AES login with CTI privileges
- On the third line enter “AVAYA_PASSWORD=” followed by the password for the AES login.

Once completed, save and close the file.

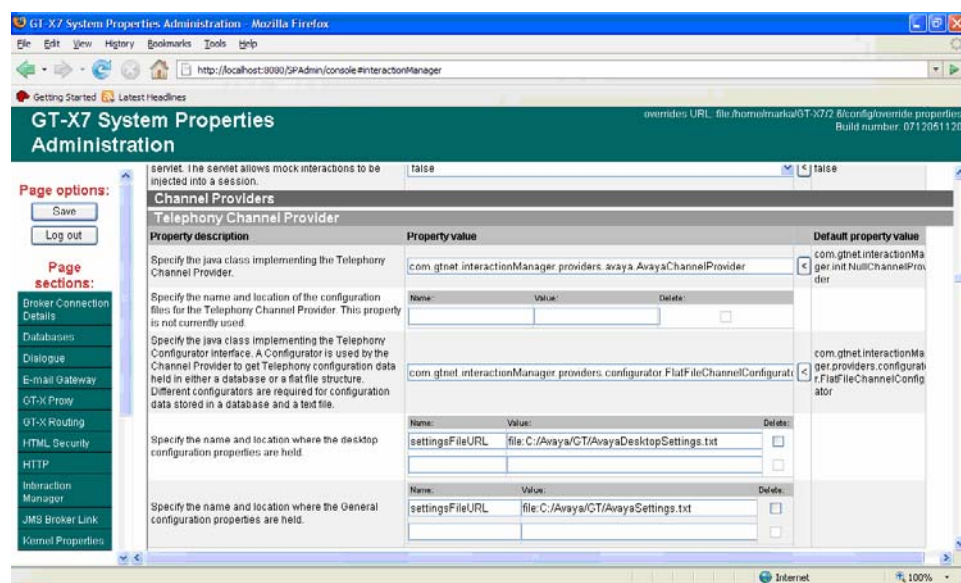


Create a file named “AvayaDesktopSettings.txt” and open this file for editing in a text editor (e.g., Notepad). To associate an Avaya Communication Manager agent ID to a ciboodle username, enter “LOGINID_username=agentID”, where “username” is the ciboodle username and “agentID” is the Avaya Communication Manager agent ID. To associate an Avaya Communication Manager station extension number with a specific client PC, enter “x.x.x.x=extension”, where “x.x.x.x” is the IP address of the client PC and “extension” is the Avaya Communication Manager station extension number.

Once completed, save and close the file.



Open a browser session to “http://localhost/SPAdmin” and log in (not shown). Select **Interaction Manager** from the left hand menu. In the general configuration properties section enter the full path to the “AvayaSettings.txt” file in the **Value** field for **settingsFileURL**. The path should be in the form *file:C:/Avaya/GT/AvayaSettings.txt*. In the desktop configuration properties section enter the full path to the “AvayaDesktopSettings.txt” file in the **Value** field for **settingsFileURL**. The path should be in the form *file:C:/Avaya/GT/AvayaDesktopSettings.txt*.



Once, completed select **Save**.

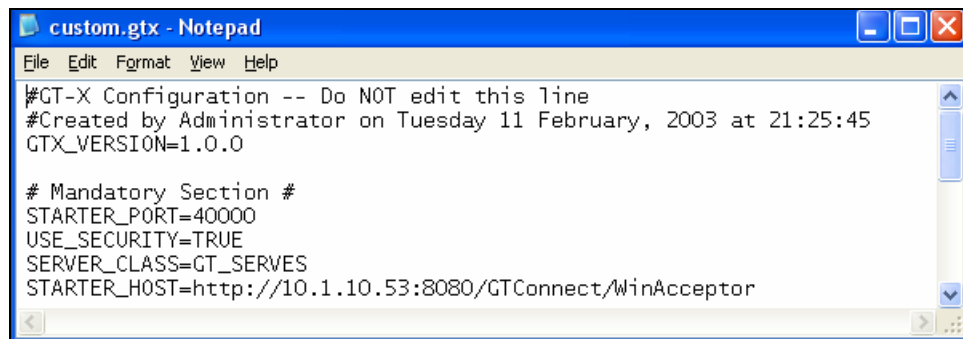
6. Configure CTI Test Harness Application

This section provides the procedures for configuring the Graham Technology Test Harness application for use with ciboodle.

Please note that the CTI Test Harness application allows testing of all ciboodle's supported features, but is not an agent application. The CTI Test Harness is an example installed as part of the ciboodle Development Kit (cDK)

6.1. Edit the Configuration File

On the client machine, navigate to the folder where ciboodle is installed and open the "custom.gtx" file, using a text editor (e.g., Notepad). Scroll to the section entitled **Mandatory Section**. At the **STARTER_HOST=** entry enter "<http://x.x.x.x:8080/GTConnect/WinAcceptor>" where "x.x.x.x" is the IP address of the ciboodle server.



Once completed, save and close the file.

7. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on the ability of Graham Technology ciboodle to make and receive calls to and from internal and external telephones and to use the Avaya Communication Manager feature set.

The serviceability testing focused on verifying the ability of Graham Technology ciboodle to recover from an outage condition, such as busying out the CTI link and disconnecting the Ethernet cable for the CTI link.

7.1. General Test Approach

All feature and serviceability test cases were performed manually.

For feature testing, basic telephony operations such as answer, hold/retrieve, transfer, and conference were exercised on inbound and outbound calls as well as internal calls.

For serviceability testing, calls were placed before, during and after the outages and call information was verified.

7.2. Test Results

All tests passed successfully.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya AES, and Graham Technology ciboodle.

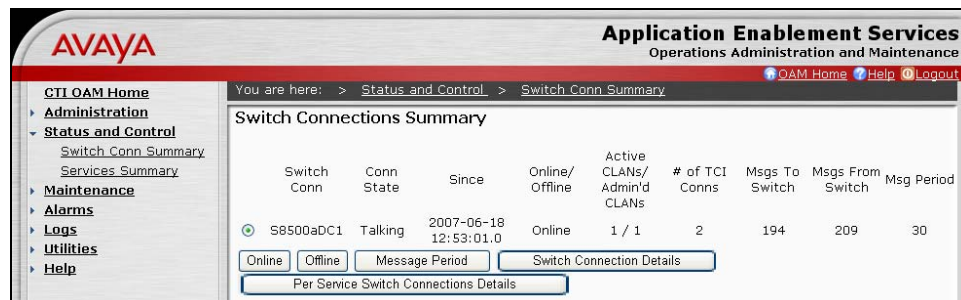
8.1. Verify Avaya Communication Manager

Verify the status of the administered CTI link by using the “status aesvcs cti-link” command. The **Service State** should show as “established”.

status aesvcs cti-link						
AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
3	4	no	AEServer	established	216	210

8.2. Verify Avaya Application Enablement Services

From the AES OAM Admin menu, verify the status of the administered CTI link by selecting **Status and Control > Switch Conn Summary**. The **Conn State** should show “Talking”.



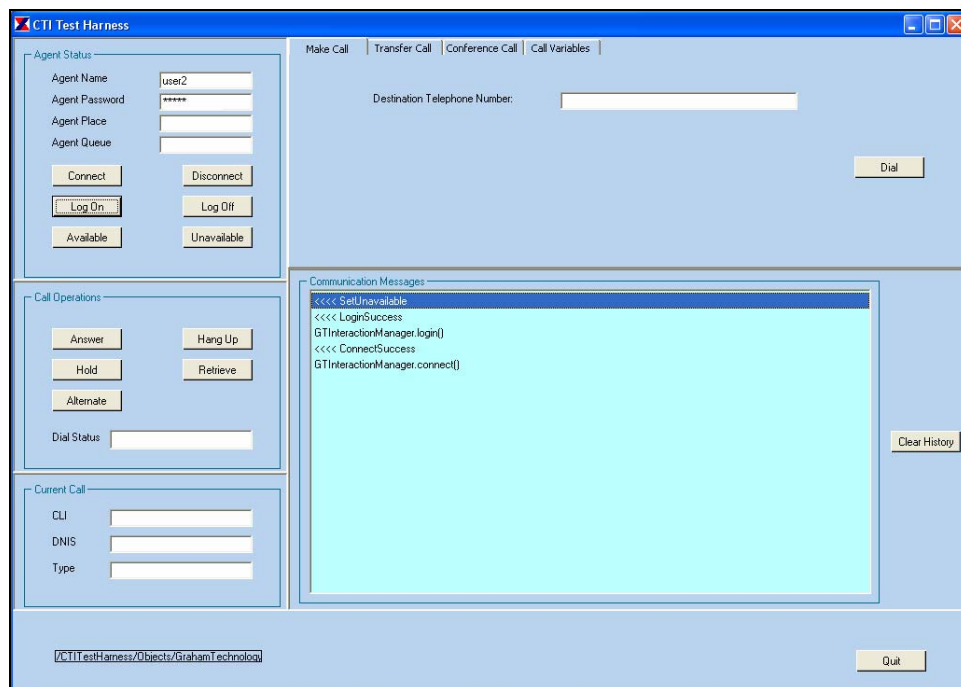
The screenshot shows the Avaya Application Enablement Services (AES) OAM Admin interface. The top navigation bar includes the Avaya logo, the title "Application Enablement Services", and the subtitle "Operations Administration and Maintenance". Below this, a breadcrumb trail indicates the current location: "You are here: > Status and Control > Switch Conn Summary". The left sidebar contains a menu with options: "CTI OAM Home", "Administration", "Status and Control" (selected), "Maintenance", "Alarms", "Logs", "Utilities", and "Help". The main content area displays the "Switch Connections Summary" table. The table has columns for "Switch Conn", "Conn State", "Since", "Online/Offline", "Active CLANs/Admin'd CLANs", "# of TCI Conns", "Msgs To Switch", "Msgs From Switch", and "Msg Period". A single row is shown for switch "S8500aDC1" with state "Talking", since "2007-06-18 12:53:01.0", online, 1 active clan, 2 TCIs, 194 outgoing messages, 209 incoming messages, and a 30-second message period. Below the table are buttons for "Online", "Offline", "Message Period", "Switch Connection Details", and "Per Service Switch Connections Details".

Switch Conn	Conn State	Since	Online/Offline	Active CLANs/ Admin'd CLANs	# of TCI Conns	Msgs To Switch	Msgs From Switch	Msg Period
S8500aDC1	Talking	2007-06-18 12:53:01.0	Online	1 / 1	2	194	209	30

8.3. Verify Graham Technology ciboodle

Select **Start > Program Files > GT-X Windows 2.2.5.2 > GT-X Windows** and log in to the CTI Test Harness application with a ciboodle user name and password. Perform the following actions:

- Click on **Connect** and verify that a “ConnectSuccess” message is shown in the **Communication Messages** box.
- Enter the Avaya Communication Manager password for the agent associated with the ciboodle user name and click **Log On**. Verify that a “LoginSuccess” message is shown in the **Communication Messages** box. Check the user’s telephone to verify that the correct agent is logged in.



9. Support

If technical support is required for Graham Technology ciboodle, contact Graham Technology Technical Support. Full details are available at [http:// www.grahamtechnology.com](http://www.grahamtechnology.com).

10. Conclusion

These Application Notes describe the configuration steps required for Graham Technology ciboodle to successfully interoperate with Avaya Communication Manager and Avaya Application Enablement Services using JTAPI. All feature and serviceability test cases were completed and passed successfully.

11. Additional References

This section references the product documentations that are relevant to these Application Notes.

- [1] *Documentation for Avaya Communication Manager (4.0), Media Gateways and Servers*, [Document ID](#) 03-300151, Issue 6, February 2007, available at:
<http://support.avaya.com>.
- [2] *Avaya Application Enablement Services 4.0 Administration and Maintenance Guide*, Document ID 02-300357, Issue 6, February 2007, available at:
<http://support.avaya.com>.
- [3] Graham Technology ciboodle documentation is available, on request, from:
<http://www.grahamtechnology.com>

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