



Avaya Solution & Interoperability Test Lab

Application Notes for a Telecommuter and Non-Telecommuter Modes on Amcom IntelliDesk with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services - Issue 1.0

Abstract

These Application Notes describe a compliance-tested configuration comprised of Avaya Aura™ Communication Manager, Avaya Aura™ Application Enablement Services, Avaya IP and Digital Telephones, and Amcom IntelliDesk desktop application.

This is a re-test for a telecommuter Mode and Non-Telecommuter on Amcom IntelliDesk with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services.

Amcom IntelliDesk allows a user to operate a physical telephone and view call and telephone display information through a graphical user interface (GUI). Amcom IntelliDesk integrates with Amcom CTI Layer, which is a middleware between Amcom IntelliDesk and Avaya Aura™ Application Enablement Services, to control and monitor phone states. During compliance testing, calls were successfully placed to and from Avaya IP and Digital Telephones that were controlled and monitored by Amcom IntelliDesk.

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, which is the telecommuter mode using Amcom IntelliDesk, with Avaya Aura™ Communication Manager, Avaya Aura™ Application Enablement Services, Avaya IP and Digital Telephones.

Amcom IntelliDesk allows a user to operate a physical telephone and view call and telephone display information through a graphical user interface (GUI). Amcom IntelliDesk integrates with Amcom CTI Layer, which is a middleware between Amcom IntelliDesk and Application Enablement Services, to control and monitor phone states.

It is the Amcom CTI Layer service that actually uses the Application Enablement Services Device and Media Control Application Programming Interface (API) to share control of and monitor a physical telephone and receive the same terminal and first party call information received by the physical telephone. Amcom IntelliDesk in turn uses the Amcom CTI Layer service to control and monitor a physical telephone. The IntelliDesk applications regularly provide the Database server with call and lamp state information concerning the controlled telephones.

1.1. Interoperability Compliance Testing

During the compliance test, Avaya 2420 type DCP phone was utilized for the telecommuter mode, and Avaya 2420 type DCP telephone and Avaya 9650 type IP telephone was utilized for non-telecommuter mode. Thus, only the specific configuration, mentioned above, will be discussed in these Application Notes. Refer [3] for normal CTI configuration.

1.2. Support

Technical support for the Amcom IntelliDesk solution can be obtained by contacting Amcom:

- URL – <http://www.amcomsoftware.com>
- Phone – (888) 797-7487

2. Reference Configuration

Figure 1 illustrates the configuration used in these Application Notes. The sample configuration shows an enterprise with an Application Enablement Services server and Avaya S8300D Server with G450 Media Gateway. The IntelliDesk was located in a different VLAN. Endpoints include Avaya 9600 Series H.323 IP Telephones and Avaya 2420 Digital Telephone. Avaya S8720 Servers with Avaya G650 Media Gateway was included in the test to provide an inter-switch scenario.

Note: Basic administration of Application Enablement Services server is assumed. For details, see [2].

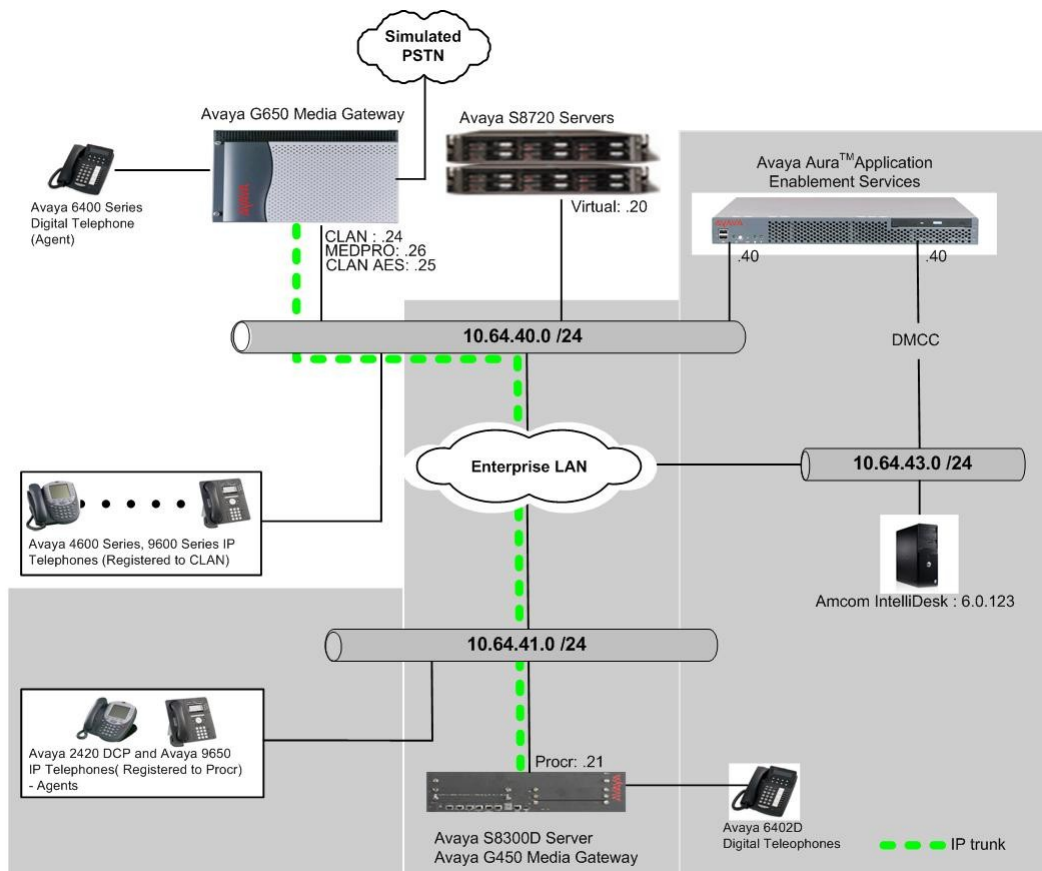


Figure 1: Amcom IntelliDesk Test Configuration.

3. Equipment and Software Validated

The following equipment and software/firmware were used for the sample configuration provided:

Equipment	Software/Firmware
Avaya S8300 Media Server with Avaya G450 Media Gateway	Avaya Aura™ Communication Manager 6.0 (R016x.00.0.345.0) with Patch 00.0345.0-18246
Avaya Aura™ Application Enablement Services Server	5.2.2 (r5-2-2-105-0)
Avaya S8720 Media Servers / Avaya G650 Media Gateway	Avaya Aura™ Communication Manager 5.2.1 (R015x.02.1.016.4)
Avaya 4625SW IP Telephone	2.5
Avaya 9600 Series IP Telephones	
9620 (H.323)	3.1
9630 (H.323)	3.1
9650 (H.323)	3.1
Avaya 6424D+ Digital Telephone	-
Avaya 2420 Digital Telephone	-
Amcom IntelliDesk	6.0.123

4. Configure Avaya Communication Manager

This section only describes procedures for setting up for Amcom IntelliDesk. Refer [3] for configuring Communication Manager for the normal CTI configuration. Any changes that apply only to the telecommuter mode test will be mentioned as such.

4.1. Configure Switch Hook Query Response Timeout

Enter the **change system-parameters features** command, and change the setting on the Switch Hook Query Response Timeout field under the Redirection on IP Connectivity Failure section, to **NULL**. The default value was set to 500.

Note: The change on this field was needed for the telecommuter mode test.

change system-parameters features	Page 14 of 19
FEATURE-RELATED SYSTEM PARAMETERS	
REASON CODES	
Aux Work Reason Code Type: none	
Logout Reason Code Type: none	
Two-Digit Aux Work Reason Codes? n	
REDIRECTION ON IP CONNECTIVITY FAILURE	
Switch Hook Query Response Timeout:	
IP Failure Aux Work Reason Code: 0	

4.2. Configure Controlled Telephones

Enter the **change station r** command, where **r** is the extension of a registered, physical Avaya IP or Digital telephone. On **Page 1** of the **station** form, enter a phone Type, descriptive Name, Security Code and set IP SoftPhone field to **y** to allow the physical station to be controlled by a softphone such as the IntelliDesk application.

The following screen shows a sample configuration of Digital 2420 type station. The extension, x72003 (not shown) was configured for station type 9650 for the non-telecommuter mode test.

add station 72008	Page 1 of 5
STATION	
Extension: 72008	Lock Messages? n
Type: 2420	Security Code: 72008
Port: S00021	Coverage Path 1:
Name: Agent2 Phone	Coverage Path 2:
	Hunt-to Station:
STATION OPTIONS	
Loss Group: 2	Time of Day Lock Table:
Data Option: none	Personalized Ringing Pattern: 1
Speakerphone: 2-way	Message Lamp Ext: 72008
Display Language: english	Mute Button Enabled? y
	Expansion Module? n
Survivable COR: internal	Media Complex Ext:
Survivable Trunk Dest? y	IP SoftPhone? y
	Remote Office Phone? n
	IP Video Softphone? n
	Short/Prefixed Registration Allowed: default
	Customizable Labels? y

On **Page 4 and 5** of the station form, enter the following **BUTTON ASSIGNMENTS** in addition to the call-appr (call appearance) buttons:

- Bridged Appearance on button 1 of a station (During the test station 72001 was utilized).
- Bridged Appearance on button 2 of a station (During the test station 72001 was utilized).
- auto-in
- aux-work
- abrv-dial – configure two of these buttons, one for Login and one for Logout, along with the Dial Codes from Abbreviated Dialing **List1** for ACD Login and Logout, respectively.
- release (On Page 5)

Refer [3] for configuring abbreviated –dialing group for Login and logout.

add station 72008		Page 4 of 5	
STATION			
SITE DATA			
Room:		Headset?	n
Jack:		Speaker?	n
Cable:		Mounting:	d
Floor:		Cord Length:	0
Building:		Set Color:	
ABBREVIATED DIALING			
List1:	personal 1	List2:	group 1
		List3:	system
BUTTON ASSIGNMENTS			
1:	call-appr	5:	auto-in Grp:
2:	call-appr	6:	aux-work RC: Grp:
3:	brdg-appr B:1 E:72001	7:	abrv-dial List: 2 DC: 01
4:	brdg-appr B:2 E:72001	8:	abrv-dial List: 2 DC: 02
voice-mail			

add station 72008		Page 5 of 5	
STATION			
FEATURE BUTTON ASSIGNMENTS			
9:	release		

Repeat the instructions provided in this section for each physical station that is to be controlled / monitored by an Amcom IntelliDesk.

5. Configure Avaya Application Enablement Services

The Avaya Application Enablement Services server enables Computer Telephony Interface (CTI) applications to control and monitor telephony resources on Communication Manager.

This section assumes that installation and basic administration of the Application Enablement Services server has been performed. Refer [3] for configuring the normal CTI configuration.

The steps in this section describe the configuration of a CTI user. Navigate to **User Management → User Admin → Add User** link from the left pane of the window. On the Add User page, provide the following information:

- User Id
- Common Name
- Surname
- User Password
- Confirm Password


The above information (User ID and User Password) must match with the information configured in the CTI Layer Configuration page in **Section 6**.

Select **Yes** using the drop down menu on the CT User field. This enables the user as a CTI user. Default values may be used in the remaining fields. Click the **Apply** button (not shown) at the bottom of the screen to complete the process.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title 'Application Enablement Services Management Console', and a welcome message for 'User craft' with login details. A red navigation bar contains 'User Management | User Admin | Add User' and links for 'Home | Help | Logout'. The left sidebar shows a tree view with 'User Management' expanded and 'Add User' selected. The main content area is the 'Add User' form, which includes fields for User Id, Common Name, Surname, User Password, and Confirm Password (all marked with an asterisk). Other fields include Admin Note, Avaya Role (set to None), Business Category, Car License, CM Home, Cms Home, CT User (set to Yes), Department Number, Display Name, and Employee Number. Red boxes highlight the required fields and the CT User dropdown.

Add User	
Fields marked with * can not be empty.	
* User Id	Amcom
* Common Name	Amcom
* Surname	Amcom123&
* User Password	••••••••
* Confirm Password	••••••••
Admin Note	
Avaya Role	None
Business Category	
Car License	
CM Home	
Cms Home	
CT User	Yes
Department Number	
Display Name	
Employee Number	

Once the user is created, navigate to the **Security** → **Security Database** → **CTI Users** → **List All Users** link from the left pane of the window. Select the User ID created previously, and click the **Edit** button to set the permission of the user.



**Application Enablement
Services**
Management Console

Welcome: User craft
Last login: Sat Sep 18 19:38:18 2010 from
10.64.43.10
HostName/IP: server1/10.64.40.40
Server Offer Type: TURNKEY
SW Version: r5-2-2-105-0

Security | Security Database | CTI Users | List All Users

Home | Help | Logout

▶ AE Services

▶ Communication Manager
Interface

▶ Licensing

▶ Maintenance

▶ Networking

▼ Security

▶ Account Management

▶ Audit

▶ Certificate Management

Enterprise Directory

▶ Host AA

▶ PAM

▼ Security Database

▪ Control

▣ CTI Users

▪ List All Users

CTI Users

User ID	Common Name	Worktop Name	Device ID
<input checked="" type="radio"/> Amcom	Amcom	NONE	NONE

Edit

List All

Provide the user with unrestricted access privileges by checking the **Unrestricted Access** button. Click on the **Apply Changes** button.

AVAYA

**Application Enablement
Services
Management Console**

Welcome: User craft
Last login: Sat Sep 18 19:38:18 2010 from
10.64.43.10
HostName/IP: server1/10.64.40.40
Server Offer Type: TURNKEY
SW Version: r5-2-2-105-0

Security | Security Database | CTI Users | List All UsersHome | Help | Logout

▶ AE Services

▶ Communication Manager
Interface

▶ Licensing

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▼ Security

▶ Account Management

▶ Audit

▶ Certificate Management

Enterprise Directory

▶ Host AA

▶ PAM

▼ Security Database

▪ Control

▪ CTI Users

▪ List All Users

Edit CTI User

User Profile:

User IDAmcom

Common NameAmcom

Worktop NameNONE

Unrestricted Access☒

Call Origination and Termination / Device StatusNone

Call and Device Monitoring: DeviceNone

Call / DeviceNone

Call☐

Routing Control:Allow Routing on Listed
DevicesNone

Apply ChangesCancel Changes

6. Configure Amcom IntelliDesk

Amcom installs, configures, and customizes the IntelliDesk application for their end customers. The following screen shows the Amcom IntelliDesk's initial setup page that is configured to interface with Application Enablement Services.

Provide the following information:

Under DMCC Settings section

- AES server – Enter the IP address of the AES server.
- Switch IP address – Enter the procr IP address.
- User (default = cmapi) – Enter the user created in **Section 5**.
- Password – Enter the password created in **Section 5**.
- AES Version – Select **5.2** using the drop-down menu.
- Media Mode – Select **Telecommuter** using the drop-down menu for the telecommuter mode test. For the normal test, select **No Media** for the Media Mode field and **Dependent** for the Dependency Mode field.
- Telecommuter Extension – Enter the telecommuter extension.

Under the Phone Device Settings section

- Extension – Enter the physical controlled station, created in **Section 4.2**.
- Security Code – Enter the security code, created in **Section 4.2**.

Click on the **OK** button.

Amcom AES CTI Service Setup

DMCC Settings:

- AES Server: 10.64.43.40
- Switch Name:
- Switch IP Address: 10.64.41.21
- Port (default = 4721): 4721
- Application Id: 11
- User (default = cmapi): Amcom
- Password: [REDACTED]
- Media Mode: Telecommuter
- Shared Control: False
- Dependency Mode: Main
- AES Version: 5.2
- Telecommuter Extension: 917325032766

Phone Device Settings:

- Extension: 72008
- Security Code: xxxx
- RLT Transfer Button Id:
- Release Button Id: 9
- Toggle-Swap Button Id:

Line Appearances:

Line	Button id
Line 1	Button id = 1
Line 2	Button id = 2
Line 3	Button id = 3

Service Settings:

- Listener Port: 973
- Home Directory: c:\Program Files\Amcom
- Configuration File Name: cmapi.cfg
- DLL File Name: amcom_cmapi.dll
- LUA Agent Function File:
- LUA Agent State File:
- LUA App Specific File:

Debug Settings:

- File Name: Amcom_CTI_services
- Number of Files: 10
- File Size:

☒ Level 1 ☒ Level 16 ☒ Level 256
☒ Level 2 ☒ Level 32 ☒ Level 512
☒ Level 4 ☒ Level 64 ☒ Level 1024
☒ Level 8 ☒ Level 128 ☒ Level 2048

Buttons: OK, Cancel, Restart Service, Phone Server, Smart Console

7. General Test Approach and Test Results

The general approach was to exercise the telecommuter mode on Amcom IntelliDesk using Communication and Application Enablement Services. The main objectives were to verify that:

- Inbound calls to the telecommuter station.
- Outbound calls from the telecommuter station.
- Hold/unHold on the telecommuter station using Amcom IntelliDesk.
- Transfer (blind) calls on the telecommuter station using Amcom IntelliDesk.
- Transfer (consult) calls on the telecommuter station using Amcom IntelliDesk.
- Conference (blind) calls on the telecommuter station using Amcom IntelliDesk.
- Conference (consult) calls on the telecommuter station using Amcom IntelliDesk.
- Phone state on Amcom IntelliDesk: Idle, ringing and answered state.
- Agent state on the telecommuter station: log In, Log out, Aux Work, Auto-In.
- Agent state on Amcom IntelliDesk: Idle, ringing and answered state.

The objectives of **Section 7** were verified.

8. Verification Steps

The following steps may be used to verify the configuration:

- From the Amcom client computers, ping IP interfaces, in particular the Application Enablement Services server, and verify connectivity.
- For the physical IP telephones, verify that the physical telephones are registered by using the **list registered-ip-stations** command on the SAT. For the physical Digital telephones, verify that the telephones are attached to the correct ports.
- Go off-hook and on-hook on the controlled telephones manually and using IntelliDesk, and verify consistency.
- Place and answer calls from the controlled telephones manually and using IntelliDesk, and verify consistency.

9. Conclusion

These Application Notes described a compliance-tested configuration comprised of Communication Manager, Application Enablement Services, Avaya IP and Digital Telephones, and the Amcom IntelliDesk application. The telecommuter mode and normal shared control mode using Amcom IntelliDesk was compliance tested and successfully verified.

For the telecommuter mode test, Avaya 2420 DCP telephone is utilized. For the normal shared control mode test, Avaya 2420 DCP telephone and Avaya 9650 IP telephone are utilized.

10. Additional References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

[1] *Administering Avaya Aura™ Communication Manager*, Issue 6.0, June 2010, Document Number 03-300509

[2] *Avaya Aura™ Application Enablement Services Administration and Maintenance Guide*, Release 5.2, Issue 11, November 2009, Document Number 02-300357

[3] Application Notes for the Amcom IntelliDesk with Avaya AuraTM Communication Manager and Avaya AuraTM Application Enablement Services.

Product information for Amcom products may be found at
<http://www.amcomsoft.com/products.cfm>.

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