



Avaya Solution & Interoperability Test Lab

Application Notes for Unimax 2nd Nature with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Unimax 2nd Nature to interoperate with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services. 2nd Nature offers flexibility and accountability for managing voice system operations by providing an alternative to using the native interfaces of various PBXs and voice mail systems. 2nd Nature utilizes the System Management Service (SMS) of Avaya Aura™ Application Enablement Services to interface with Avaya Aura™ Communication Manager.

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 Unimax 2nd Nature to interoperate with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services. 2nd Nature offers flexibility and accountability for managing voice system operations by providing an alternative to using the native interfaces of various PBXs and voice mail systems. 2nd Nature utilizes the System Management Service of Avaya Aura™ Application Enablement Services to interface with Avaya Aura™ Communication Manager.

The System Management Service is a web service resident on Avaya Aura™ Application Enablement Services. The web service provides programmatic access to a subset of the administration objects available via Communication Manager System Access Terminal (SAT) screens. A key benefit of the System Management Service is that it allows programmatic access via a standard protocol (SOAP) to functionality that is otherwise usually only accessible using terminal emulation using SAT forms. The System Management Service enables clients that use SOAP to display, list, add, change and remove specific managed objects on Communication Manager.

1.1. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing. The feature testing focused on verifying the following:

- Using 2nd Nature to download and display the configuration of Communication Manager
- Using 2nd Nature to push administration changes made in the 2nd Nature application to Communication Manager
- Using 2nd Nature to pull administration changes made on Communication Manager to 2nd Nature

The feature test cases covered the following 2nd Nature objects:

- Agent Skills
- Agents
- Authorization Codes
- Class of Restriction
- Class of Service
- Coverage Answer Groups
- Coverage Paths
- Dial Plan Analysis
- Hunt Groups
- Pickup Groups
- Remote Call Coverages
- Stations

Note that 2nd Nature only provides access to a subset of the Communication Manager administration objects supported by the System Management Service. Refer to the 2nd Nature documentation for details regarding the supported functionality.

The serviceability testing focused on verifying the ability of the Unimax 2nd Nature application to recover from adverse conditions, such as Ethernet disconnects, power failures, and server reboots.

1.2. Support

Technical support on Unimax 2nd Nature can be obtained through the following:

- **Phone:** (612) 204-3661
- **Web:** <http://www.unimax.com/support/>

2. Reference Configuration

Unimax 2nd Nature was installed on a Windows 2003 Server. 2nd Nature utilized the System Management Service on Avaya Aura™ Application Enablement Services to interface with Avaya Aura™ Communication Manager.

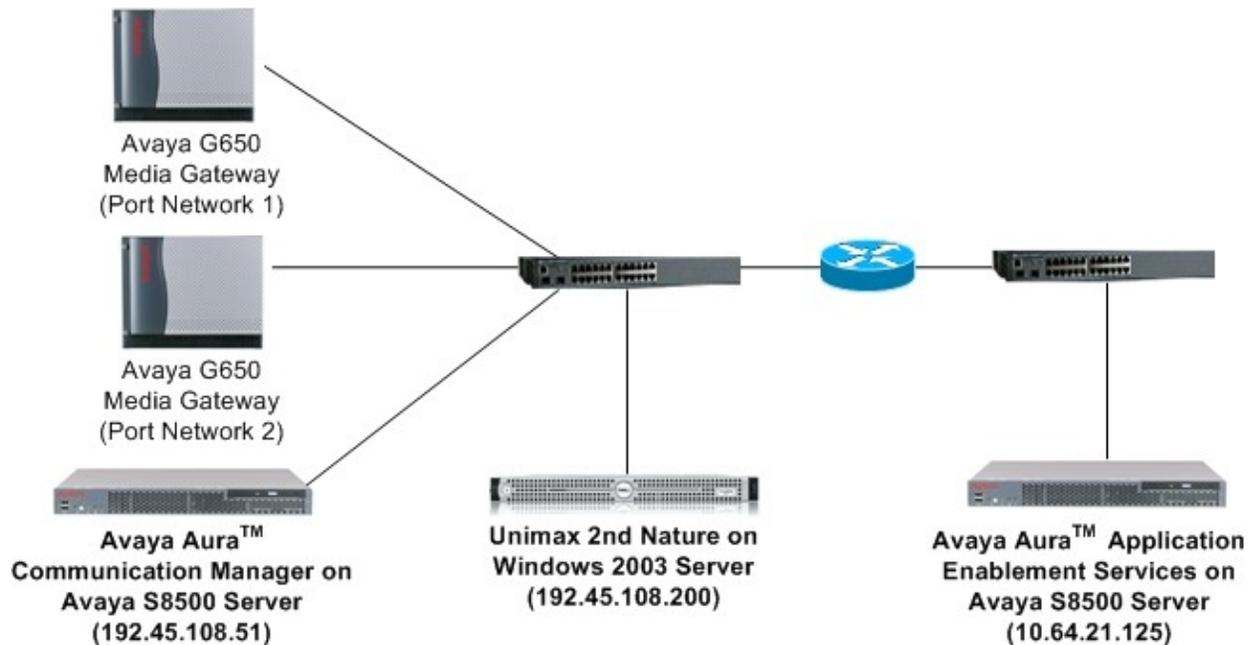


Figure 1: Unimax 2nd Nature with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services

3. Equipment and Software Validated

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

Equipment	Software
Avaya S8500 Server	Avaya Aura™ Application Enablement Services 5.2.1
Avaya S8500 Server	Avaya Aura™ Communication Manager 5.2.1, R015x.02.1.016.4, Update 18433
Avaya G650 Media Gateways <ul style="list-style-type: none">• TN799DP C-LAN Circuit Pack• TN2302AP IP Media Processor• TN2602AP IP Media Processor	HW01 FW024 HW20 FW120 HW02 FW051
Windows 2003 Server	Unimax 2nd Nature Enterprise Edition Version 7.0 G6, Build e1.20100823.2

4. Configure Avaya Aura™ Communication Manager

The Unimax solution utilizes the System Management Service (SMS) on Application Enablement Services to manage objects on Communication Manager. The assumption has been made that the basic configuration of Communication Manager has been completed. The only item that needs to be configured on Communication Manager is an Administrator account. During compliance testing, the default **craft** account was used.

5. Configure Avaya Aura™ Application Enablement Services

This section provides the procedures for configuring Avaya Aura™ Application Enablement Services. The procedures include the following areas:

- Configure SMS Proxy Port Settings
- Configure SMS Properties

Access the OAM web-based interface by using the URL “https://ip-address” in an Internet browser window, where “ip-address” is the IP address of the Application Enablement Services server. Log in using the appropriate credentials.

5.1. Configure SMS Proxy Port Settings

Navigate to **Networking** → **Ports**. By default, Application Enablement Services assigns ports 4101 to 4116 for SMS proxy ports. If required, change the **Proxy Port Min** and **Proxy Port Max** values to port numbers that are appropriate for the desired configuration. SMS can use up to 16 ports. The default values were used during compliance testing.

SMS Proxy Ports

Proxy Port Min	<input type="text" value="4101"/>
Proxy Port Max	<input type="text" value="4116"/>

5.2. Configure SMS Properties

Navigate to **AE Services** → **SMS** → **SMS Properties**. Enter the following values for the specified fields:

- **Default CM Host Address** – Enter the Communication Manager Host Address (e.g. **192.45.108.51**). SMS will attempt to connect to this CM host address, as long as no host address is explicitly specified in the authorization header of a client request. If this field is blank, all SMS requests must explicitly include the target CM host address.

Default values were used for all the remaining fields during compliance testing.

The screenshot shows the configuration interface for SMS Properties. On the left is a navigation tree with 'SMS Properties' selected. The main area contains the following fields:

Default CM Host Address	<input type="text" value="192.45.108.51"/>
Default CM Admin Port	<input type="text" value="5022"/>
CM Connection Protocol	<input type="text" value="SSH"/>
SMS Logging	<input type="text" value="NORMAL"/>
SMS Log Destination	<input type="text" value="apache"/>
CM Proxy Trace Logging	<input type="text" value="NONE"/>
Proxy Log Destination	<input type="text" value="/var/log/avaya/aes/os/"/>
Max Sessions per CM	<input type="text" value="5"/>
Proxy Shutdown Timer (s)	<input type="text" value="1800"/>
SAT Login Keepalive (s)	<input type="text" value="180"/>
CM Security Code Access	<input type="text" value="NONE"/>

At the bottom of the configuration area are three buttons: **Apply Changes**, **Restore Defaults**, and **Cancel**.

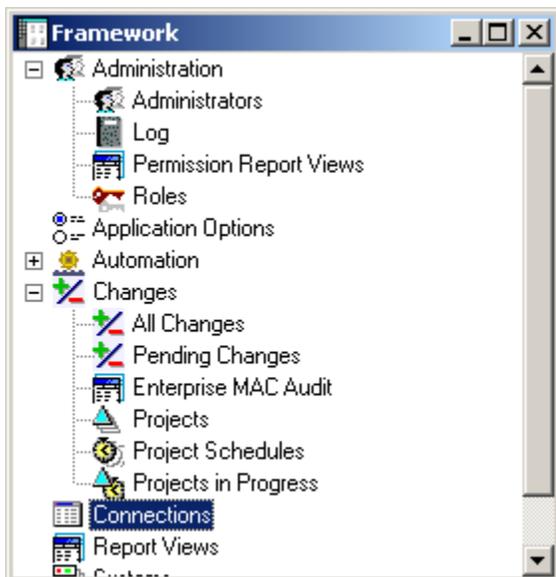
6. Configure Unimax 2nd Nature

This section provides the procedures for configuring Unimax 2nd Nature. The procedures include the following areas:

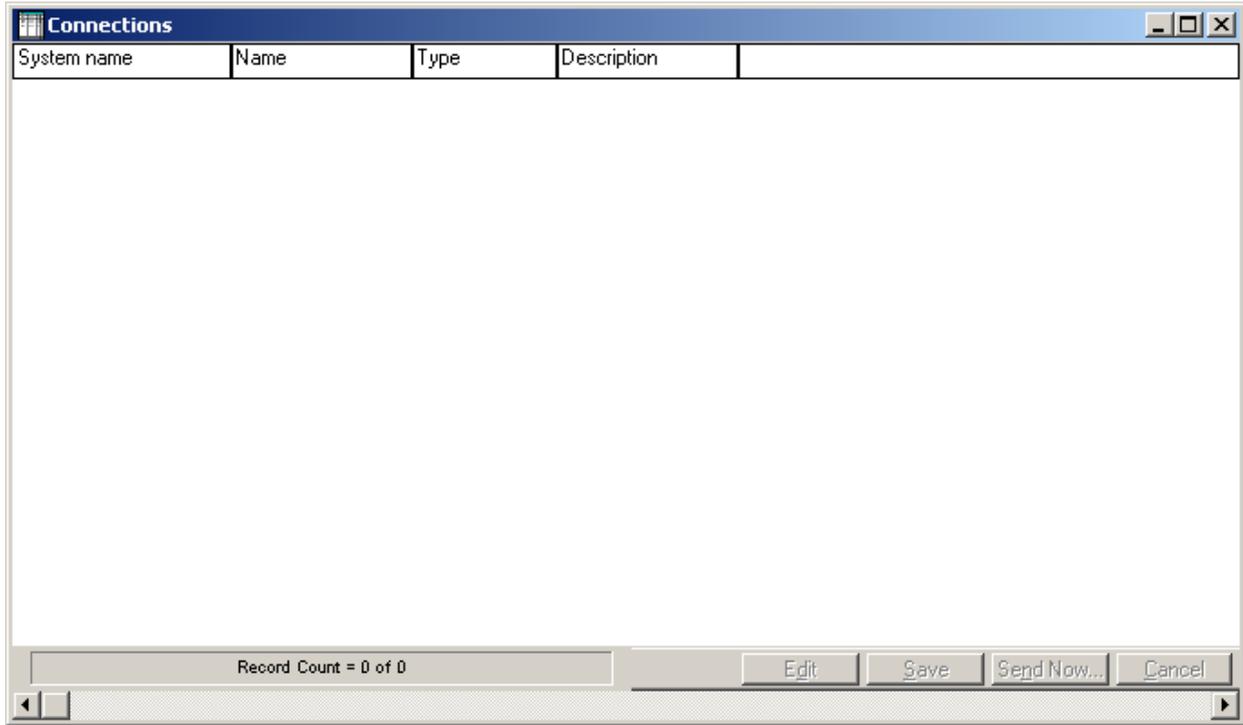
- Administer Connection
- Start Communication Service

6.1. Administer Connection

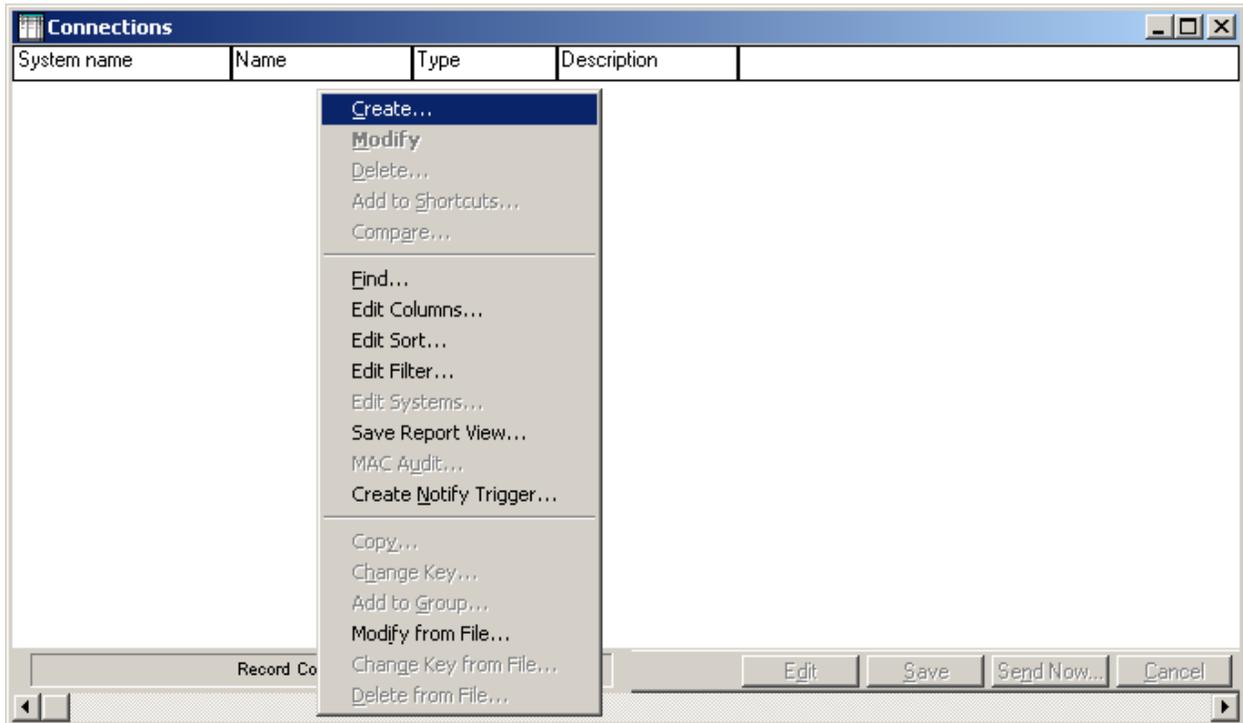
Launch the 2nd Nature application by navigating to **All Programs** → **2nd Nature** → **2nd Nature** from the Start menu. Log in using the appropriate credentials. Within the **Framework** frame, double-click **Connections**.



The **Connections** window is displayed as shown below.



Right click within the window and select **Create**.



Enter a descriptive name in the **System name** field. Click **OK**.

The image shows a dialog box titled "2N Make your selection(s)". At the top, there is a message box that says "Please make your selection(s) and continue". Below this is a table with two columns: "Field" and "Value".

Field	Value
System name*	G650 <input type="button" value="Browse..."/>
Type*	SOAP <input type="button" value="v"/>

At the bottom of the dialog box, there are two buttons: "OK" and "Cancel".

Enter the following values for the specified fields:

- **Communication server:** Enter the computer name of the server hosting the Unimax 2nd Nature application.
- **Host name:** Enter the host name of the Application Enablement Services server
- **Use encryption (SSL/TLS):** Enable this field.
- **Port:** Enter **443**.
- **Username:** Enter *username@<ip address>* where *username* is a Communication Manager administrator account, and *<ip address>* is the IP address of Communication Manager.
- **Password:** Enter the Communication Manager administrator account password.

Default values were used for the remaining fields during compliance testing. Click **Save**.

The screenshot shows a 'Multiple Record Editor' window with a tree view on the left containing 'Connection G650-SOAP (Fran)' and 'User defined fields'. The main area is a table with the following fields and values:

Field	Value
System name*	G650 Browse...
Type*	SOAP
Name*	SOAP
Description	
Communication server*	svctag-dbd0691
Active	<input checked="" type="checkbox"/>
Priority	High
Host name*	mvap
Use encryption (SSL/TLS)	<input checked="" type="checkbox"/>
Port number*	443
Username*	craft@192.45.108.51
Password	XXXXXXXX

At the bottom right of the window are 'Save' and 'Cancel' buttons.

6.2. Start Communication Service

Navigate to **All Programs** → **2nd Nature** → **Communication Service** → **Service Manager** from the Start menu. If the service is not already running (as shown in the bottom left of the screen), click the **Start/Continue** button.



7. General Test Approach and Test Results

7.1. General Test Approach

All test cases were performed manually. Initially, to start the testing, 2nd Nature did a complete download of the data administration objects from Communication Manager to populate its own database. After the data records on Communication Manager and 2nd Nature were in synch, the general test approach was to alter the data (via adds, modifies, and deletes) using various methods to verify that the data stayed in synch between Communication Manager and 2nd Nature.

The administration objects were modified on Communication Manager using both the System Access Terminal (SAT) and Avaya Site Administration (ASA). The 2nd Nature application was used to modify single record objects at a time, multiple records at a time, from a file, and from templates. For each object (e.g. Agents, Hunt Groups, etc.), several parameters were chosen at random to modify. All parameters were not tested.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cables on each server, and powering down/up each server, and rebooting each server to verify proper recovery.

7.2. Test Results

All test cases executed passed with two exceptions.

1. Data related to the Agent Skills objects on 2nd Nature did not stay in synch with the actual data on Communication Manager as various changes were made. This issue is tracked by Unimax with PR#43587.
2. Templates could not be used with 2nd Nature to add H.323 and SIP stations. The 2nd Nature template required a port to be entered for the IP phone; however, the port is not manually entered on Communication Manager. The port field on Communication Manager is automatically filled in once an IP phone type is selected.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of the System Management Service.

8.1. Verify SMS

Navigate to `https://<ip address>/sms/sms_test.php`, where `<ip address>` is the IP address of the Application Enablement Services server. The Web Service Request Form is displayed as shown in the screen below. Enter the **Username** and **Password** configured in **Section 6.1** for the **CM Login ID** and **Password**, respectively. Fill in appropriate **Request Parameters** for the configuration and click the **Submit Request** button. In this example, a request was sent to display station 20000.

The screenshot shows the Avaya String Based - Web Service Request Form. The interface is divided into several sections:

- SMS Resources:** A sidebar on the left containing links for [Model Documentation](#), [Model Doc \(No-Frames\)](#), and [SMS WSDL](#).
- Connection Information:** Fields for CM Login ID (craft@192.45.108.51), Password (masked with dots), SMS Host (https://10.64.21.125), and SOAP Request Timeout (Seconds) (30).
- Request Parameters:** Fields for Model (Station), Operation (display), Objectname, Qualifier (20000), and a Fields section with a text area containing an asterisk.
- Session Recording:** Checkboxes for Record SMS Request and Record Result Data, along with Get Record and Clear Record buttons.
- Submit Request:** A Submit Request button and a Release button.
- Last Request Response:** A Session ID field with a Duplicate Session link and a large text area for the Response.

Verify that a response is populated into the **Response** box and that **var \$result_code = 0**.

The screenshot shows the Avaya String Based - Web Service Request Form. The interface is divided into several sections:

- SMS Resources:** Includes links for Model Documentation, Model Doc (No-Frames), and SMS WSDL.
- Connection Information:** Fields for CM Login ID (craft@192.45.108.51), Password (masked), SMS Host (https://10.64.21.125), and SOAP Request Timeout (30 seconds).
- Request Parameters:** Fields for Model (Station), Operation (display), Objectname, Qualifier (20000), and Fields (containing an asterisk).
- Session Recording:** Checkboxes for Record SMS Request and Record Result Data, with Get Record and Clear Record buttons.
- Last Request Response:** A Session ID field (7916d8fb6cf013957ccc2301562bc90e) and a Duplicate Session link.
- Response:** A text area displaying the following XML response:

```
Response {
  var $result_code = 0
  var $result_data = 'Extension=20000|Type=2500|Port=01A0501|Name=Fax
1|Coverage_Path_1=|Coverage_Path_2=|Hunt_to_Station=|COR=1|COS=1|Room=|Jack=|Ca
ble=|Lock_Messages=n|Security_Code=|TN=1|LWC_Reception=spe|LWC_Activation=y|CDR
_Privacy=n|Redirect_Notification=y|Per_Button_Ring_Control=n|Bridged_Call_Alert
ing=n|H320_Conversion=n|IP_Audio_Hairpinning=n|Direct_IP_IP_Audio_Connections=y
|Loss_Group=1|Coverage_After_Forwarding=s|Emergency_Location_Ext=20000|LWC_Log
```

9. Conclusion

These Application Notes describe the configuration steps required for Unimax 2nd Nature to successfully interoperate with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services. All feature and serviceability test cases executed passed with the exception of those noted in **Section 7.2**.

10. Additional References

This section references the product documentation relevant to these Application Notes.

1. *Administering Avaya Aura™ Communication Manager*, Document 03-300509, Issue 5.0, Release 5.2, May 2009, available at <http://support.avaya.com>
2. *Avaya Aura™ Application Enablement Services Administration and Maintenance Guide*, Document 02-300357, Issue 11, Release 5.2, November 2009, available at <http://support.avaya.com>

The following Unimax documentation is included with the installation of 2nd Nature:

3. *Unimax 2nd Nature Avaya Communication Manager User Guide*, Release 7.0
4. *Unimax 2nd Nature Installation Guide*, Release 7.0
5. *Unimax 2nd Nature Framework User Guide*, Release 7.0

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