



## Avaya Solution & Interoperability Test Lab

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# Application Notes for LiteScape CallTrack PRO with Multi-modal Application Platform in an Avaya IP Telephony environment - Issue 1.0

### Abstract

These Application Notes describe a compliance-tested configuration comprised of LiteScape CallTrack PRO utilizing LiteScape Multi-modal Application Platform, various Avaya IP Telephones, Avaya Communication Manager, and Avaya Application Enablement Services. LiteScape's suite of software applications is built on the company's Multi-modal Applications Platform. LiteScape Multi-modal Application Platform enables real-time management of interactive multi-modal sessions over a converged network. For this compliance test, the CallTrack PRO for Professional Services application was tested and verified.

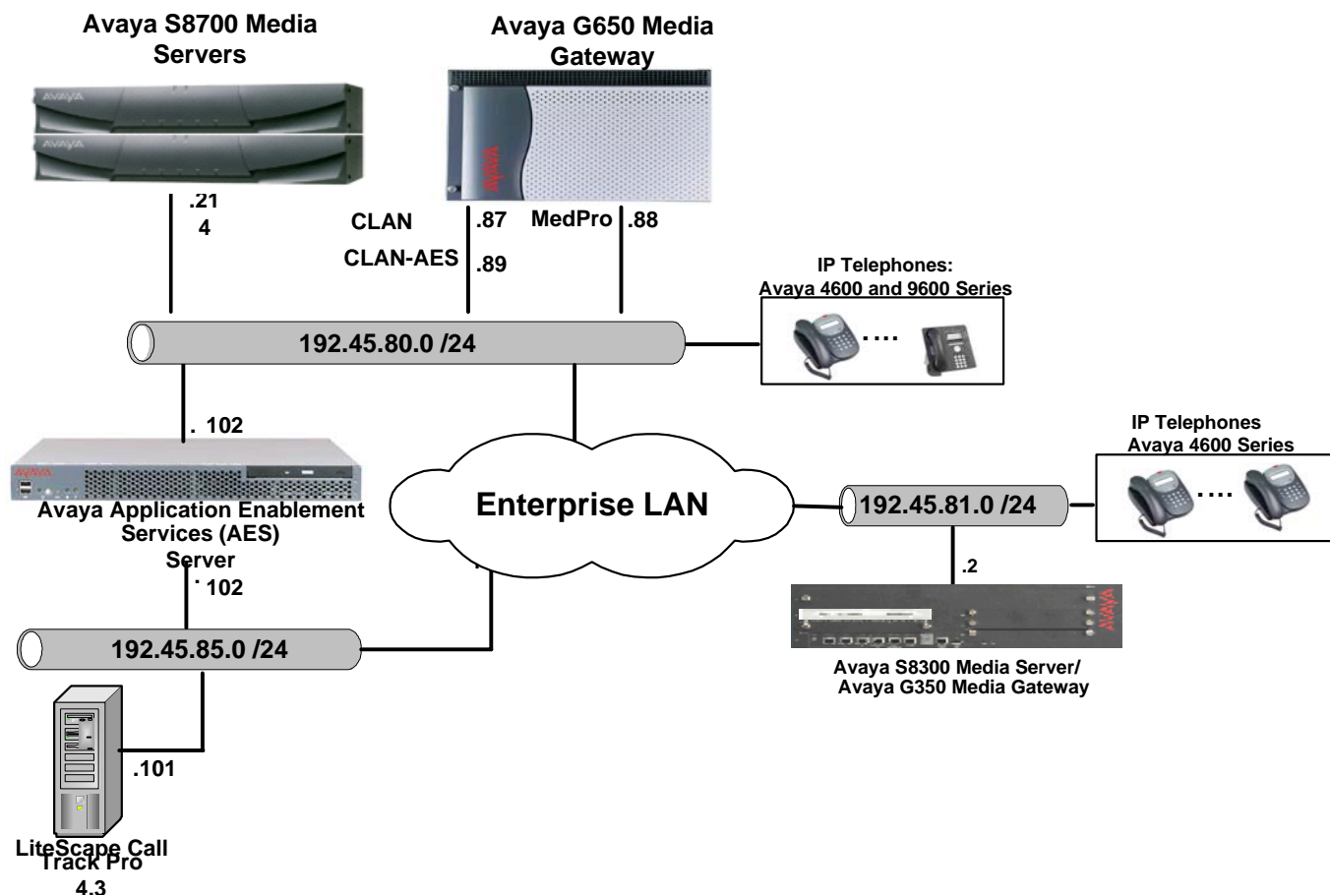
Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

These Application Notes describe a compliance-tested configuration comprised of LiteScape CallTrack PRO utilizing LiteScape Multi-modal Application Platform (MAP), various Avaya IP Telephones, Avaya Communication Manager, and Avaya Application Enablement Services (AES). LiteScape's suite of software applications is built on the Multi-modal Applications Platform (MAP). The MAP enables real-time management of interactive multi-modal sessions over a converged network. Such sessions are comprised of voice, data, and image streams that can be coordinated and simultaneously delivered to users with IP telephones and IP smart devices. For this compliance test, the CallTrack PRO for Professional Services application was verified. Other applications using the same interfaces on Avaya can be configured on LiteScape MAP 4.3.

LiteScape CallTrack PRO authenticates and tracks calls tied to client matter or project codes to eliminate manual reconciliation of call reports afterwards. It provides a simple way for tracking calls for billing to a project. A client code and matter code can be associated to each outgoing call. At the end of the billing period, a report is generated based on customizable parameters that can be used in the billing process. The CallTrack PRO is an application built on top of LiteScape Multi-modal Application Platform (MAP).

**Figure 1** illustrates the network configuration used to verify the LiteScape solution. The configuration details provided in these Application Notes focused on the interfaces between Avaya Communication Manager, LiteScape CallTrack PRO, and Avaya IP Telephones.



**Figure 1. Test configuration of the LiteScape CallTrack PRO with Avaya IP Telephones**

## 2. Equipment and Software Validated

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

Equipment		Software
Avaya S8700 Media Server		Avaya Communication Manager 3.1.2 (R013x.01.2.632.1)
Avaya G650 Media Gateway		
	TN2312BP IP Server Interface	HW11 FW030
	TN799DP C-LAN Interface	HW20 FW017
	TN2302AP IP Media Processor	HW01 FW108
	TN2602AP IP Media Processor	HW02 FW007
Avaya S8300 Media Server		Avaya Communication Manager 3.1.2 (R013x.01.2.632.1)
Avaya G350 Media Gateway		25.28.0

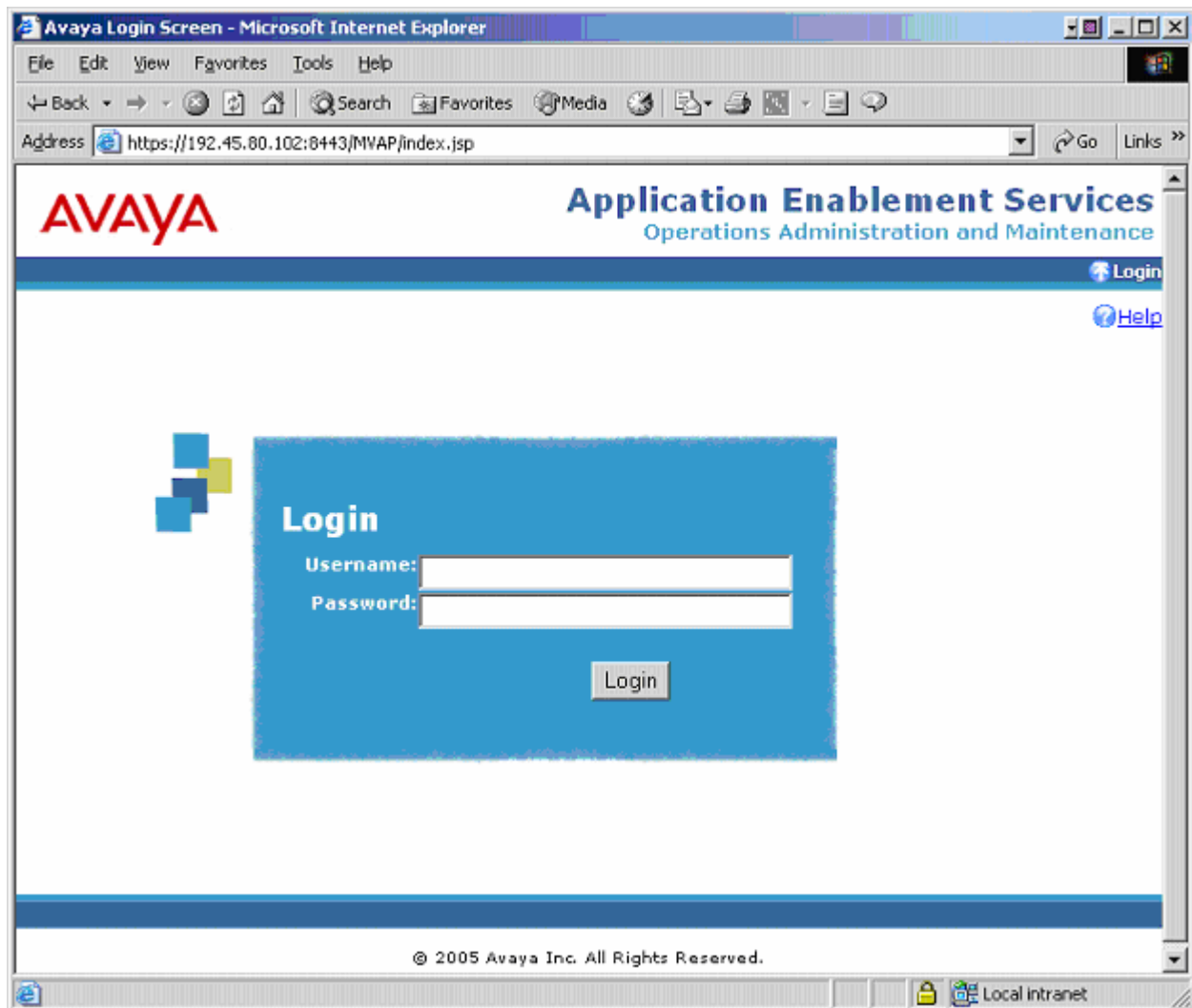
Equipment		Software
Avaya Application Enablement Services (AES) Server		3.1 Bundled Offer Build 33.1
Avaya 4600 Series IP Telephones		
	4620	2.6 (H.323)
	4621	2.6 (H.323)
	4625	2.5 (H.323)
Avaya 9600 Series IP Telephones		
	9620	1.1
	9630	1.1
Avaya C363T-PWR Converged Stackable Switch		4.5.14
Extreme Summit 48		4.1.21
LiteScape CallTrack PRO with LiteScape Multi-modal Application Platform (MAP)		4.3

### 3. Configure Avaya Application Enablement Services (AES)

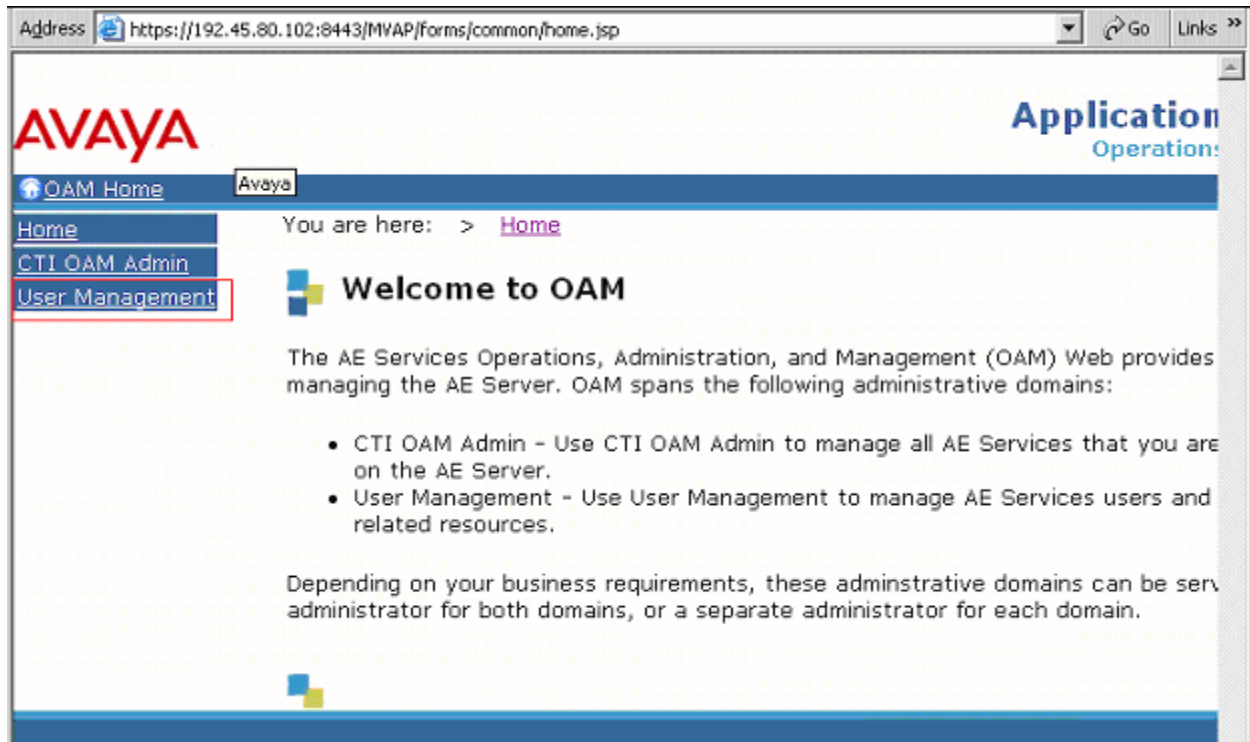
LiteScope CallTrack PRO utilizes Avaya Application Enablement Services (AES) server's CTI applications to invoke real-time services such as placing the call and coordinates with Avaya Communication Manager to reconcile CDR.

This section assumes that installation and basic administration of the Avaya Application Enablement Services server has been performed. Refer [2] for further guidance. The steps in this section describe the configuration of a TSAPI CTI user for the LiteScope MAP and a TSAPI port.

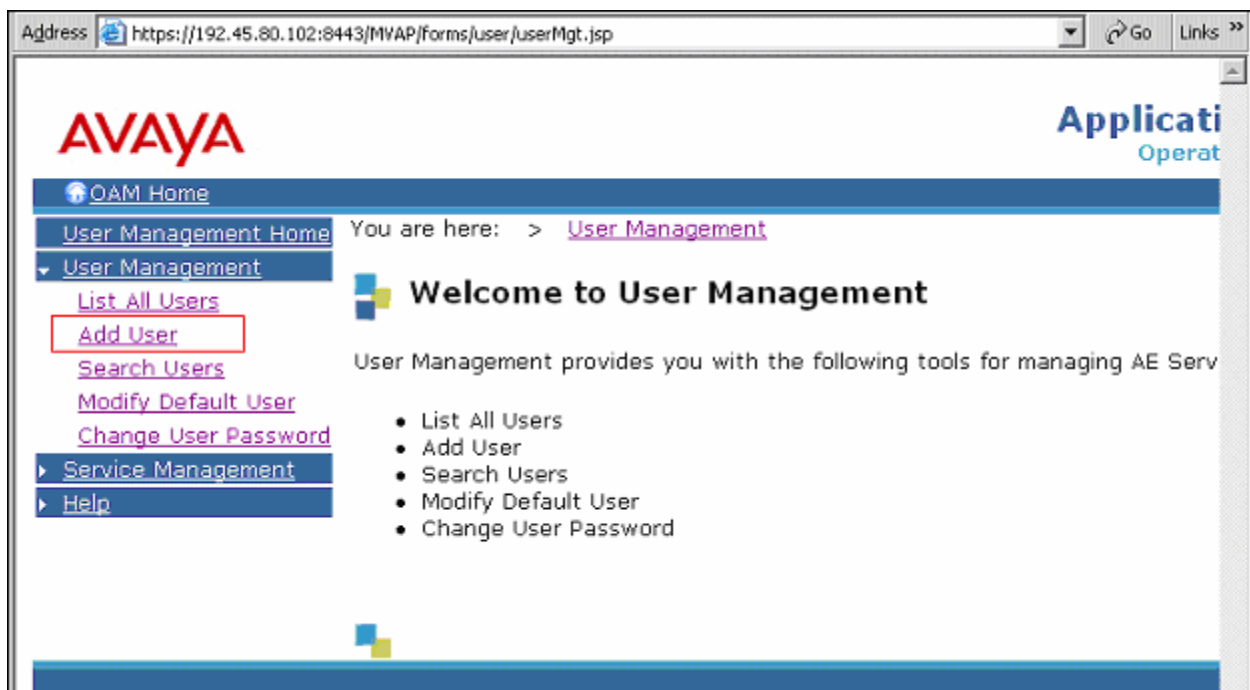
Launch a web browser, enter <https://<IP address of AES server>:8443/MVAP> in the URL, and log in with the appropriate credentials for accessing the OAM Home page.



Click on **User Management** in the left pane to configure a CMAPI user for the MAP server.



Click on **User Management** → **Add User** in the left pane to add a CMAPI user.



From the “Add User” page, provide a User ID, Common Name, Surname and User password to create a CMAPI user. The asterisk indicates that this is a required field. Set the CT User field to **Yes** to indicate that the user is CTI call control enabled and is a member of the CTI OAM Security Database. After the completion, click the **Apply** button (not shown) at the bottom of the screen.

Address: <https://192.45.80.102:8443/MVAP/action/user/precreateuser.do>

**AVAYA** Application Enablement Operations Administrator

[OAM Home](#) [User Management Home](#) You are here: > [User Management](#) > [Add User](#)

**Add User**

Fields marked with \* can not be empty.

\* User Id

\* Common Name

\* Surname

\* User Password

\* Confirm Password

Admin Note

Avaya Role

Business Category

Car License

CM Home

Cms Home

CT User

Navigate to the **OAM Home** → **CTI OAM Home** → **Administration** → **Ports** page. The following screen shows the default values on the TSAPI Server Ports field. During the compliance test, the default TSAPI Port value was utilized.

**AVAYA** Application Enablement Operations Administration

[OAM Home](#)

[CTI OAM Home](#)

[Administration](#)

[Local IP](#)

[Ports](#)

[Switch Connections](#)

[CTI Link Admin](#)

[CMAPI Configuration](#)

[TSAPI Configuration](#)

[Security Database](#)

[Status and Control](#)

[Maintenance](#)

[Alarms](#)

[Logs](#)

[Utilities](#)

[Help](#)

You are here: > [Administration](#) > [Ports](#)

### Ports

Port Type	Port Value
CVLAN Port	TCP Port 9999
DLG Port	TCP Port 5678
TSAPI Port	TCP Port 450
CSTA Tlinks Port	TCP Port Min 1050 TCP Port Max 1065
CMAPI Server Ports	Unencrypted Port 4721 Encrypted Port 4722

Enabled Disabled



Navigate to the **OAM Home** → **CTI OAM Home** → **Administration** → **Security Database** → **CTI Users** → **List All Users** page. This page should show all CTI users. Select a CTI user from the “CTI Users” page.

Click the **Edit** button to configure permissions for the user.

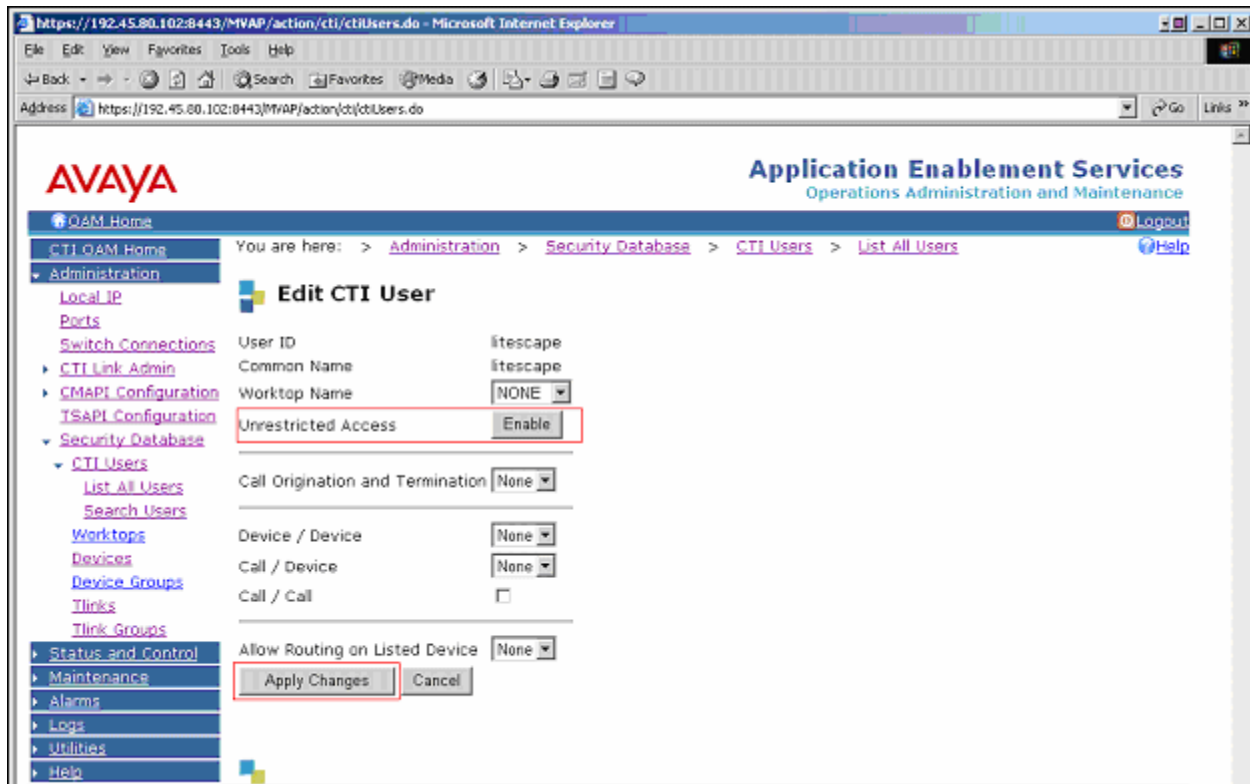
The screenshot shows a web browser window with the URL `https://192.45.80.102:8443/MVAP/forms/cti/listCtiUsers.jsp`. The page title is "AVAYA Application Enablement Operations Administration". The breadcrumb trail is "You are here: > Administration > Security Database > CTI Users > List All Users". The left sidebar contains a navigation menu with the following items: OAM Home, CTI OAM Home, Administration (expanded), Local IP, Ports, Switch Connections, CTI Link Admin, CMAPI Configuration, TSAPI Configuration, Security Database (expanded), CTI Users (expanded), List All Users, Search Users, Worktops, Devices, Device Groups, Tlinks, Tlink Groups, Status and Control, Maintenance, Alarms, Logs, Utilities, and Help. The main content area is titled "CTI Users" and displays a table with the following data:

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

Below the table, there are two buttons: "Edit" and "List All". The "Edit" button is highlighted with a red box.

For the compliance test, the CTI user was given un-restricted permission.  
From the “Edit CTI User” page, click the **Enable** button for the Unrestricted Access field.

Click the **Apply Changes** button to complete the CTI user configuration.



## 4. Configure the Avaya 4600 Series IP Telephones

The following steps describe the registration process of an Avaya 4600 Series IP Telephone. To configure the Avaya IP Telephone, the following should be configured in the DHCP Server:

- DHCP IP address range/Network Subnet Mask
- Default Gateway of the network
- Create Avaya Option 176, and provide the following info:
  - Call Server IP address (CLAN for the S8700 Media Server/”proc” for S8300 Media Server)
  - Call Server Port Number (1719)
  - File server (TFTP Server)

As Avaya IP Telephone boots up, the telephone contacts the DHCP Server and obtains the following information:

- IP address of the IP Telephone / Network Subnet Mask
- Default Gateway of the IP Telephone
- Call Server IP address (CLAN/”proc”)
- Call Server Port Number (1719)

- File server IP Address

For the Avaya IP Telephone to register to LiteScape Multi-modal Application Platform (MAP), add the following line to the 46xxsetting.txt file for the IP Telephone type.

**SET WMLHOME http://<MAP server IP Address>:8080/acs/callTrackPro.do?mode=default**

The next screen shows the Web setting for Avaya 4620 IP Telephone type. Add the above setting for each phone type that will be tested.

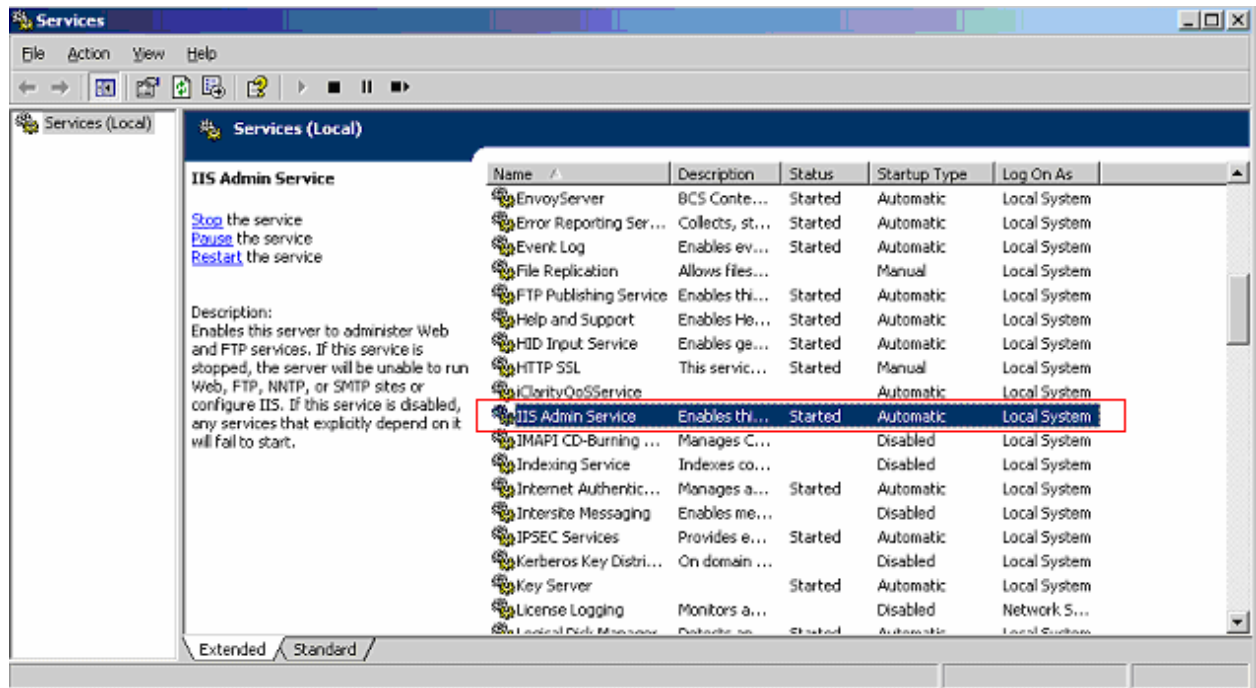
```
.
.
.
#####
#
# SETTINGS4620
#
#####
##
## This section contains the phone model specific settings
## for the 4620 telephone.
##
## The WMLHOME setting is used to enable and
## administer the 'Web' Application.
##
## NOTE:
##   Avaya hosts a web site for IP Phones.
##   The WMLHOME parameter is set up
##   to point your IP telephones to this hosted site.
##   To enable access to this site, remove the "## "
##   from the SET WMLHOME ... line.
##   To change the web site that your phones point to,
##   replace the provided URL in the SET WMLHOME .. line
##   with the URL of your site.
##
## SET WMLHOME http://support.avaya.com/elmodocs2/avayaip/4620/home.wml
## SET WMLHOME http://support.avaya.com/elmodocs2/avayaip/4620/home.wml
## SET WMLCODING ASCII
SET WMLHOME http://192.45.85.101:8080/acs/callTrackPro.do?mode=default
##
goto END
##### END OF 4620 IP Phone Settings #####
.
.
.
```

When an IP Telephone completes the initialization process, a Web button menu will be added on the Avaya IP Telephone screen.

## 5. Configure the Avaya 9600 Series IP Telephones

The configuration of the Avaya 9620 and 9630 IP Telephones are performed manually, utilizing Internet Information Services (IIS). The following is steps to register Avaya 9600 series IP Telephone to the MAP server:

- Enable the IIS manager – Navigate to Windows **Start** → **Administrative Tool** → **Services**. Enable **IIS Admin Service**. This process will enable the Web service.



- Navigate to the **C:\Inetpub\wwwroot** directory. Download the latest firmware, 96xx\_H323\_82506.zip, for the Avaya 9600 Series IP Telephone type. Unzip the file and populate it in this directory. During the IP telephone's boot process, two files (96xxupgrade.txt and 46xxsettings.txt) were utilized.

The following screen shows the content of the "96xxupgrade.txt" file. At the end of the program it calls for 46xxsettings.txt file.

```
#####
##
## AVAYA 96XX IP TELEPHONE SOFTWARE UPGRADE CONFIGURATION ##
##          *** August 25, 2006 ***          ##
##
## This file upgrades the following telephones ##
## to the indicated releases:                ##
##    9620 - GA Release 1.1                  ##
##    9630 - GA Release 1.1                  ##
#####
##
## BACKUP APPLICATION VERSION NUMBERS        ##
##    96xx - 110                             ##
##
#####
##
## PHONE APPLICATION VERSION NUMBERS         ##
##    9620 - 110                             ##
##    9630 - 110                             ##
##
#####

#####
##          Check backup application version  ##
#####

IF $MODEL4 SEQ 9620 goto BACKUPAPP96XX
IF $MODEL4 SEQ 9630 goto BACKUPAPP96XX
goto END

# BACKUPAPP96XX
IF $BOOTNAME SEQ hb96xxd110.bin goto PHONEAPP96XX
SET APPNAME hb96xxd110.bin
goto GETSET

#####
##          Check phone application version   ##
#####

# PHONEAPP96XX
SET APPNAME ha96xxd110.bin
goto GETSET

#####
##          Get additional configuration files ##
#####

# GETSET
GET 46xxsettings.txt

# END
```

- Reboot Avaya 9620 and 9630 IP Telephones to register with the MAP server. During the boot process, a user has to provide the following information:
  - IP address of the IP Telephone
  - Call Server IP address (CLAN/”proc”)
  - Default Gateway of the IP Telephone
  - Network Subnet Mask
  - File server IP Address (Web server)
- After the reboot is completed, the **Web** button should be visible on the IP telephone screen.

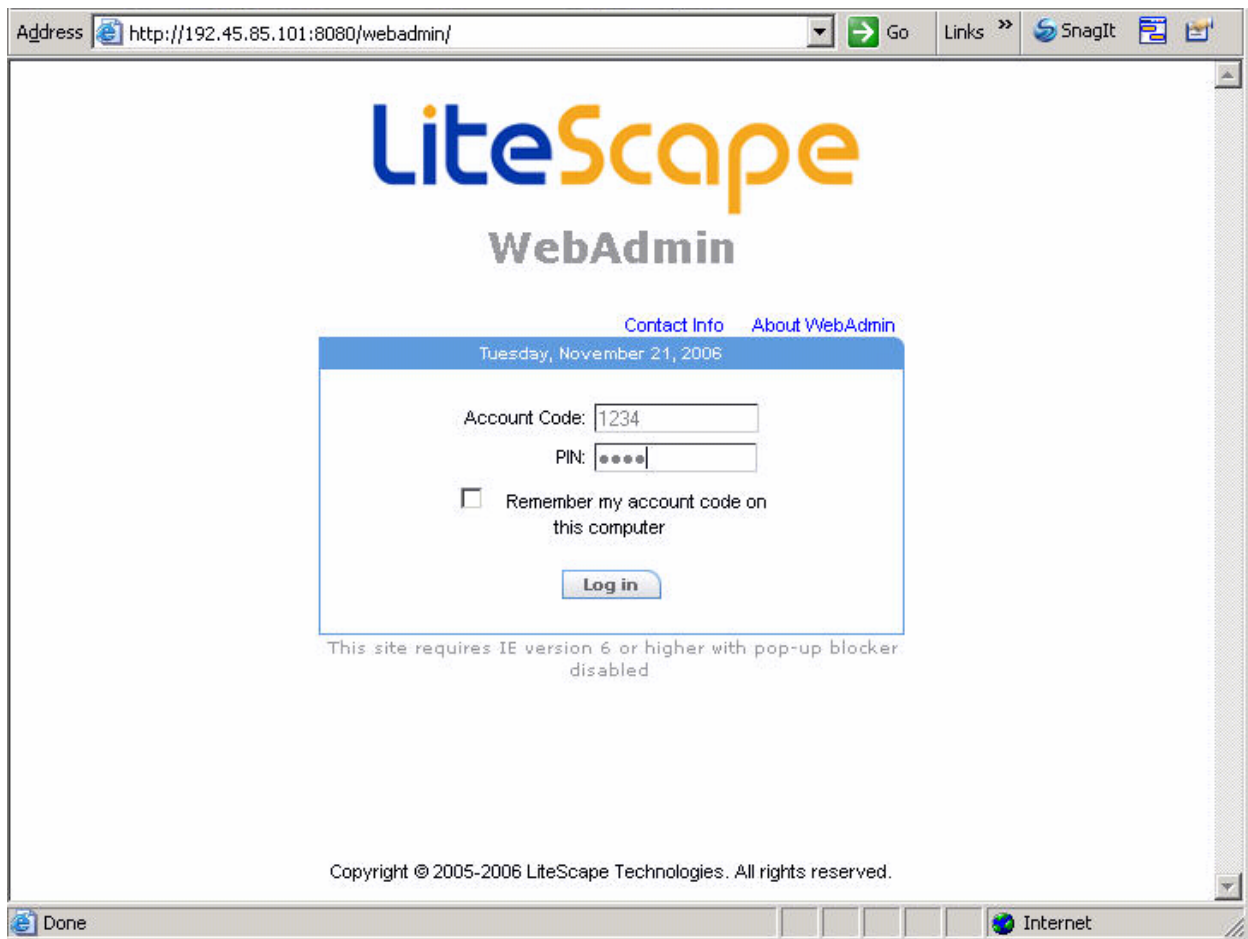
## 6. Configure LiteScape CallTrack PRO

The configuration of LiteScape CallTrack PRO consists of the following tasks:

- IP Telephony server
- IP Telephony Provider
- MAP server
- CallTrack PRO Application

### 6.1. Configure IP Telephony Server

The steps in this section describe the initial configuration of the LiteScape IP Telephony server. Launch a web browser by entering **https://<IP address of the MAP server>:8080/webadmin** in the URL. Log in with the appropriate credentials to access the **LiteScape WebAdmin** page.



From the “WebAdmin” page, click on the **IP Telephony Server → Create** link in the left pane of the screen to start configuring for the Avaya S8700 Media Server interface. Provide the following information:

- Using the drop down menu, select **Avaya** for the vendor field.
- Using the drop down menu, select **Avaya Communication Manager** for the Telephony Server Type field.

Click on the **Next** button.

The screenshot displays the LiteScope WebAdmin interface. The top header features the 'LiteScope WebAdmin' logo and navigation links for 'HELP', 'ABOUT', and 'CONTACT'. Below the header, a breadcrumb trail shows 'Home' → 'IP Telephony Servers' → 'Create New IP Telephony Server'. The left sidebar contains a date 'Wednesday, December 06, 2006' and a user profile section for 'LSAdmin LSAdmin' with 'My Profile' and 'Log out' buttons. The sidebar also lists various system components like 'Services', 'Enterprise Information', 'Configure Services', and 'System Configuration', with 'IP Telephony Servers' currently selected. The main content area displays a welcome message: 'Welcome to the New IP Telephony Server Configuration Page. Please start by selecting a Vendor and an IP Telephony Server Type below.' Below this message are two dropdown menus: 'Vendor' set to 'Avaya' and 'IP Telephony Server Type' set to 'Avaya Communication Manager'. At the bottom of the form are 'Cancel' and 'Next' buttons, with the 'Next' button highlighted by a red rectangular box.



From the “IP Telephony Server Profile” page, create a telephony server profile by providing the following information:

- Name – a descriptive name for the Telephony server profile
- Communication Manager IP Address – IP address of Avaya S8700 Media Server
- Management Host IP Address – IP address of Avaya S8700 Media Server
- Media Gateway IP address – IP address of the CLAN board
- Admin Login – Login ID for Avaya S8700 Media Server
- Admin Password – Password for Avaya S8700 Media Server

Click on the **Save As New** button to complete the initial configuration of the IP Telephony Server.

The screenshot displays the LiteScape WebAdmin interface for configuring an IP Telephony Server Profile. The breadcrumb trail indicates the path: Home > IP Telephony Servers > IP Telephony Server Profile. The main form area contains the following fields and controls:

- Vendor:** Avaya
- IP Telephony Server Type:** Avaya Communication Manager
- Name:** Avaya Cert (marked as a required property)
- Device Query Interval:** 10 minutes
- Communication Manager IP Address:** 192.45.80.214
- Management Host IP Address:** 192.45.80.214
- Media Gateway IP Address:** 192.45.80.87
- E-mail Notification:** (empty field)
- Admin Login:** craft
- Admin Password:** (masked with dots)

Below the form fields, there are tabs for **Soft Phones**, **IP Telephony Providers**, **Devices**, and **Extensions**. The **Soft Phones** tab is active, showing a table with columns for #, Name, and Delete All. Below the table is a button labeled **Add Soft Phone Range**.

At the bottom of the form, there are four buttons: **Save**, **Reset**, **Delete**, and **Save As New**. The **Save As New** button is highlighted with a red box.

The next step needs to be executed after an IP Telephony Provider is created in section 6.2. Click the **IP Telephony Providers** button from the IP Telephony Server Profile page. Select **AvayaCert (Soft phone Associations)** from the Available IP Telephony Providers list.

Click on the **Save** button.

The screenshot shows the LiteScope WebAdmin interface. The top navigation bar includes links for HELP, ABOUT, and CONTACT. The breadcrumb trail indicates the current location: Home > IP Telephony Servers > IP Telephony Server Profile: Avaya Cert. The left sidebar contains a menu with categories like Services, Enterprise Information, Configure Services, and System Configuration. The main content area is titled "IP Telephony Server Profile: Avaya Cert" and contains various configuration fields. The "IP Telephony Providers" tab is selected, showing a list of available providers. The "AvayaCert (Soft Phone Associations)" provider is selected with a checkbox. The "Save" button is highlighted with a red box.

LiteScope WebAdmin

Wednesday, December 06, 2006

LSAdmin LSAdmin

My Profile Log out

Services

- Reports >>
- Broadcast >>
- Device Monitor >>

Enterprise Information

- Organizations >>
- Departments >>
- Users >>
- Locations >>
- Rooms >>
- Devices >>

Configure Services

- Dialing Permissions >>
- Roles & Permissions >>
- Groups >>

System Configuration

- Access Strings >>
- IP Telephony Servers >>
- IP Telephony Providers >>
- MAP Servers >>

IP Telephony Server Profile: Avaya Cert

Vendor: Avaya

IP Telephony Server Type: Avaya Communication Manager

Name: \* Avaya Cert

Device Query Interval: \* 10 minutes

Communication Manager IP Address: \* 192.45.80.214

Management Host IP Address: \* 192.45.80.214

Media Gateway IP Address: \* 192.45.80.87

E-mail Notification:

Admin Login: \* craft

Admin Password: \* .....

Soft Phones IP Telephony Providers Devices Extensions

Help

Check the IP Telephony Provider(s) that you would like to associate with this IP Telephony Server.

	Available IP Telephony Providers
<input checked="" type="checkbox"/>	AvayaCert (Soft Phone Associations)

Save Reset Delete Save As New

The following screen shows the discovered VoIP endpoints. Devices are added using auto-discovery. MAP will collect this information directly from Avaya Communication Manager.

Configure Services

Dialing Permissions >>

Roles & Permissions >>

Groups >>

System Configuration

Access Strings >>

IP Telephony Servers >>

IP Telephony Providers >>

MAP Servers >>

Media Servers >>

Time Zones

WebAdmin Settings

Soft Phones

IP Telephony Providers

Devices

Extensions

Associate new Paging Zone devices

Search Criteria

☐ Select All

☐ Extension: contains

☐ MAC Address: contains

☐ IP Address: contains

☐ Phone Model: Select an entry

☐ Phone Status: Select an entry

☐ First Name: contains

☐ Last Name: contains

☐ Room Name: contains

Search

Reset

Total number of records found: 5

#	MAC Address	IP Address	Has Screen	Support Multicast	Phone Model
1	00040D4C1B23	192.45.80.113	Y	Y	Avaya 4620
2	00040D51011E	192.45.80.111	Y	Y	Avaya 4625
3	00040D9BC396	192.45.80.110	Y	Y	Avaya 4620
4	00040DEC4F94	192.45.80.114	Y	Y	Avaya 4620
5	00040DEC8CA	192.45.80.115	Y	Y	Avaya 4620

Save

Reset

Delete

Save As New

Move the mouse over each device record to view the list of associated extensions.

Line

Extension

## 6.2. Configure IP Telephony Provider

From the “WebAdmin” page, click the **IP Telephony Provider → Create** link in the left pane of the screen to start configure the Avaya Application Enablement Services (AES) server interface. Provide the following information:

- Using the drop down menu, select **Avaya Communication Manager** for the IP Telephony Server Type field.
- Using the drop down menu, select **Avaya CT/CMAPI** for the Telephony Provider Type field.

Click on the **Next** button.

The screenshot shows the LiteScape WebAdmin interface. The top header includes the LiteScape logo, the text 'WebAdmin', and navigation links: 'Home', 'IP Telephony Providers', and 'Create New IP Telephony Provider'. The left sidebar contains a navigation menu with sections: 'Services' (Reports, Broadcast, Device Monitor), 'Enterprise Information' (Organizations, Departments, Users, Locations, Rooms, Devices), 'Configure Services' (Dialing Permissions, Roles & Permissions, Groups), and 'System Configuration' (Access Strings, IP Telephony Servers, IP Telephony Providers, MAP Servers, Media Servers, Time Zones, WebAdmin Settings). The main content area displays a welcome message: 'Welcome to the New IP Telephony Provider Configuration Page. Please start by selecting the IP Telephony Server and Provider Types below.' Below this message are two dropdown menus: 'IP Telephony Server Type' set to 'Avaya Communication Manager' and 'IP Telephony Provider Type' set to 'Avaya CT/CMAPI'. At the bottom of the form are 'Cancel' and 'Next' buttons. A progress indicator at the top right shows '1' of 2 steps.

From the “IP Telephony Provider Profile” page, create a telephony provider profile by providing the following information:

- Provider Name – a descriptive name for the Avaya AES server
- Provider Role – select **Primary** using the drop down menu
- CT Server Host – IP address of Avaya AES server
- CT Server Port – This port setting has to match with the TSAPI port setting in Section3.
- CT Server Login – TSAPI user for the Avaya AES server
- CT Server Password – TSAPI password for Avaya AES server

Click on the Save As New button to complete the initial configuration of the IP Telephony Provider.

The screenshot displays the LiteScope WebAdmin interface for configuring an IP Telephony Provider Profile. The page title is "IP Telephony Provider Profile". The left sidebar contains navigation links such as "Reports", "Broadcast", "Device Monitor", "Enterprise Information", "Configure Services", and "System Configuration". The main configuration area includes the following fields:

- IP Telephony Server Type: Avaya Communication Manager
- IP Telephony Provider Type: Avaya CT/CMAPI
- Provider Name: \* (required) [AvayaCert]
- Provider Role: \* (required) [primary]
- Backup Provider: [ ]
- Max Reconnect Attempts: [5]
- Reconnect Timeout: [20] seconds
- CT Server Host: \* (required) [192.45.85.102]
- CT Server Port: \* (required) [450]
- CT Server Login: \* (required) [litescope]
- CT Server Password: \* (required) [ ]
- CMAPI Server Host: \* (required) [192.45.85.102]
- CMAPI Server Port: \* (required) [4721]
- CMAPI Server Login: \* (required) [litescope]
- CMAPI Server Password: \* (required) [ ]

Below the configuration fields, there is a section for "IP Telephony Server & Soft Phones" and "MAP Configurations". The "IP Telephony Server" dropdown is set to "Avaya Cert". A message states: "No Soft Phone configuration was found for the selected IP Telephony Server. Soft Phones can be configured from the profile page of the intended IP Telephony Server." At the bottom, there are buttons for "Save", "Reset", "Delete", and "Save As New" (highlighted with a red box).

The next step needs to be executed after an IP Telephony Provider is created in section 6.1. From the “IP Telephony Provider Profile” page, click on the **IP Telephony Server & Softphones** tab. Using the drop down menu, select **Avaya Cert** for the IP Telephony Server field.

**LiteScope WebAdmin**

HELP ABOUT CONTACT

Home IP Telephony Providers IP Telephony Provider Profile:

Tuesday, November 21, 2006

LSAdmin LSAdmin

My Profile Log out

**Services**

- Reports >>
- Broadcast >>
- Device Monitor >>

**Enterprise Information**

- Organizations >>
- Departments >>
- Users >>
- Locations >>
- Rooms >>
- Devices >>

**Configure Services**

- Dialing Permissions >>
- Roles & Permissions >>
- Groups >>

**System Configuration**

- Access Strings >>
- IP Telephony Servers >>
- IP Telephony Providers >>**
- MAP Servers >>
- Media Servers >>

**IP Telephony Provider Profile:**

\* required properties

IP Telephony Server Type: Avaya Communication Manager

IP Telephony Provider Type: Avaya CT/CMAPI

Provider Name: \* AvayaCert

Provider Role: \* primary

Backup Provider:

Max Reconnect Attempts: 5

Reconnect Timeout: 20 seconds

CT Server Host: \* 192.45.85.102 CMAPI Server Host: \* 192.45.85.102

CT Server Port: \* 450 CMAPI Server Port: \* 4721

CT Server Login: \* litescape CMAPI Server Login: \* litescape

CT Server Password: \* ..... CMAPI Server Password: \* .....

**IP Telephony Server & Soft Phones** **MAP Configurations**

IP Telephony Server: Ayava Cert Help

No Soft Phone configuration was found for the selected IP Telephony Server.  
Soft Phones can be configured from the profile page of the intended IP Telephony Server.

Save Reset Delete Save As New

The next step needs to be executed after an MAP Server is created in section 6.3. From the “IP Telephony Provider Profile” page, click on the **MAP Configurations** tab. Using the drop down menu, select **192.45.85.101** for the MAP Server Name field.

Click on the **Save** button.

The screenshot displays the LiteScape WebAdmin interface. The top navigation bar includes links for HELP, ABOUT, and CONTACT. The breadcrumb trail shows: Home > IP Telephony Providers > IP Telephony Provider Profile: AvayaCert. The left sidebar contains a menu with sections: Services (Reports, Broadcast, Device Monitor), Enterprise Information (Organizations, Departments, Users, Locations, Rooms, Devices), Configure Services (Dialing Permissions, Roles & Permissions, Groups), and System Configuration (Access Strings, IP Telephony Servers, IP Telephony Providers, MAP Servers). The main content area is titled 'IP Telephony Provider Profile: AvayaCert' and includes a gear icon. It contains several configuration fields: IP Telephony Server Type (Avaya Communication Manager), IP Telephony Provider Type (Avaya CT/CMAPI), Provider Name (AvayaCert), Provider Role (primary), Backup Provider, Max Reconnect Attempts (5), Reconnect Timeout (20 seconds), CT Server Host (192.45.85.102), CT Server Port (450), CT Server Login (litescape), CT Server Password (masked), CMAPI Server Host (192.45.85.102), CMAPI Server Port (4721), CMAPI Server Login (litescape), and CMAPI Server Password (masked). At the bottom, there is a 'MAP Configurations' tab. Below this tab, a table lists MAP servers for association. The table has columns for a checkbox, a number, another checkbox, and the MAP Server Name. The first row shows '1' with both checkboxes checked and the name '192.45.85.101'. At the bottom of the page, there are buttons for Save, Reset, Delete, and Save As New. The 'Save' button is highlighted with a red box.

Tuesday, November 21, 2006

LSAdmin LSAdmin

My Profile Log out

**Services**

- Reports >>
- Broadcast >>
- Device Monitor >>

**Enterprise Information**

- Organizations >>
- Departments >>
- Users >>
- Locations >>
- Rooms >>
- Devices >>

**Configure Services**

- Dialing Permissions >>
- Roles & Permissions >>
- Groups >>

**System Configuration**

- Access Strings >>
- IP Telephony Servers >>
- IP Telephony Providers >>**
- MAP Servers >>

**IP Telephony Provider Profile: AvayaCert**

IP Telephony Server Type: Avaya Communication Manager

IP Telephony Provider Type: Avaya CT/CMAPI

Provider Name: \* AvayaCert

Provider Role: \* primary

Backup Provider:

Max Reconnect Attempts: 5

Reconnect Timeout: 20 seconds

CT Server Host: \* 192.45.85.102 CMAPI Server Host: \* 192.45.85.102

CT Server Port: \* 450 CMAPI Server Port: \* 4721

CT Server Login: \* litescape CMAPI Server Login: \* litescape

CT Server Password: \* ..... CMAPI Server Password: \* .....

**IP Telephony Server & Soft Phones**

**MAP Configurations**

Check the MAP Server(s) that you would like to associate with this provider.

#	<input checked="" type="checkbox"/>	MAP Server Name *
1	<input checked="" type="checkbox"/>	192.45.85.101

Help

Save Reset Delete Save As New



### 6.3. Configure the MAP Server


From the “WebAdmin” page, click the **MAP Servers → Create** link in the left pane of the screen to start configure the LiteScape Multi-modal Application Platform (MAP) server interface. Provide the following information:

- Click **IP Address** for the Server field, and provide IP address of the MAP server.
- Configure the server port
- Using the drop down menu, select **Primary** for the MAP Server Role field.

The screenshot displays the LiteScape WebAdmin interface. The top navigation bar includes links for HELP, ABOUT, and CONTACT. Below this, a breadcrumb trail shows the path: Home → MAP Servers → Create New Server Configuration. The left sidebar contains a menu with categories: Services (Broadcast, Device Monitor), Enterprise Information (Organizations, Departments, Users, Locations, Rooms, Devices), Configure Services (Roles & Permissions, Groups), and System Configuration (IP Telephony Servers, IP Telephony Providers, MAP Servers, Media Servers, Time Zones, WebAdmin Settings). The 'MAP Servers' option is highlighted. The main content area is titled 'New MAP Server Configuration Profile:'. It features a 'Server' section with a radio button for 'IP Address' (selected) and a text field for 'Name'. The IP address '192.45.85.101' is entered in the IP Address field. Below this, the 'Server Port' is set to '55555', the 'Application Script' is 'C:\Litescape\LSAllApps.xml', and the 'MAP Server Role' is set to 'primary' in a dropdown menu. A red box highlights the IP Address field and the MAP Server Role dropdown. A red asterisk indicates required properties. Below the 'Server' section, there are two tabs: 'Text-To-Speech Engine' and 'IP Telephony Providers'. The 'Text-To-Speech Engine' tab is active, showing fields for 'Log Directory' (C:\Litescape\log\), 'Log Files Prefix' (LSEngineLog\_), 'Log Files Size' (5000 kb), 'Log Files Limit' (200), 'Log Level' (FINE), and 'Redirect System Output' (Yes/No). The 'IP Telephony Providers' tab is also visible. At the bottom right, there are 'Save' and 'Cancel' buttons.



The next step needs to be executed after an IP Telephony Provider is created in section 6.2. Click on the **IP Telephony Providers** tab. Select IP Telephony Provider from the list, and click on the **Save** button to complete the MAP server configuration.



Tuesday, November 21, 2006

LSAdmin LSAdmin

[My Profile](#) [Log out](#)

[HELP](#) [ABOUT](#) [CONTACT](#)

[Home](#) > [MAP Servers](#) > [MAP Server Configuration: 192.45.85.101](#)

**Services**

[Reports](#) >>

[Broadcast](#) >>

[Device Monitor](#) >>

**Enterprise Information**

[Organizations](#) >>

[Departments](#) >>

[Users](#) >>

[Locations](#) >>

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**Configure Services**

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**System Configuration**

[Access Strings](#) >>

[IP Telephony Servers](#) >>

[IP Telephony Providers](#) >>

**MAP Servers** >>

[Media Servers](#) >>

### MAP Server Configuration Profile: 192.45.85.101

\* required properties

Server \* ☒ IP Address: 192.45.85.101 ☐ Name:

Server Port: \*

Application Script: \*

MAP Server Role:

Log \*

Text-To-Speech Engine

IP Telephony Providers

Check the IP Telephony Provider(s) that you would like to associate with this MAP Server. [Help](#)

#	<input type="checkbox"/>	IP Telephony Provider Name	Role
1	<input type="checkbox"/>	Avaya Production	Primary
2	<input checked="" type="checkbox"/>	AvayaCert	Primary

Save

Reset

Delete

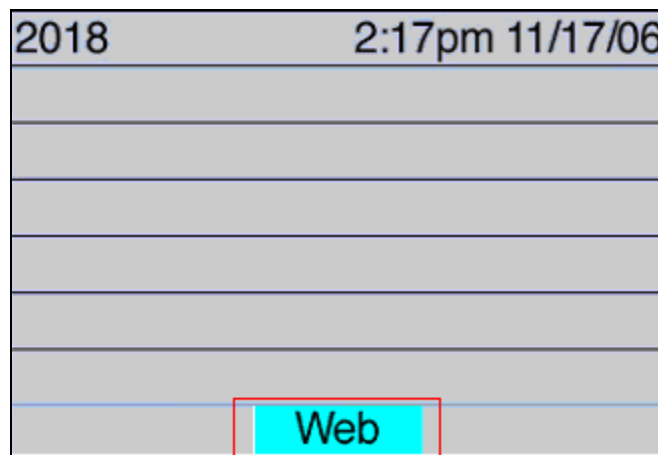
Save As New

## 6.4. CallTrack PRO Application

The steps in this section describe how to use the LiteScape CallTrack PRO application. The CallTrack PRO can track calls and allow the user to quickly and easily assign them to clients with ongoing matters. This ensures that call activity is properly tracked and accurately related to client activities for improved calling effectiveness and efficiency.

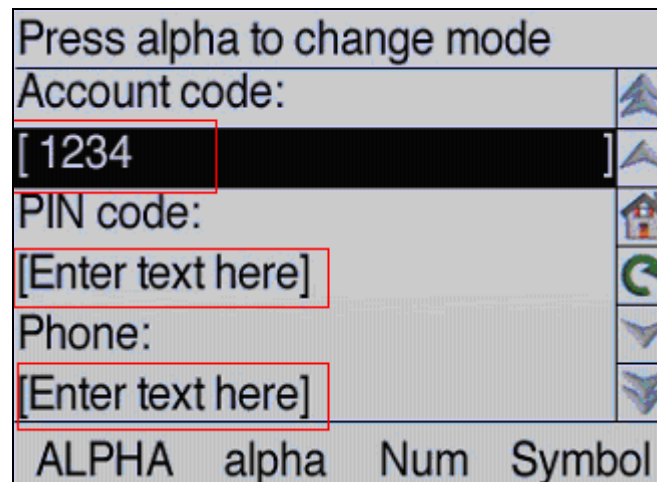
The scenarios that will be illustrated in the following steps will demonstrate how a user will make a call by selecting a previous or pre-existing Client/Matter code that has been used pertaining to the number being called. As well as a scenario in which we wish to assign the call to a different Client/Matter code, one that has not been used before.

Rebooting the Avaya IP Telephones triggers the registration with the MAP server. From the main screen, select **Web** using the corresponding softkey.



Using the soft keys select to highlight the Account code field. Enter the **Account code** for this call. Using the soft keys select to highlight the PIN code field. Enter the **PIN code** for this call. Using the soft keys select to highlight the Phone field. Enter the destination Phone number.

**Note:** For all field entries, any combination of “alpha” or “numeric” characters can be entered. To toggle between **alpha** and **Num** mode, select the appropriate soft keys.



Press alpha to change mode

Account code:

[ 1234 ]

PIN code:

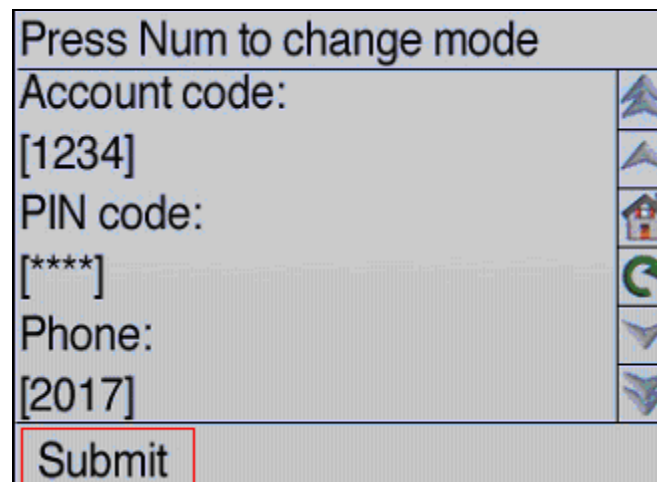
[Enter text here]

Phone:

[Enter text here]

ALPHA alpha Num Symbol

After the completion of entering fields, select the **Submit** softkey, as shown below.



Press Num to change mode

Account code:

[1234]

PIN code:

[\*\*\*\*]

Phone:







[2017]

Submit







Once the submit softkey is pressed, the credentials are authenticated in the MAP server. If the credentials are validated, one of the following two things will happen:

- 1) The list of known Client/Matter codes has used in the past, are listed in the following screen. Using the corresponding softkey, select the appropriate Client/Matter code for this call. The call will be placed, and the duration of the call will be attached to a record for this Client/Matter. At the end of the call, it will have successfully been tracked as pertaining to the selected Client and ongoing Matter. If a user wishes to assign this call

to a different Client/Matter code, the user can do so by selecting the **Assign** softkey, and may choose to search by client or matter code. Simply enter as much portion of the client name, and select the **Submit** soft key.

CallTrack Pro	
1. 1016 - City of San Diego	
... 0011- Noise Abatement01	
2. 1016 - City of San Diego	
... 0012 - Noise Abatement02	
3. 1120 - John Anderson	
... 1135 - Case 12	
<b>Assign</b>	<b>Back</b>

- 2) If the call a user wishes to make is not known, or has not been assigned to a given Client/Matter code before, the MAP server will push the next client code/matter code screen to the IP telephone. In the Client code/ matter code screen, shown below, provide the **Client code** and **Matter code** using the appropriate soft keys. Select the **Submit** softkey, and the call will be placed. The duration of the call will be attached to a record for the assigned Client/Matter. At the end of the call, the call will have successfully been tracked as pertaining to the assigned Client and ongoing Matter.

CallTrack Pro	
Client code:	
[Enter text here]	
Matter code:	
[Enter text here]	
Phone: 2017	
	
<b>Submit</b>	<b>Search</b> <b>Cancel</b>

## 7. Interoperability Compliance Testing

Interoperability compliance testing with LiteScape CallTrack PRO utilizing LiteScape Multi-modal Application Platform (MAP) included feature functionality and serviceability testing. Feature functionality testing verified that LiteScape CallTrack PRO performed reliably in an Avaya IP Telephony environment. The serviceability testing introduced the power failure scenarios to see if LiteScape CallTrack PRO can resume its normal function after failure recovery.

### 7.1. General Test Approach

All test cases were performed manually. The test was conducted two phases. The first phase of the test was accomplished using Intra-Switch scenario. The second phase of the test was performed using an IP trunk between PBXs (Inter-Switch scenario). The following features and functionality were verified from the Avaya IP Telephones:

- Transferred Calls (Blind)
- Transferred Calls (Consult)
- Conferenced Calls
- Hold Calls
- Failure Scenario 1 (providing wrong Account Code/ Pin)
- Failure Scenario 2 (providing wrong Client Code/ Matter Code)

### 7.2. Test Results

All test cases passed. Avaya IP Telephones were successfully registered to the LiteScape MAP server. LiteScape CallTrack PRO worked reliably in an Avaya IP Telephony environment. For serviceability testing, LiteScape CallTrack PRO was able to resume its normal function after failure recovery.

## 8. Support

For technical support on the LiteScape CallTrack PRO, call LiteScape Support at (800) 617-0917 or send email to [support@litescape.com](mailto:support@litescape.com).

## 9. Conclusion

These Application Notes describe the configuration steps required for integrating the LiteScape System with Avaya IP Telephones. The product interoperated successfully, providing a suitable solution to increase employee productivity and improve customer service.

## 10. References

This section references the Avaya and LiteScape documentation that are relevant to these Application Notes.

The following Avaya product documentation can be found at <http://support.avaya.com>.

- [1] *Administrator Guide for Avaya Communication Manager*, Issue 2.1, May 2006, Document Number 03-300509.
- [2] *Avaya Multivantage™ Application Enablement Service, Installation and Upgrade Guide for a Bundle Server R3.1*, February 2006

The following LiteScape product documentation is provided. For additional product and company information, visit <http://www.litescape.com>.

- [3] *LiteScape Multi-modal Application Platform Administrator*, Version 4.3
- [4] *LiteScape CallTrack PRO for Avaya Administration Guide*, Version 4.3

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