



Application Notes for Configuring Ascom Wifi Myco Smartphones with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Session Manager R6.3 – Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning Ascom's Wifi Myco Smartphones to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Session Manager.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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 for provisioning Ascom's Wifi Myco Smartphones (Myco) to interoperate with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Session Manager R6.3. Myco is configured to register with Avaya Aura® Session Manager and is also configured on Avaya Aura® Communication Manager as 9620 SIP endpoint. Myco then behave as third-party SIP extensions on Avaya Aura® Communication Manager able to make/receive internal and PSTN/external calls and telephony facilities available on Avaya Aura® Communication Manager.

2. General Test Approach and Test Results

The interoperability compliance testing evaluates the ability of Myco to make and receive calls to and from Avaya H.323, SIP deskphones, and PSTN endpoints. Avaya Aura® Messaging was used to demonstrate DTMF on the Ascom Smartphones.

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.

Avaya's formal testing and Declaration of Conformity is provided only on the headsets/Smartphones that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headset/handset to determine interoperability with Avaya phones. However, Avaya does not conduct the testing of non-Avaya headsets/Smartphones for: Acoustic Pressure, Safety, Hearing Aid Compliance, EMC regulations, or any other tests to ensure conformity with safety, audio quality, long-term reliability or any regulation requirements. As a result, Avaya makes no representations whether a particular non-Avaya headset will work with Avaya's telephones or with a different generation of the same Avaya telephone.

Since there is no industry standard for handset interfaces, different manufacturers utilize different handset/headset interfaces with their telephones. Therefore, any claim made by a headset vendor that its product is compatible with Avaya telephones does not equate to a guarantee that the headset will provide adequate safety protection or audio quality.

2.1. Interoperability Compliance Testing

The compliance testing included the test scenarios shown below. Note that when applicable, all tests were performed with Avaya SIP deskphones, Avaya H.323 deskphones, Myco endpoints and PSTN endpoints.

- Basic Calls
- Hold and Retrieve
- Attended and Blind Transfer
- Call Forwarding Unconditional, No Reply and Busy
- Call Waiting
- Call Park/Pickup
- EC500
- Conference (Avaya telephone hosted conference only)
- Do Not Disturb
- Calling Line Name/Identification
- Codec Support (G711 A-Law, G711 MU-Law and G729)
- DTMF Support

2.2. Test Results

The following observations were noted during testing.

- For Call Waiting functionality to work on Myco, ensure that the **Restrict Last Appearance** field in Station configuration is set to “n” (no).
- PSTN with anonymous caller ID calls Myco Set1; Myco Set1 initiates a blind transfer to Myco Set2. PSTN and Myco Set2 are not connected. This is a known issue on Myco SIP stack (MYCO-3386). There is no issue when PSTN caller is not anonymous.
- Myco can Un-park a call however cannot Park a call. Known issue (MYCO-3388).
-

2.2.1. Not Supported by Myco Design

The following are not supported by Myco by design,

- Myco does not support sending EXP=0 in the SIP registration message when shutting the phone down. Known issue (MYCO-3199).
- Myco does not support local call diversion like Call Forward All, Call Forward Busy and Call Forward No Answer from the smartphones itself.
- Myco does not support initiating conference calls however can be included in a conference call.
- Myco does not support the Message Waiting Indication (MWI) feature.
- Due to certain failed scenarios using G.722 codec, this codec will not be supported at the moment.

2.3. Support

Technical support for the Ascom Myco product can be obtained through a local Ascom supplier.
Ascom global technical support:

- Email: support@ascom.se or Help desk: +46 31 559450

3. Reference Configuration

Figure 1 shows the network topology during compliance testing. The Myco connect to the Wireless router which is placed on the LAN. Myco registers with Session Manager in order to be able to make/receive calls to and from the Avaya H.323 and SIP deskphones on Communication Manager.

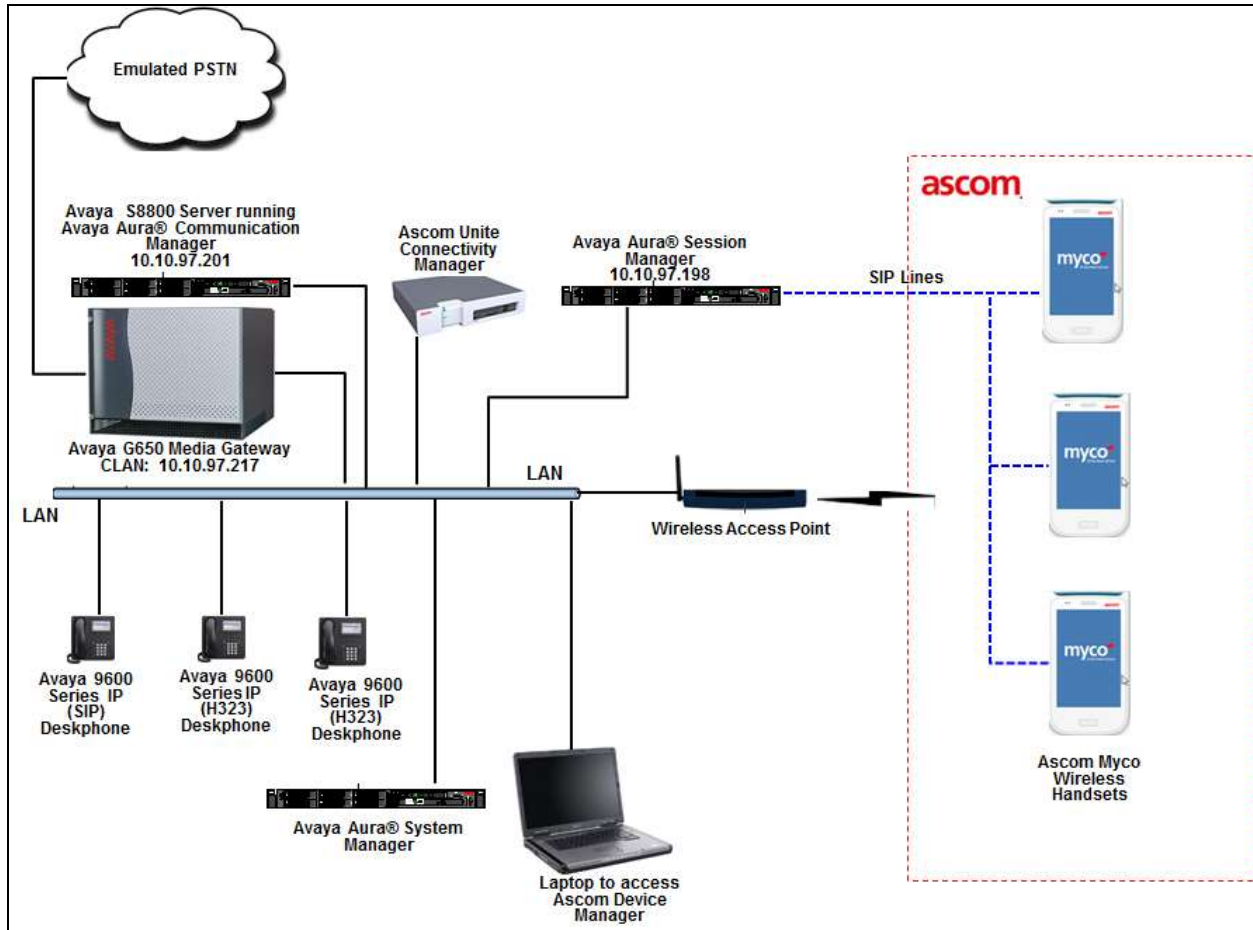


Figure 1: Network Solution of Ascom Wifi Myco Smartphones with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Session Manager R6.3

4. Equipment and Software Validated

The following equipment and software was used for the compliance test.

Equipment/Software	Version/Release
Avaya Aura® System Manager running on an Avaya S8800 Server	6.3.13.10.3336
Avaya Aura® Communication Manager running on an Avaya S8800 Server	6.3.10.0-SP10 (6.3-0.3.0.124.0)
Avaya Aura® Session Manager running on an Avaya S8800 Server	6.3.13.0.631304
Avaya 96xx Series Deskphones	9670 H.323 Release 3.230A 9608 H.323 Release 6.4014 9620 SIP Release 2.6 SP3
Ascom Device Manager running on Ascom UniteCM	5.3.8
Ascom Wifi Myco Smartphone	1.8.0
Laptop to access Ascom Device Manager and Avaya UCM	Windows 7 Professional SP1

5. Configure Avaya Aura® Communication Manager

It is assumed that a fully functioning Communication Manager is in place with the necessary licensing with a SIP Trunk in place to Session Manager. For further information on the configuration of Communication Manager please see **Section 10** of these Application Notes. The following sections go through the following.

- Dial Plan Analysis
- Feature Access Codes
- IP Interfaces
- Network Region
- IP Codec

5.1. Configure Dial Plan Analysis

Use the **change dialplan analysis** command to configure the dial plan using the parameters shown below. Extension numbers (**ext**) are those beginning with **53**. Feature Access Codes (**fac**) use digits **9** or *****.

change dialplan analysis			DIAL PLAN ANALYSIS TABLE			Page 1 of 12		
			Location: all			Percent Full: 7		
Dialed String	Total Length	Call Type	Dialed String	Total Length	Call Type	Dialed String	Total Length	Call Type
53	5	ext						
9	1	fac						
*	3	fac						
*	4	fac						

5.2. Configure Feature Access Codes

Use the **change feature-access-codes** command to configure feature access codes which can be entered from Myco to initiate Communication Manager call features. These access codes must be compatible with the dial plan described in **Section 5.1**. The following access codes need to be setup.

- **Answer Back Access Code:** *06
- **Auto Alternate Routing (AAR) Access Code:** 6
- **Auto Route Selection (ARS) - Access Code 1:** 9
- **Call Forwarding Activation Busy/DA:** *11
- **Call Forwarding Activation All:** *10
- **Deactivation:** *999
- **Call Park Access Code:** *12
- **Call Pickup Access Code:** *13

```
change feature-access-codes                                     Page 1 of 10
                                FEATURE ACCESS CODE (FAC)
    Abbreviated Dialing List1 Access Code:
    Abbreviated Dialing List2 Access Code:
    Abbreviated Dialing List3 Access Code:
    Abbreviated Dial - Prgm Group List Access Code:
    Announcement Access Code: *005
    Answer Back Access Code: *06

    Auto Alternate Routing (AAR) Access Code: 6
    Auto Route Selection (ARS) - Access Code 1: 9
    Automatic Callback Activation:
    Call Forwarding Activation Busy/DA: *11    All: *10
    Call Forwarding Enhanced Status:         Act:
    Call Park Access Code: *12
    Call Pickup Access Code: *13
    CAS Remote Hold/Answer Hold-Unhold Access Code:
    CDR Account Code Access Code: *15
    Change COR Access Code:
    Change Coverage Access Code:
    Conditional Call Extend Activation:
    Contact Closure Open Code:
    Deactivation:
    Deactivation:
    Deactivation: *999
    Deactivation:
    Deactivation:
    Close Code:
```

5.3. Configure IP Interfaces

Shown below is an example of the nodes names used in the compliance testing. Note that Myco does not feature in this setup and only the name and IP address of Session Manager is added. Use the **change node-names ip** command to configure the IP address of Session Manager. *SM61* is the **Name** used for Session Manager and *10.10.97.198* is the **IP Address**.

```
change node-names ip
                                IP NODE NAMES
    Name          IP Address
    SM61          10.10.97.198
    procr         10.10.97.201
    CLAN1         10.10.97.217
```


5.4. Configure Network Region

Use the **change ip-network-region x** (where x is the network region to be configured) command to assign an appropriate domain name to be used by Communication Manager, in the example below *bvwdev.com* is used. Note this domain is also configured in **Section 6.1** of these Application Notes.

```
change ip-network-region 1                                     Page 1 of 20
                                                           IP NETWORK REGION
  Region: 1
  Location: 1          Authoritative Domain: bvwdev.com
  Name:
  Stub Network Region: n
MEDIA PARAMETERS
  Codec Set: 1          Intra-region IP-IP Direct Audio: yes
  UDP Port Min: 2048    Inter-region IP-IP Direct Audio: yes
  UDP Port Max: 3329    IP Audio Hairpinning? n
DIFFSERV/TOS PARAMETERS
  Call Control PHB Value: 46
  Audio PHB Value: 46
  Video PHB Value: 26
802.1P/Q PARAMETERS
  Call Control 802.1p Priority: 6
  Audio 802.1p Priority: 6
  Video 802.1p Priority: 5
H.323 IP ENDPOINTS          AUDIO RESOURCE RESERVATION PARAMETERS
  H.323 Link Bounce Recovery? y          RSVP Enabled? n
  Idle Traffic Interval (sec): 20
  Keep-Alive Interval (sec): 5
  Keep-Alive Count: 5
```

5.5. Configure IP-Codec-Set

Use the **change ip-codec-set x** (where x is the ip-codec set used) command to designate a codec set compatible with the Myco, which supports *G.711MU*, *G.729*, and *G.711A*.


```
change ip-codec-set 1                                       Page 1 of 2
                                                           IP CODEC SET
  Codec Set: 1
  Audio          Silence      Frames   Packet
  Codec          Suppression  Per Pkt  Size(ms)
1: G.711MU      n          2        20
2: G.729        n          2        20
3: G.711A       n          2        20
```

6. Configure Avaya Aura® Session Manager

The Myco are added to Session Manager as SIP Users. In order to make changes in Session Manager a web session to System Manager is opened.

6.1. Configuration of a Domain

Navigate to <http://<System Manager IP Address>/>, enter the appropriate credentials and click on **Log On** as shown below.



AVAYA
Aura System Manager 6.3

This system is restricted solely to authorized users for legitimate business purposes only. The actual or attempted unauthorized access, use, or modification of this system is strictly prohibited.

Unauthorized users are subject to company disciplinary procedures and or criminal and civil penalties under state, federal, or other applicable domestic and foreign laws.

The use of this system may be monitored and recorded for administrative and security reasons. Anyone accessing this system expressly consents to such monitoring and recording, and is advised that if it reveals possible evidence of criminal activity, the evidence of such activity may be provided to law enforcement officials.

All users must comply with all corporate instructions regarding the protection of information assets.

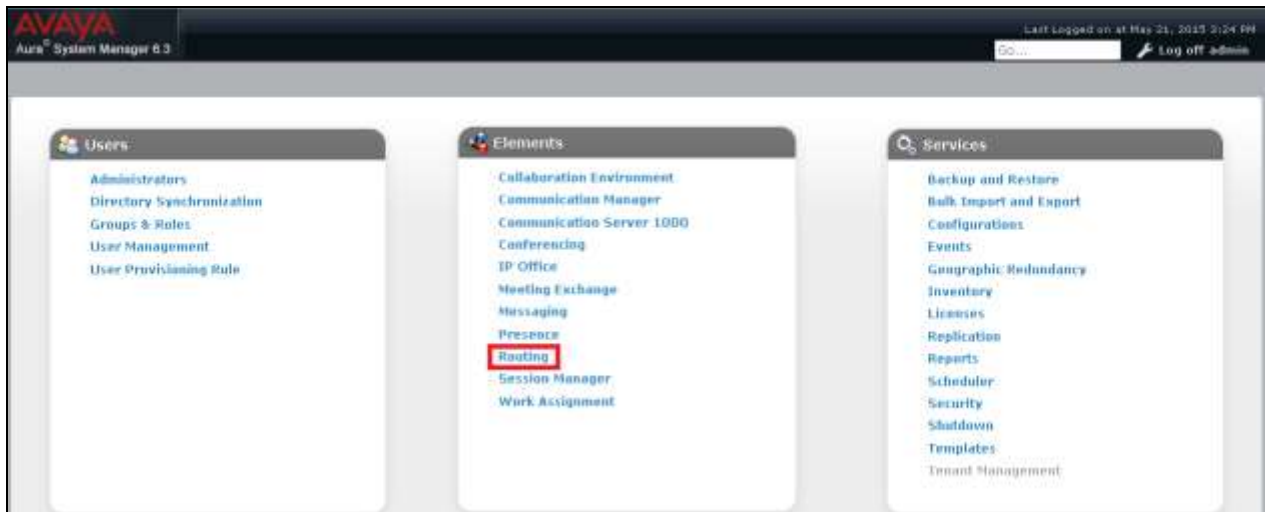
User ID:

Password:

Log On Reset

Supported Browsers: Internet Explorer 8.x, 9.x or 10.x or Firefox 26.0, 27.0 or 28.0.

Once logged in click on **Routing** highlighted below.



Click on **Domains** in the left window. If there is not a domain already configured click on **New** highlighted below.

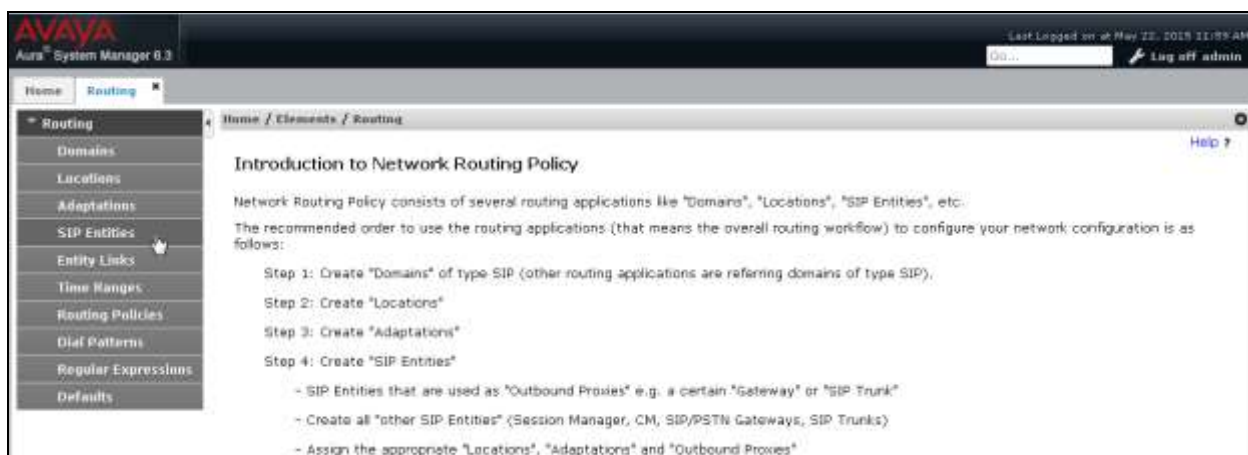


Note the domain **Name** used in the compliance testing was **bvwdev.com**. Note this domain is also referenced in **Section 5.4**. Once the domain name is entered click on **Commit** (not shown) to save this.



6.2. Configuration of SIP Entities

Log into System Manager as described in **Section 6.1** above, click on **SIP Entities** shown below.



Clicking on **SIP Entities** shows what SIP Entities have been added to the system and allows the addition of any new SIP Entity that may be required. Please note the SIP Entities present for the Compliance Testing of Myco.

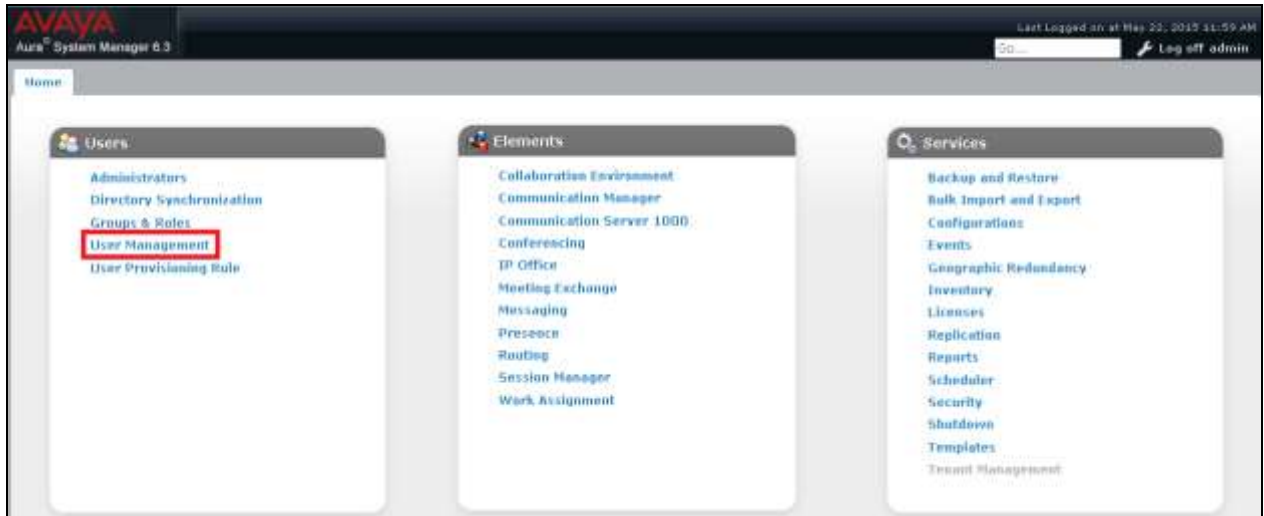
- Session Manager SIP Entity
- Communication Manager SIP Entity

Note: There is no SIP Entity present or required for Myco.



6.3. Adding Ascom SIP Users

From the home page click on **User Management** highlighted below.



Click on **Manage Users**. Click on **New** highlighted to add a new SIP user.



Under the **Identity** tab fill in the user's **Last Name** and **First Name** as shown below. Enter the **Login Name** and ensure **Authentication Type** is set to **Basic**. Enter a suitable **Password**.

The screenshot shows the 'Identity' tab of a user provisioning interface. The 'Identity' section is expanded, showing the following fields:

- User Provisioning Rule: [Dropdown]
- * Last Name: [Text: Set0]
- Last Name (Latin Translation): [Text: Set0]
- * First Name: [Text: Myco]
- First Name (Latin Translation): [Text: Myco]
- Middle Name: [Text:]
- Description: [Text:]
- Update Time: [Text: April 17, 2015 4:03:27]
- * Login Name: [Text: 53130@bvwdev.com]
- * Authentication Type: [Dropdown: Basic]
- [Change Password](#)
- New Password: [Text:]
- Confirm Password: [Text:]

Under the **Communication Profile** tab enter a suitable **Communication Profile Password** and click on **Done** when added, note that this password is required when configuring Myco in **Section 7**. Click on **New** to add a new **Communication Address**.

The screenshot shows the 'Communication Profile' tab of a user provisioning interface. The 'Communication Profile' section is expanded, showing the following fields and buttons:

- Communication Profile Password: [Text:] [Edit](#)
- Buttons: [New](#), [Delete](#), [Done](#), [Cancel](#)
- Name: [Text: Primary]
- Select: None
- * Name: [Text: Primary]
- Default:
- Communication Address: [New](#), [Edit](#), [Delete](#)

Select **Type** as *Avaya SIP* and enter the extension number and the domain for the **Fully Qualified Address** and click on **Add** once finished.

Communication Address

New Edit Delete

Type	Handle	Domain
Avaya SIP	53130	bvwdev.com

Select : All, None

Type: Avaya SIP

* Fully Qualified Address: 53130 @ bvwdev.com

Add Cancel

Ensure **Session Manager Profile** is checked and enter the **Primary Session Manager** details, enter the **Origination Sequence** and the **Termination Sequence** and the **Home Location** as highlighted below. Note that **DevCM-SEQ** is an application sequence that corresponds to the Communication Manager in the test configuration and has been configured in the system previously.

Session Manager Profile

SIP Registration

* Primary Session Manager DevSM

Primary	Secondary	Maximum
44	0	44

Secondary Session Manager (None)

Survivability Server (None)

Max. Simultaneous Devices 1

Block New Registration When Maximum Registrations Active?

Application Sequences

Origination Sequence DevCM-SEQ

Termination Sequence DevCM-SEQ

Call Routing Settings

* Home Location Belleville

Conference Factory Set (None)

Ensure that **CM Endpoint Profile** is selected. Select *DevCM* as **System** and *Endpoint* for **Profile Type**. Enter *53130* for **Extension** and choose the *9620SIP_DEFAULT_CM_6_3* as the **Template**. Click **Endpoint Editor** to configure the buttons and features for that handset on Communication Manager.

CM Endpoint Profile

* System

* Profile Type

Use Existing Endpoints

* Extension

Template

Set Type

Security Code

Port

Voice Mail Number

Preferred Handle

Enhanced Callr-Info display for 1-line phones

Delete Endpoint on Unassign of Endpoint from User or on Delete User

Override Endpoint Name and Localized Name

Screen below shows the window when **Endpoint Editor** is clicked. During compliance testing all default values were retained.

General Options (G) * Feature Options (F) Site Data (S) Abbreviated Call Dialing (A) Enhanced Call Fwd (E)

Button Assignment (B) Group Membership (M)

* Class of Restriction (COR)

* Emergency Location Ext

* Tenant Number

* SIP Trunk

Coverage Path 1

Lock Message

Multibyte Language

* Class Of Service (COS)

* Message Lamp Ext.

Type of 3PCC Enabled

Coverage Path 2

Localized Display Name

* Required

7. Configure Ascom Wifi Myco Smartphone

This section describes how to access and configure Myco via the Device Manager. It is implied that the Wifi network has been configured and operational and the Ascom UniteCM box has an IP address assigned.

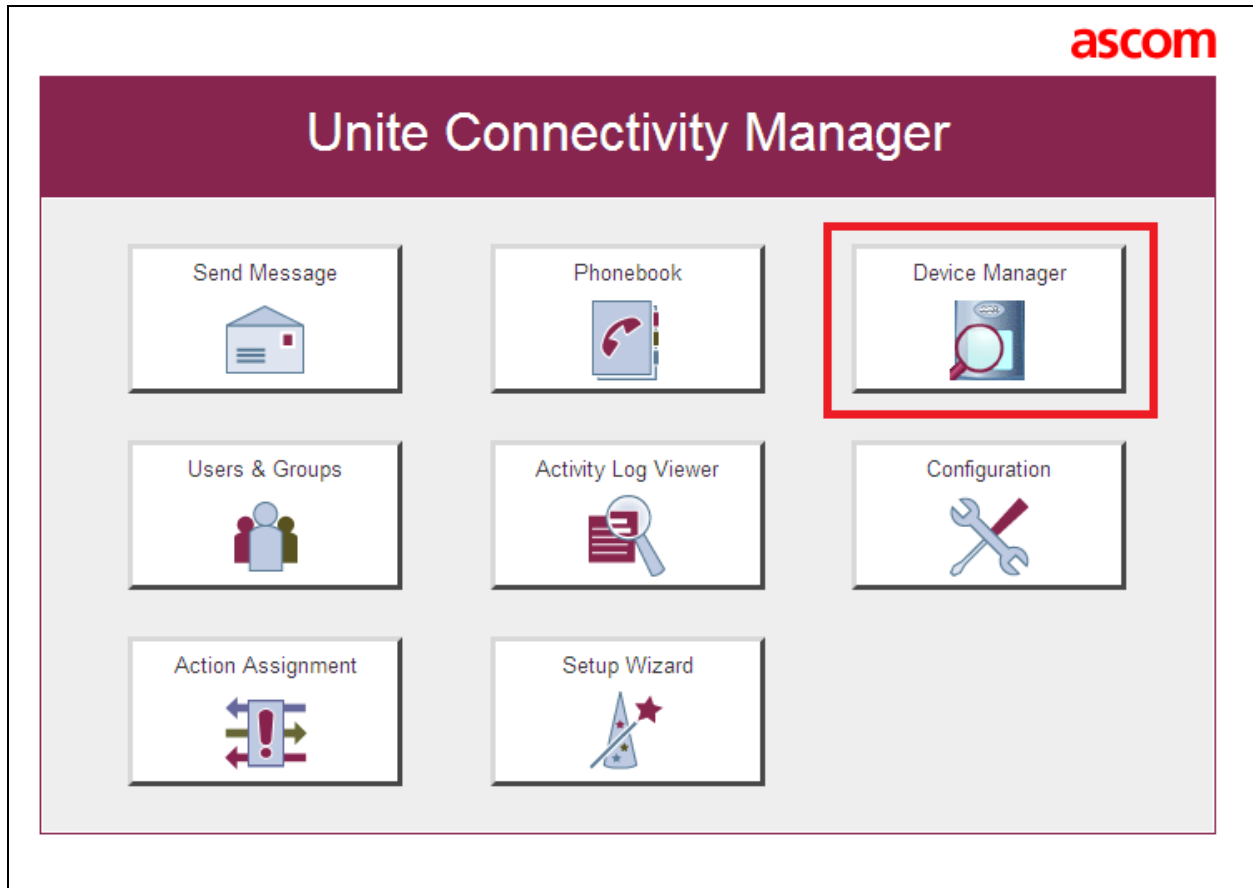
Note: The Wireless router and Ascom UniteCM configuration are outside the scope of these Application Notes.

Access the UniteCM box by typing the URL, <http://<ip address>> in a web browser (not shown). Screen below shows the login screen. Enter the required credentials in the **User name** and **Password** fields and click on **Log in**.

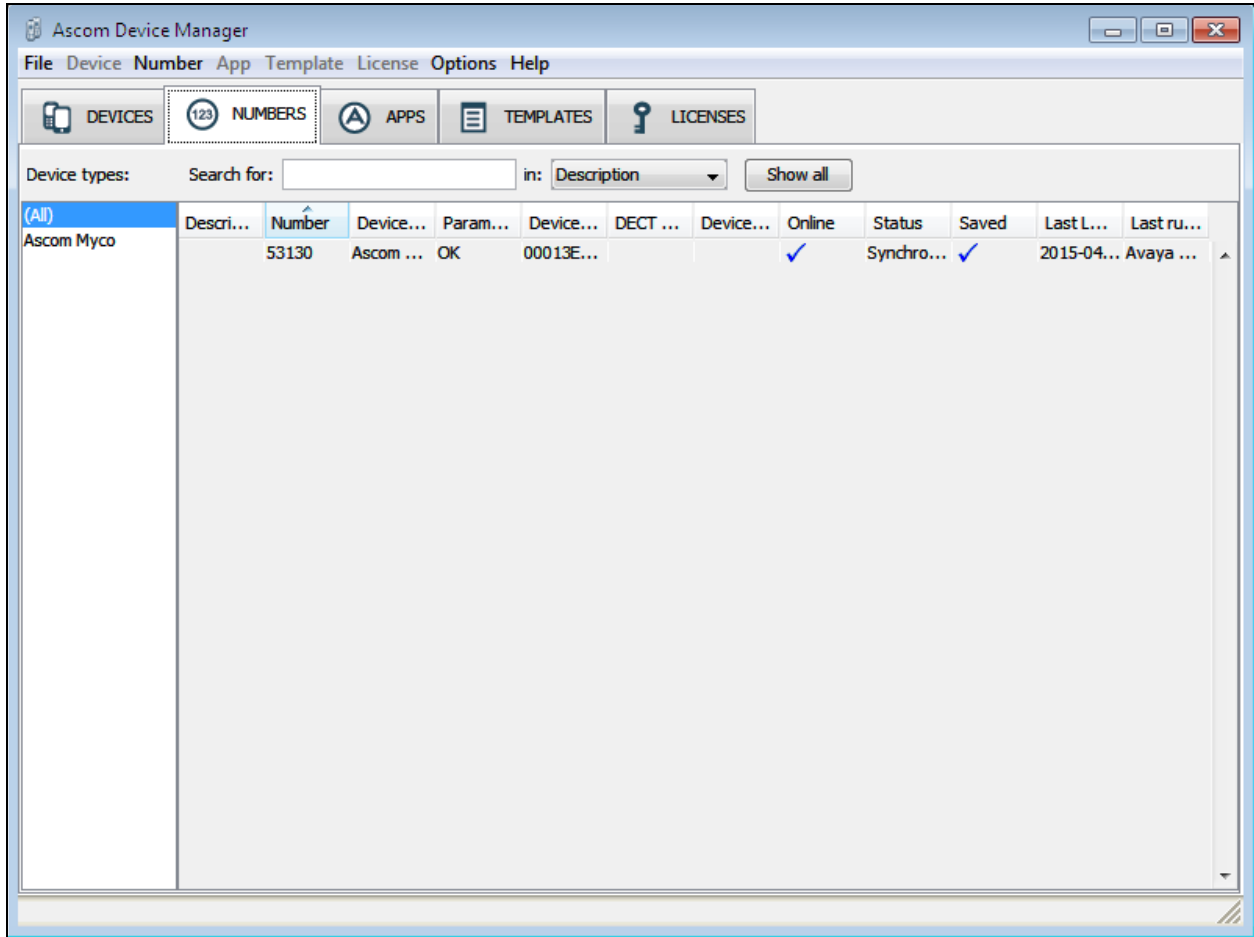


The screenshot shows the login interface for the Unite Connectivity Manager. At the top, there is a dark red banner with the text "UNITE CONNECTIVITY MANAGER" in white. Below the banner is a background image of a network diagram with nodes and connecting lines. The main area is a light gray panel containing two input fields: "User name" and "Password". To the right of each label is a white rectangular input box. Below these fields is a dark blue button with the text "Log in" in white.

The main screen of **Unite Connectivity Manager** is seen as shown below. Click on the **Device Manager** application.



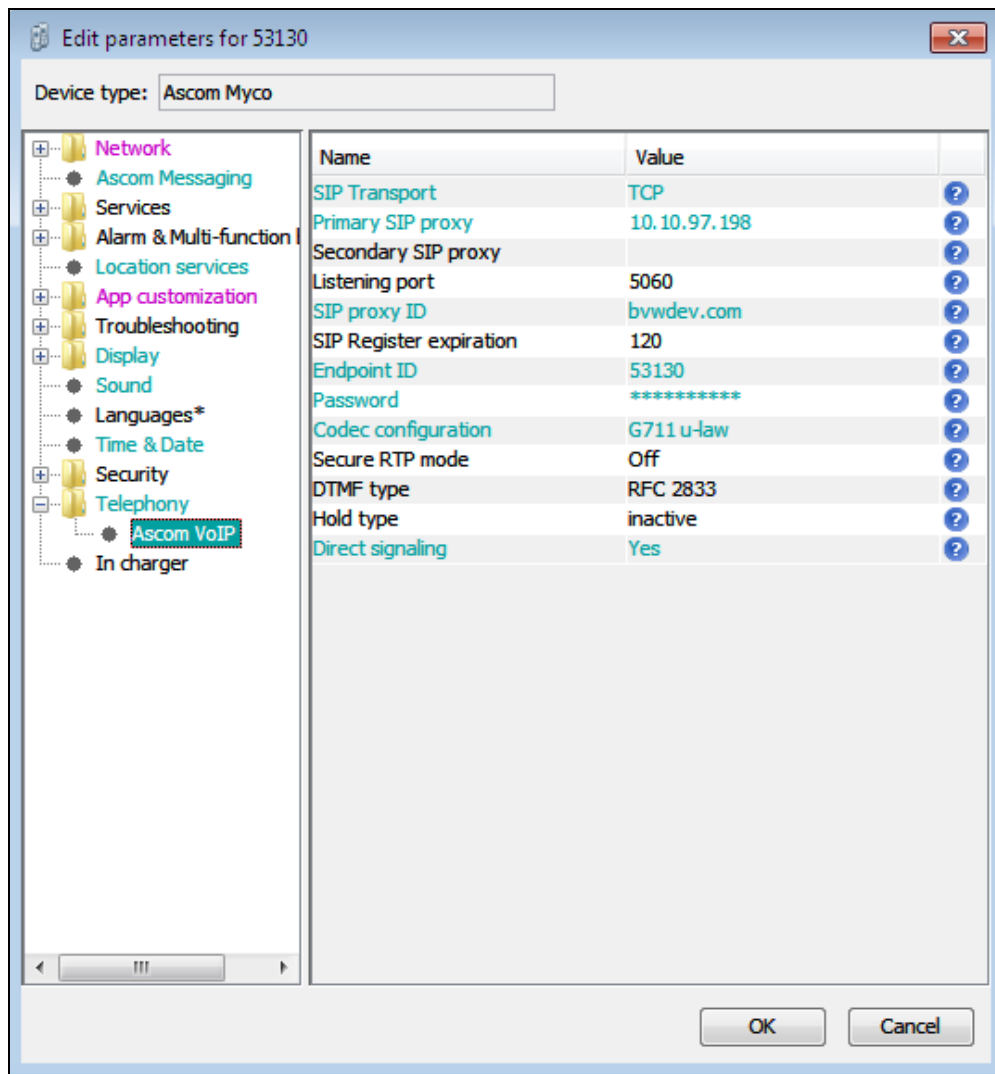
The **Ascom Device Manager** screen is seen as shown below. In the example below, a device with number 53130 is discovered. Double click on this number.



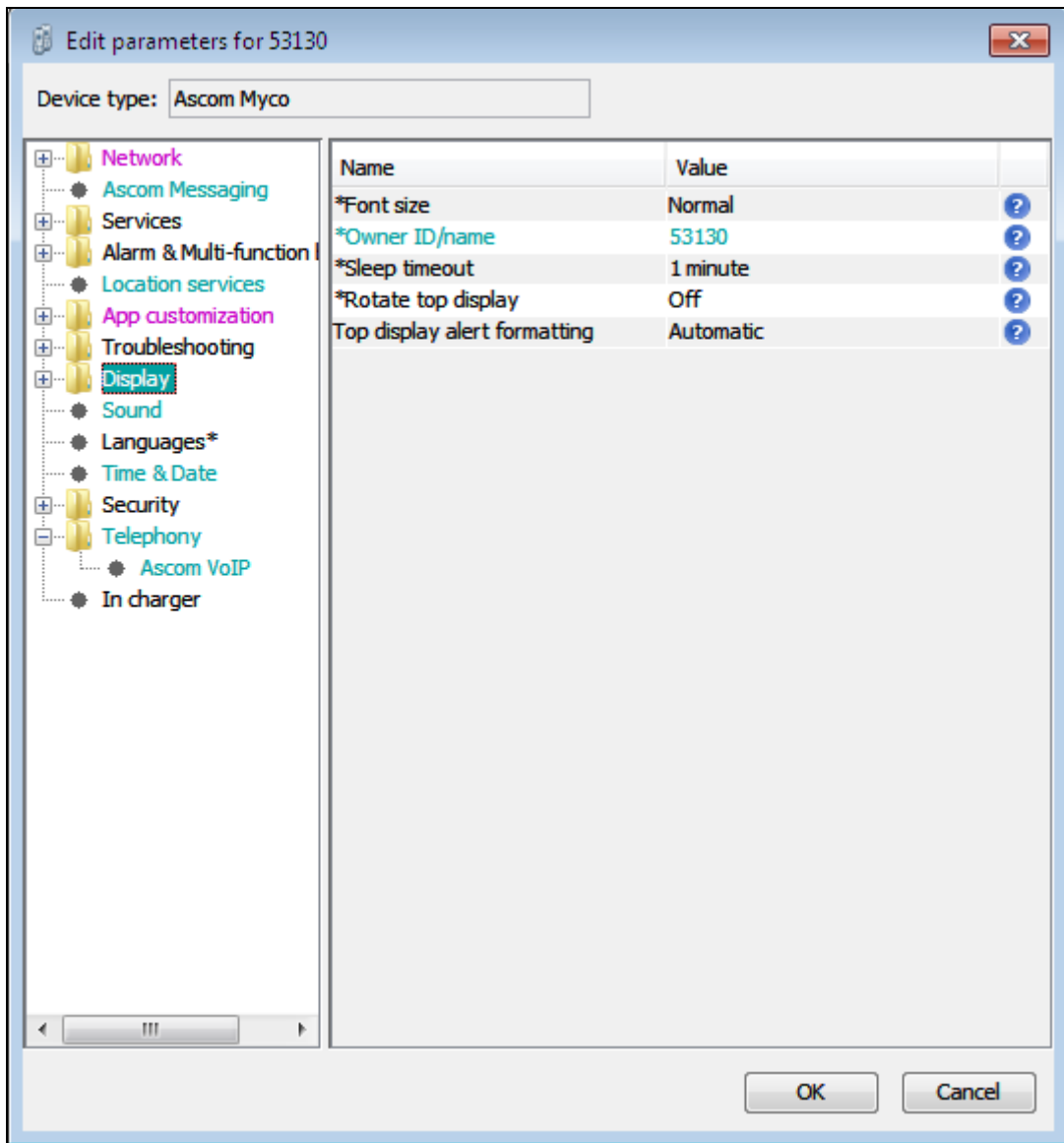
The **Edit parameters for 53130** screen is seen as shown below. Click on **Ascom VoIP** that is seen on the left hand side and configure the following values.

- **SIP Transport:** *TCP*
- **Primary SIP proxy:** *10.10.97.198*; this is the IP address of Session Manager as shown in **Section 6.2**
- **Listening port:** *5060*; this is the SIP port configured on Session Manager in **Section 6.2** when configuring the SIP entity (not shown)
- **SIP proxy ID:** *bvwdev.com*; this is configured in **Section 5.4** and again in **Section 6.1**
- **Endpoint ID:** *53130*; this is the directory number configured in Session Manager in **Section 6.3**
- **Password:** As defined in **Section 6.3**
- **Codec configuration:** In this example *G711 u-law* is selected
- **Direct signaling:** *Yes*

Retain default values for all other fields.



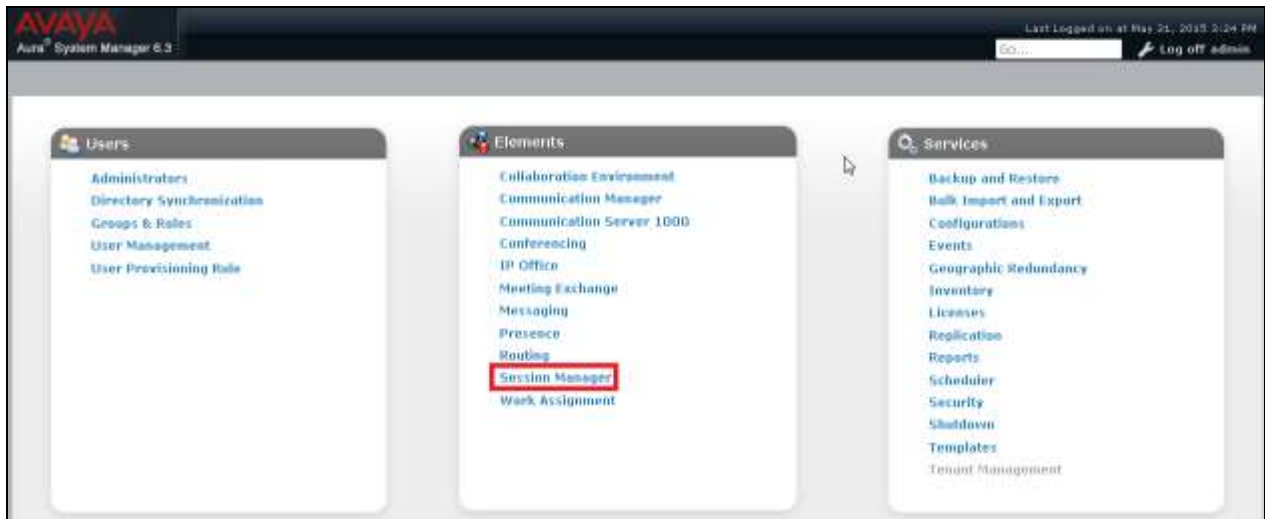
The following step is optional. From the same screen as above, click on **Display** and configure the **Owner ID/name** field with the directory number configured, in this case *53130* as shown below. Retain default values for all other fields and click on **OK** to complete the configuration.



8. Verification Steps

The following steps can be taken to ensure that connections between Myco and Session Manager and Communication Manager are up.

Log into System Manager as done previously in **Section 6.1**, select **Session Manager** as highlighted below.



Select **System Status** and **User Registrations** in the left column. This displays the users that are currently registered with Session Manager. The Myco users should show as being registered as they are below for extension **53130** highlighted.

The screenshot shows the Avaya System Manager 6.3 interface with the 'User Registrations' page open. The page displays a table of registered users with columns for Details, Address, First Name, Last Name, Actual Location, IP Address, Remote Office, Shared Control, Simult. Devices, AST Device, and Registered (Prim, Sec, Serv). The row for extension 53130 is highlighted in red.

Details	Address	First Name	Last Name	Actual Location	IP Address	Remote Office	Shared Control	Simult. Devices	AST Device	Registered
										Prim Sec Serv
Show	53134@vvoles.com	Myco	Set1	---	10.10.5.69	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	53130@vvoles.com	Myco	Set2	---	10.10.5.70	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	53130@vvoles.com	Myco	Set3	Belleville	10.10.5.64	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	53102@vvoles.com	S3102	Avaya SIP	---	10.10.98.86	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	52175@vvoles.com	Five	Seven	---	10.10.5.60	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input checked="" type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	53131@vvoles.com	Myco	Set1	---	10.10.5.59	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	53116@vvoles.com	SIP	Avaya1140E	---	10.10.5.14	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	52160@vvoles.com	---	---	---	10.10.5.41	<input type="checkbox"/>	<input type="checkbox"/>	1/1	<input checked="" type="checkbox"/>	(AC) <input type="checkbox"/> <input type="checkbox"/>
Show	---	Test	Test9093	---	---	<input type="checkbox"/>	<input type="checkbox"/>	0/1	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Show	---	S3106	SIP	---	---	<input type="checkbox"/>	<input type="checkbox"/>	0/1	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Show	---	Myco	Set2	---	---	<input type="checkbox"/>	<input type="checkbox"/>	0/1	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Show	---	Test	Test9097	---	---	<input type="checkbox"/>	<input type="checkbox"/>	0/1	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

9. Conclusion

These Application Notes describe the configuration steps required for Ascom Wifi Myco Smartphones to successfully interoperate with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Session Manager R6.3 by registering Myco with Avaya Aura® Session Manager as third-party SIP phones. Please refer to **Section 2.2** for test results and observations.

10. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at <http://support.avaya.com> where the following documents can be obtained.

- [1] *Administering Avaya Aura® Communication Manager*, Document ID 03-300509
- [2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Document ID 555-245-205
- [3] *Implementing Avaya Aura® Session Manager* Document ID 03-603473
- [4] *Administering Avaya Aura® Session Manager*, Doc ID 03-603324

Product Documentation for Ascom Products can be obtained from an Ascom supplier or may be accessed at <https://www.ascom-ws.com/AscomPartnerWeb/Templates/WebLogin.aspx> (login required).

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