



Application Notes for Intermedia XMU+ and SBX with Avaya Aura™ Communication Manager using Analog Ports – Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning Intermedia XMU+ and SBX systems to successfully interoperate with Avaya Aura™ Communication Manager. XMU+ and SBX are voice application platforms that support multiple applications.

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 compliance tested configuration using Interalia XMU+ and SBX solutions with Avaya Aura™ Communication Manager using analog ports.

The XMU+ and SBX are microprocessor-based voice application platforms that support multiple applications simultaneously on a port-by-port basis. Typical XMU+ applications include:

- ACD/UCD announcements
- Auto attendant
- Voicemail/IVR Failover
- Information Lines
- Music on hold (MOH)

The Interalia system used for the test consists of a XMU+ server and a SBX server connected to Avaya Aura™ Communication Manager via an analog card on the Avaya G650 Media Gateway. Link Failure/Recovery was also tested to ensure successful reconnection on link failure.

1.1 Interoperability Compliance Testing

The interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on verifying that the voice application response is activated in various scenarios. The testing includes:

- Verification of connectivity between XMU+ and Communication Manager using analog ports
- Verification of connectivity between SBX and Communication Manager using analog ports
- Verification that interactive voice response occurs in various telephony operations using ACD announcement application on both XMU+ and SBX
- Verification that interactive voice response occurs in various telephony operations using Voicemail application on both XMU+ and SBX
- Verification that interactive voice response occurs in various telephony operations using Information Lines application on both XMU+ and SBX
- Verification that music is played when the call is on hold, transfer, conference, call park etc. using the music-on-hold card on both XMU+ and SBX
- Failover testing of the XMU+ and SBX systems and Communication Manager

The serviceability testing focused on verifying the ability of the XMU+ and SBX systems to recover from disconnection such as power supply failure.

1.2 Support

Technical support can be obtained for Interalia XMU+ and SBX as follows;

- Email: support@interalia.com
- Website: www.interalia.com
- Phone: +1 800 531 0115 (Toll Free)

2 Reference Configuration

Figure 1 shows the network topology during compliance testing. An Avaya S8500B Server running Communication Manager with an Avaya G650 Media Gateway was used as the hosting PBX. XMU+ and SBX are connected to the Communication Manager using the Analog card on the G650. Avaya 9630 (H.323) phones are connected to the Communication Manager using the Ethernet card on the G650. The G650 is also connected to the PSTN.

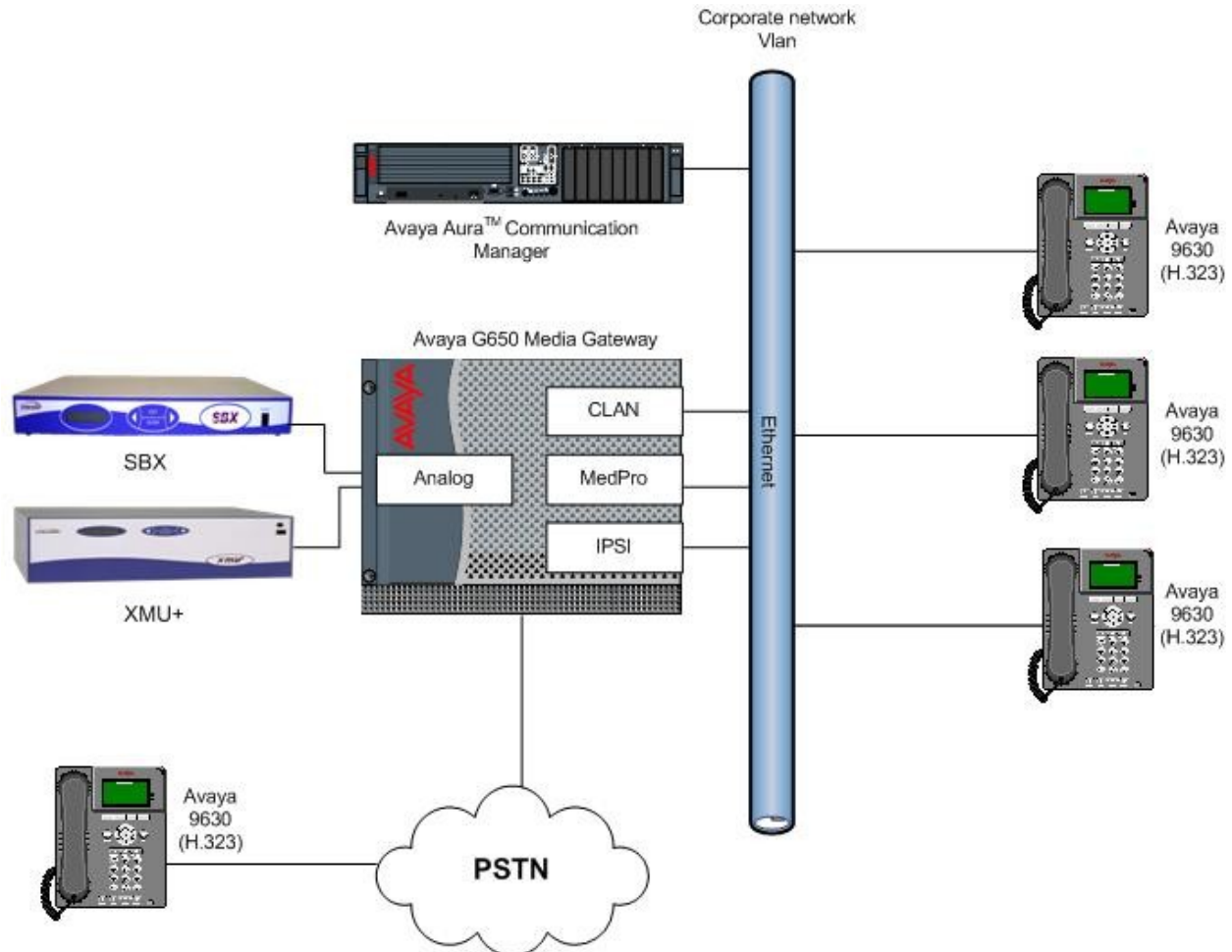


Figure 1: Network Topology

3 Equipment and Software Validated

All the hardware and associated software used in the compliance testing is listed below.

Equipment	Software Version
Avaya S8500B Server	Avaya Aura™ Communications Manager 5.2.1 (R015x.02.1.016.4)
Avaya G650 Media Gateway - IPSI TN2312BP - CLAN TN799DP - IP Media Processor TN2602AP - DS1 Interface TN246CP - Analog Line TN793CP	HW15, FM49 HW01, FM34 HW02, FM49 HW02, FM024 HW09, FW10
Avaya 96xx Telephones (H.323) 9630	3.0
Interalia SBX	Firmware version: V1.32 Software: XMUCOM+ V7.25
Interalia XMU+ - Analog Hybrid 01DSPCard - MOH Card	Firmware version: V6.82 Software: XMUCOM+ V7.25 PT # 47365 – H8 PT # 47804 – MH8

Table 1: Hardware and Software Version Numbers

4 Configure Avaya Aura™ Communication Manager

The configuration and verification operations illustrated in this section were all performed using Communication Manager System Administration Terminal (SAT). The information provided in this section describes the configuration of Communication Manager for this solution. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Verify System Parameters Customer Options
- Add Analog Stations
- Add Announcements
- Administer COR
- Configure Hunt Group, Vector and VDN
- Administer Agent Logins
- Administer Stations
- Add Feature Access Codes

The configuration of the PRI interface to the PSTN is outside the scope of these Application Notes.

4.1 Verify System Parameters Customer Options

Use the **display system-parameters customer-options** command to verify that Communication Manager has permissions for features illustrated in these Application Notes. On **Page 6**, verify the following customer options are set to **y** as shown below.

- **ACD?** to **y**
- **Vectoring (Basic)?** to **y**
- **Expert Agent Selection (EAS)?** to **y**

display system-parameters customer-options		Page 6 of 11
CALL CENTER OPTIONAL FEATURES		
Call Center Release: 5.0		
ACD? y	Reason Codes? n	
BCMS (Basic)? y	Service Level Maximizer? n	
BCMS/VuStats Service Level? n	Service Observing (Basic)? y	
BSR Local Treatment for IP & ISDN? n	Service Observing (Remote/By FAC)? n	
Business Advocate? n	Service Observing (VDNs)? n	
Call Work Codes? n	Timed ACW? n	
DTMF Feedback Signals For VRU? n	Vectoring (Basic)? y	
Dynamic Advocate? n	Vectoring (Prompting)? n	
Expert Agent Selection (EAS)? y	Vectoring (G3V4 Enhanced)? n	
EAS-PHD? n	Vectoring (3.0 Enhanced)? n	
Forced ACD Calls? n	Vectoring (ANI/II-Digits Routing)? n	
Least Occupied Agent? n	Vectoring (G3V4 Advanced Routing)? n	
Lookahead Interflow (LAI)? n	Vectoring (CINFO)? n	
Multiple Call Handling (On Request)? n	Vectoring (Best Service Routing)? n	
Multiple Call Handling (Forced)? n	Vectoring (Holidays)? n	
PASTE (Display PBX Data on Phone)? n	Vectoring (Variables)? n	

Use the command **display system-parameters features** for verification of feature parameters. On **Page 11**, verify that the **Expert Agent Selection (EAS) Enabled?** option is set to **y** as shown below.

display system-parameters features		Page 11 of 17
FEATURE-RELATED SYSTEM PARAMETERS		
CALL CENTER SYSTEM PARAMETERS		
EAS		
Expert Agent Selection (EAS) Enabled? y		
Minimum Agent-LoginID Password Length:		
Direct Agent Announcement Extension:		Delay:
Message Waiting Lamp Indicates Status For: station		
Send UCID to ASAI? n		

4.2 Add Analog Stations

A number of analog stations were added using the ports on the analog card. To add a station, use the command **add station n** where **n** is a valid extension in the dial plan table in Communication Manager. Set the values as follows:

- **Type:** This is set to **2500**
- **Port:** Enter in one of the 24 available port numbers, in this case **01A0501**.
- **Name:** Set this to a descriptive name, in this case **Analog 1**

add station 6010		Page 1 of 4	
STATION			
busy			
Extension: 6010	Lock Messages? n	BCC: 0	
Type: 2500	Security Code:	TN: 1	
Port: 01A0501	Coverage Path 1:	COR: 1	
Name: Analog 1	Coverage Path 2:	COS: 1	
	Hunt-to Station:	Tests? y	
STATION OPTIONS			
XOIP Endpoint type: auto	Time of Day Lock Table:		
Loss Group: 1	Message Waiting Indicator: none		
Off Premises Station? n			
Survivable COR: internal			
Survivable Trunk Dest? Y			

4.3 Add Announcements

An announcement is added for each music or message to be played by XMU+ and/or SBX. Use the command **add announcement n** where **n** is a valid extension under the provisioned dial plan. Add an **Annc Name**, in this case **IVR1**. The **Annc Type** is set to **analog** and the **Port** is set to a valid analog port, in this case **01A0507**.

add announcement 6070	
ANNOUNCEMENTS/AUDIO SOURCES	
Extension: 6070	COR: 1
Annc Name: IVR1	TN: 1
Annc Type: analog	Queue? y
Port: 01A0507	Queue Length: 0

Repeat the above process to create two more announcements. The list of announcements created is shown below by using the **list announcement** command.

list announcement	
ANNOUNCEMENTS/AUDIO SOURCES	
Announcement	Source
Extension	Pt/Bd/Grp
6070	01A0507
6100	01A0510
Type	Num of Files
analog	1
analog	1
Name	
IVR1	
IVR2	

4.4 Administer COR

Set the Class of Restriction (COR) for the stations to be used in compliance testing to enable music on hold for these stations. Use the command **change cor 1** where **1** is the COR assigned to the stations in **Section 4.7**. On **Page 1**, set the parameter **Hear System Music on Hold?** to **y**.

change cor 1	Page 1 of 23
CLASS OF RESTRICTION	
COR Number: 1	
COR Description:	
FRL: 0	APLT? y
Can Be Service Observed? y	Calling Party Restriction: none
Can Be A Service Observer? y	Called Party Restriction: none
Partitioned Group Number: 1	Forced Entry of Account Codes? n
Priority Queuing? n	Direct Agent Calling? y
Restriction Override: none	Facility Access Trunk Test? n
Restricted Call List? n	Can Change Coverage? n
Access to MCT? y	Fully Restricted Service? n
Group II Category For MFC: 7	Add/Remove Agent Skills? y
Send ANI for MFE? n	Automatic Charge Display? n
MF ANI Prefix:	PASTE (Display PBX Data on Phone)? n
Hear System Music on Hold? y	Can Be Picked Up By Directed Call Pickup? y
	Can Use Directed Call Pickup? y
	Group Controlled Restriction: inactive

4.5 Administer Hunt Group, Vector and VDN

Administer a hunt group, vector and Vector Directory Number (VDN). The VDN and vector were created to route to the XMU+\SBX.

4.5.1 Hunt Group

Enter the **add hunt-group n** command where **n** is an unused hunt group number. On **Page 1** of the **Hunt Group** form, assign a **Group Name** and **Group Extension** valid under the provisioned dial plan. Set the following options to **y** as shown below.

- **ACD** to **y**
- **Queue** to **y**
- **Vector** to **y**

add hunt-group 1	Page 1 of 3
HUNT GROUP	
Group Number: 1	ACD? y
Group Name: XMU	Queue? y
Group Extension: 3090	Vector? y
Group Type: ucd-mia	
TN: 1	
COR: 1	MM Early Answer? n
Security Code:	Local Agent Preference? n
ISDN/SIP Caller Display:	
Queue Limit: unlimited	
Calls Warning Threshold: Port:	
Time Warning Threshold: Port:	

On **Page 2**, set the **Skill** field to **y** as shown below.

add hunt-group 1	Page 2 of 3
HUNT GROUP	
Skill? y	
AAS? n	
Measured: internal	
Supervisor Extension:	
Controlling Adjunct: none	
Redirect on No Answer (rings):	
Redirect to VDN:	
Forced Entry of Stroke Counts or Call Work Codes? N	

4.5.2 Vector

Enter the **change vector n** command, where **n** is set to **1**. Enter the vector steps to queue to **Skill 1** as shown below. If skill 1 is unavailable, the vector is routed through to the announcements residing on the analog ports

change vector 1	Page 1 of 6
CALL VECTOR	
Number: 1	Name: IVR
Lock? n	
Basic? y	EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y
Prompting? y	LAI? y G3V4 Adv Route? y CINFO? y BSR? y Holidays? y
Variables? y	3.0 Enhanced? y
01 queue-to	skill 1 pri m
02 wait-time	6 secs hearing music
03 announcement	6070
04 wait-time	6 secs hearing music
05 queue-to	skill 1 pri m
06 announcement	6100
07 wait-time	6 secs hearing music
08 queue-to	skill 1 pri m
09 wait-time	6 secs hearing music
11 disconnect	after announcement
12 stop	

4.5.3 Vector Directory Number (VDN)

Enter the **add vdn n** command; where **n** is an unused VDN number. The VDN chosen is **1800**. On **Page 1** assign a **Name *** for the VDN, set the **Destination** to **Vector Number** as **1** and **1st Skill** to **1**.

add vdn 1800	Page 1 of 3
VECTOR DIRECTORY NUMBER	
Extension: 1800	
Name*: IVR	
Destination: Vector Number	1
Allow VDN Override? n	
COR: 1	
TN*: 1	
Measured: none	
1st Skill*: 1	
2nd Skill*:	
3rd Skill*:	
* Follows VDN Override Rules	

4.6 Administer Agent Logins

Enter the **add agent-loginID n** command; where **n** is a valid extension under the provisioned dial plan. The agent **Login ID** chosen is **6001** and the **Password** is set to **6001**. Enter a descriptive name for the agent in the **Name** field. Ensure the **COR** field is set to **1** which relates to the COR configured in **Section 4.4**.

change agent-loginID 6001	Page 1 of 2
AGENT LOGINID	
Login ID: 6001	AAS? n
Name: Inbound Agent	AUDIX? n
TN: 1	LWC Reception: spe
COR: 1	LWC Log External Calls? n
Coverage Path:	AUDIX Name for Messaging:
Security Code:	LoginID for ISDN/SIP Display? n
	Password: 6001
	Password (enter again): 6001
	Auto Answer: station
	MIA Across Skills: system
	ACW Agent Considered Idle: system
	Aux Work Reason Code Type: system
	Logout Reason Code Type: system
	Maximum time agent in ACW before logout (sec): system
	Forced Agent Logout Time: :
WARNING: Agent must log in again before changes take effect	

On **Page 2**, specify the list of skills assigned to the login and the skill level for each of them in the **SN/SL** field as shown below. In this case set the Skill Number, **SN** to **1** and the Skill Level, **SL** to **1**.

change agent-loginID 6001										Page 2 of 2				
AGENT LOGINID														
Direct Agent Skill:					Service Objective? n									
Call Handling Preference: skill-level					Local Call Preference? n									
SN	RL	SL		SN	RL	SL		SN	RL	SL		SN	RL	SL
1:	1	1		16:				31:				46:		
2:				17:				32:				47:		

4.7 Administer Stations

A number of stations were set up and used as agent phones during the compliance testing. Use the command **add station n** where **n** is a free extension according to the dial plan. On **Page 1**, set the **Type** to **9630** and enter in a name in the **Name** field. Set the **COR** to **1** to correspond with the COR configured in **Section 4.4**.

add station 3000		Page 1 of 5	
STATION			
Extension: 3000		Lock Messages? n	
Type: 9630		Security Code: 3000	
Port: S00002		Coverage Path 1:	
Name: S1		Coverage Path 2:	
		Hunt-to Station:	
STATION OPTIONS			
Loss Group: 19		Time of Day Lock Table:	
		Personalized Ringing Pattern: 1	
Speakerphone: 2-way		Message Lamp Ext: 3000	
Display Language: english		Mute Button Enabled? y	
Survivable GK Node Name:		Button Modules: 0	
Survivable COR: internal		Media Complex Ext:	
Survivable Trunk Dest? y		IP SoftPhone? n	

4.8 Add Feature Access Codes

Feature Access Codes are added on the Communication Manager for logging in agents for the purposes of compliance testing. Enter the command **change feature-access-codes** and on **Page 5** add the following values to the Automatic Call Distribution Features:

- **After Call Work Access Code** **#8**
- **Auto-In Access Code** **#2**
- **Aux Work Access Code** **#4**
- **Login Access Code** **#6**
- **Logout Access Code** **#5**
- **Manual-in Access Code** **#7**

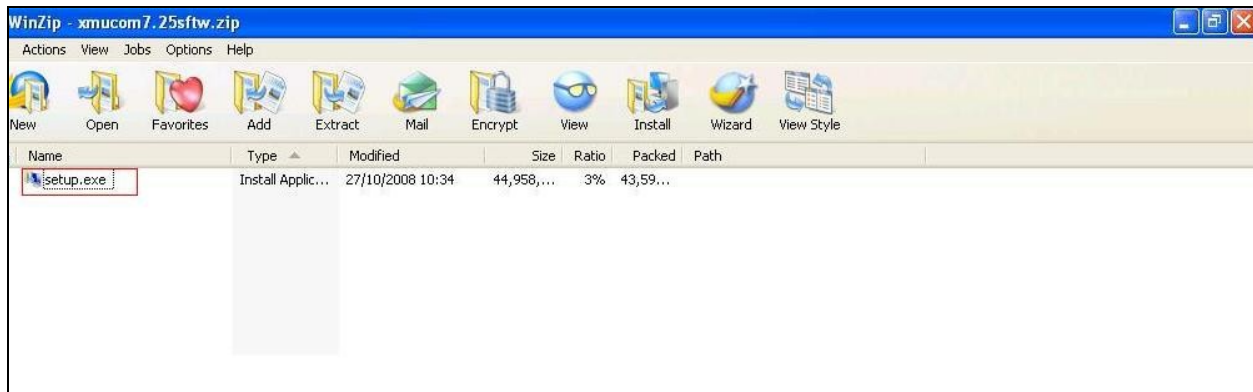
```
change feature-access-codes                                     Page 5 of 8
                                     FEATURE ACCESS CODE (FAC)
                                     Automatic Call Distribution Features
                                     After Call Work Access Code: #8
                                     Assist Access Code:
                                     Auto-In Access Code: #2
                                     Aux Work Access Code: #4
                                     Login Access Code: #6
                                     Logout Access Code: #5
                                     Manual-in Access Code: #7
Service Observing Listen Only Access Code:
Service Observing Listen/Talk Access Code:
Service Observing No Talk Access Code:
Add Agent Skill Access Code:
Remove Agent Skill Access Code:
Remote Logout of Agent Access Code:
```

5 Configure the XMU+\SBX

The following section documents the necessary steps taken to configure XMU+ and SBX to Communication Manager.

5.1 Installing XMU+ and SBX

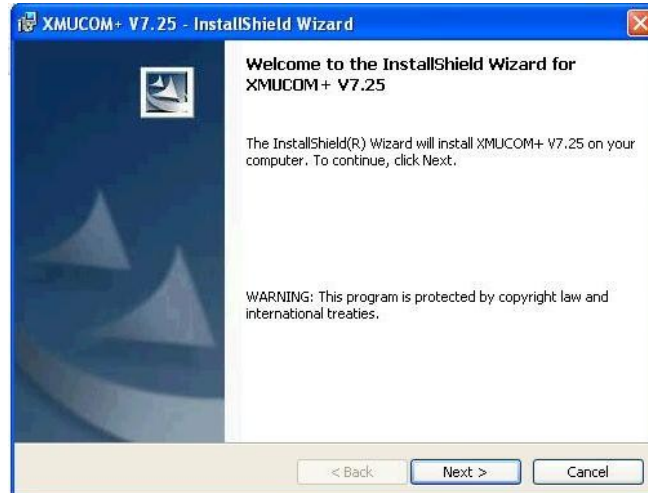
Start the install of the XMU+ by opening the zip file **xmucom7.25sftw.zip** and running the **setup.exe** file as shown.



A **Preparing to Install** screen appears below.



A welcome screen appears next. Click **Next** to continue with the install.



On the **Customer Information** screen, enter **User Name** and **Organization** and click **Next**.



Choose the install destination on the **Destination Folder** screen and click **Next**.



Review the selected settings and click **Install**.



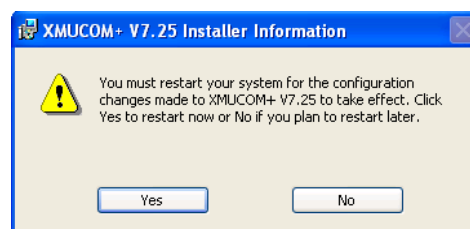
A screen appears showing the status of the install.



A screen appears to indicate the successful install of the product. Click **Finish** to complete it.



Restart the PC to allow configuration changes to take effect. Choose the **Yes** button to restart.

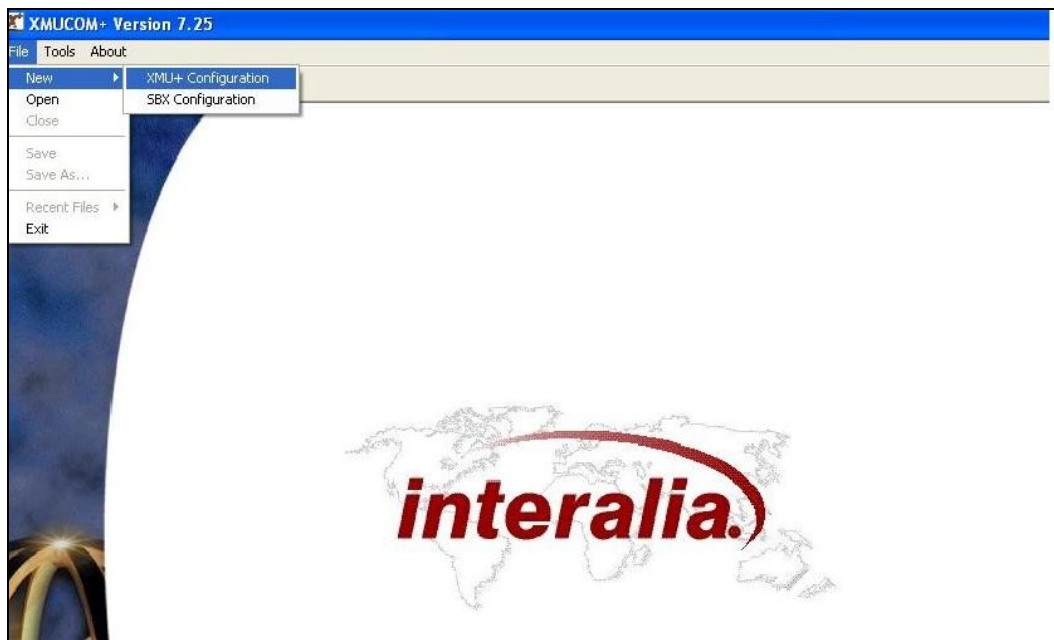


5.2 Installing the SBX

The SBX installation is the same as the XMU+. Use the file **xmucom7.25sftw.zip** to install the SBX and follow the same steps as per **Section 5.1**.

5.3 Configuring the XMU+ and SBX

Open the XMUCOM+ program in the installed directory. Select **File → New → XMU+ Configuration** or **SBX Configuration** depending on which one is installed. For the purposes of this application notes, the configuration of XMU+ is shown. The SBX configuration has the same setup.



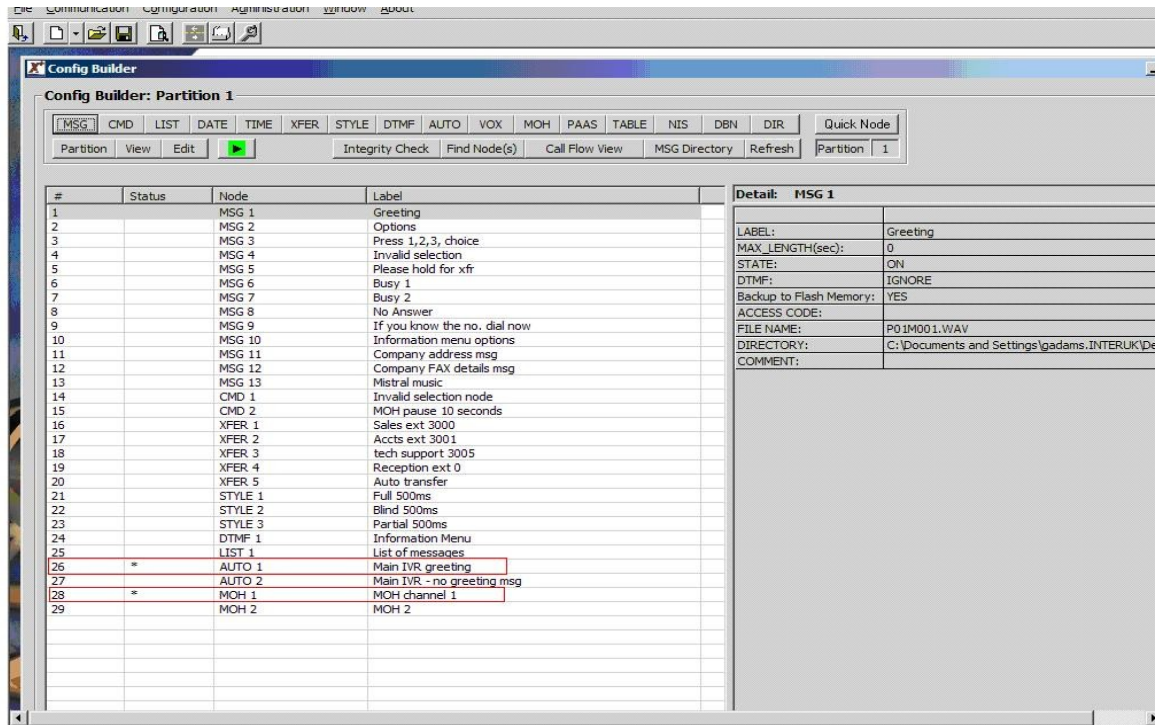
The **Config Builder** form is displayed which is the main IVR\Auto-Attendant configuration screen. Populate this form with music and message files. A completed form is displayed below.

The screenshot shows the 'Config Builder' application window. The title bar includes 'File', 'Communication', 'Configuration', 'Administration', 'Window', and 'About'. The main window has a menu bar with 'MSG', 'CMD', 'LIST', 'DATE', 'TIME', 'XFER', 'STYLE', 'DTMF', 'AUTO', 'VOX', 'MOH', 'PAAS', 'TABLE', 'NIS', 'DBN', 'DIR', and a 'Quick Node' button. Below the menu bar is a toolbar with buttons for 'Partition', 'View', 'Edit', 'Integrity Check', 'Find Node(s)', 'Call Flow View', 'MSG Directory', 'Refresh', and a 'Partition' dropdown set to '1'. The main area is divided into two panes. The left pane is a table with columns '#', 'Status', 'Node', and 'Label'. The right pane is titled 'Detail: MSG 1' and contains fields for 'LABEL:', 'MAX_LENGTH(sec):', 'STATE:', 'DTMF:', 'Backup to Flash Memory:', 'ACCESS CODE:', 'FILE NAME:', 'DIRECTORY:', and 'COMMENT:'. The table in the left pane lists 29 items, with items 26 through 29 highlighted in red. The detail pane shows the configuration for 'MSG 1'.

#	Status	Node	Label
1		MSG 1	Greeting
2		MSG 2	Options
3		MSG 3	Press 1,2,3, choice
4		MSG 4	Invalid selection
5		MSG 5	Please hold for xfr
6		MSG 6	Busy 1
7		MSG 7	Busy 2
8		MSG 8	No Answer
9		MSG 9	If you know the no. dial now
10		MSG 10	Information menu options
11		MSG 11	Company address msg
12		MSG 12	Company FAX details msg
13		MSG 13	Mistral music
14		CMD 1	Invalid selection node
15		CMD 2	MOH pause 10 seconds
16		XFER 1	Sales ext 3000
17		XFER 2	Accts ext 3001
18		XFER 3	tech support 3005
19		XFER 4	Reception ext 0
20		XFER 5	Auto transfer
21		STYLE 1	Full 500ms
22		STYLE 2	Blind 500ms
23		STYLE 3	Partial 500ms
24		DTMF 1	Information Menu
25		LIST 1	List of messages
26	*	AUTO 1	Main IVR greeting
27		AUTO 2	Main IVR - no greeting msg
28	*	MOH 1	MOH channel 1
29		MOH 2	MOH 2

Detail: MSG 1	
LABEL:	Greeting
MAX_LENGTH(sec):	0
STATE:	ON
DTMF:	IGNORE
Backup to Flash Memory:	YES
ACCESS CODE:	
FILE NAME:	P01M001.WAV
DIRECTORY:	C:\Documents and Settings\lgadams\INTERUK\De
COMMENT:	

Note the highlighted entries in the screen above with an * as their **Status**. Once the configuration is built, the line card needs to be set to Auto 1 (shown below) as this is the starting node and is shown by the * against its status in the screen shot above. Double-click the entry for the **Node** displaying **AUTO 1** to open it for editing and the **AUTO Node Editor** screen appears as shown below. It displays set **Prompts**, **Actions** and **Exceptions**.



By double clicking the AUTO 1 entry from the Config builder screen, the AUTO 1 entry below will appear so the settings can be reviewed and edited.

Prompts

Order	Command/Node	Label
1	MSG 1	Greeting
2	MSG 9	If you know the ...
3	MSG 2	Options

Add Insert Remove Edit Up Down Quick Assign

Actions

Entry	Command/Node	Label
1-1	XFER 1	Sales ext 3000
2-2	XFER 2	Accts ext 3001
3-3	XFER 3	tech support 3005
4-4	DTMF 1	Information Menu
3000-3010	XFER 5	Auto transfer
62000-63000	XFER 5	Auto transfer

Add Insert Remove Edit Up Down Quick Assign

Exceptions

	Command/Node	Label
Timeout	XFER 4	Reception ext 0
Invalid	CMD 1	Invalid selection ...
Abort	XFER 4	Reception ext 0
*	NOOP	
#	NOOP	

Edit Default

Label: Main IVR greeting

Number of Digits: 5
Terminating Digit: No
Retry Limit: 1
Selection Time Out(sec): 5
Digit Time Out(sec): 2

OK Cancel Apply

In order to manage a call, the XMU+ will monitor for a busy or no answer indication, and this is achieved by setting the Style node. This can be accessed through the **STYLE** tab as highlighted below. In the configuration builder note the three transfer styles that require setting (Blind, Partial or Supervised).

Config Builder: Partition 1

MSG CMD LIST DATE TIME XFER **STYLE** DTMF AUTO VOX MOH PAAS TABLE NIS DBN DIR Quick Node

Partition View Edit Integrity Check Find Node(s) Call Flow View MSG Directory Refresh Partition 1

#	Status	Node	Label
1		MSG 1	Greeting
2		MSG 2	Options
3		MSG 3	Press 1,2,3, choice
4		MSG 4	Invalid selection
5		MSG 5	Please hold for xfr
6		MSG 6	Busy 1
7		MSG 7	Busy 2
8		MSG 8	No Answer
9		MSG 9	If you know the no. dial now
10		MSG 10	Information menu options
11		MSG 11	Company address msg
12		MSG 12	Company FAX details msg
13		MSG 13	Mistral music
14		CMD 1	Invalid selection node
15		CMD 2	MOH pause 10 seconds
16		XFER 1	Sales ext 3000
17		XFER 2	Accts ext 3001
18		XFER 3	tech support 3005
19		XFER 4	Reception ext 0
20		XFER 5	Auto transfer
21		STYLE 1	Full 500ms
22		STYLE 2	Blind 500ms
23		STYLE 3	Partial 500ms
24		DTMF 1	Information Menu
25		LIST 1	List of messages
26	*	AUTO 1	Main IVR greeting
27	*	AUTO 2	Main IVR - no greeting msg
28	*	MOH 1	MOH channel 1
29		MOH 2	MOH 2

Detail: MSG 1

LABEL:	Greeting
MAX_LENGTH(sec):	0
STATE:	ON
DTMF:	IGNORE
Backup to Flash Memory:	YES
ACCESS CODE:	
FILE NAME:	P01M001.WAV
DIRECTORY:	C:\Documents and Settings\lgadams\INTERUK\De
COMMENT:	

Double click the Style 1 entry from the Config builder screen which is highlighted in the screen above as Line 21. The Style 1 entry below will appear so the settings can be reviewed and edited. The transfer style shows the **Hook Flash (msec)** being set as **500ms** in order to perform the transfer / retrieval of a call.

STYLE Node Editor

STYLE 1 1 of 3

Label: Full 500ms

Supervised

☐ BLIND ☐ PARTIAL ☒ FULL

☐ DIALCONTINUE ☐ ENHANCED

Hook Flash (msec): 500

Transfer:

Disconnect:

Threshold: Low

Retrieve: I,I

Busy Retry (sec): 4

Num Retries: 3

Ring Limit: 8

Busy On (msec): 500

Busy Off (msec): 500

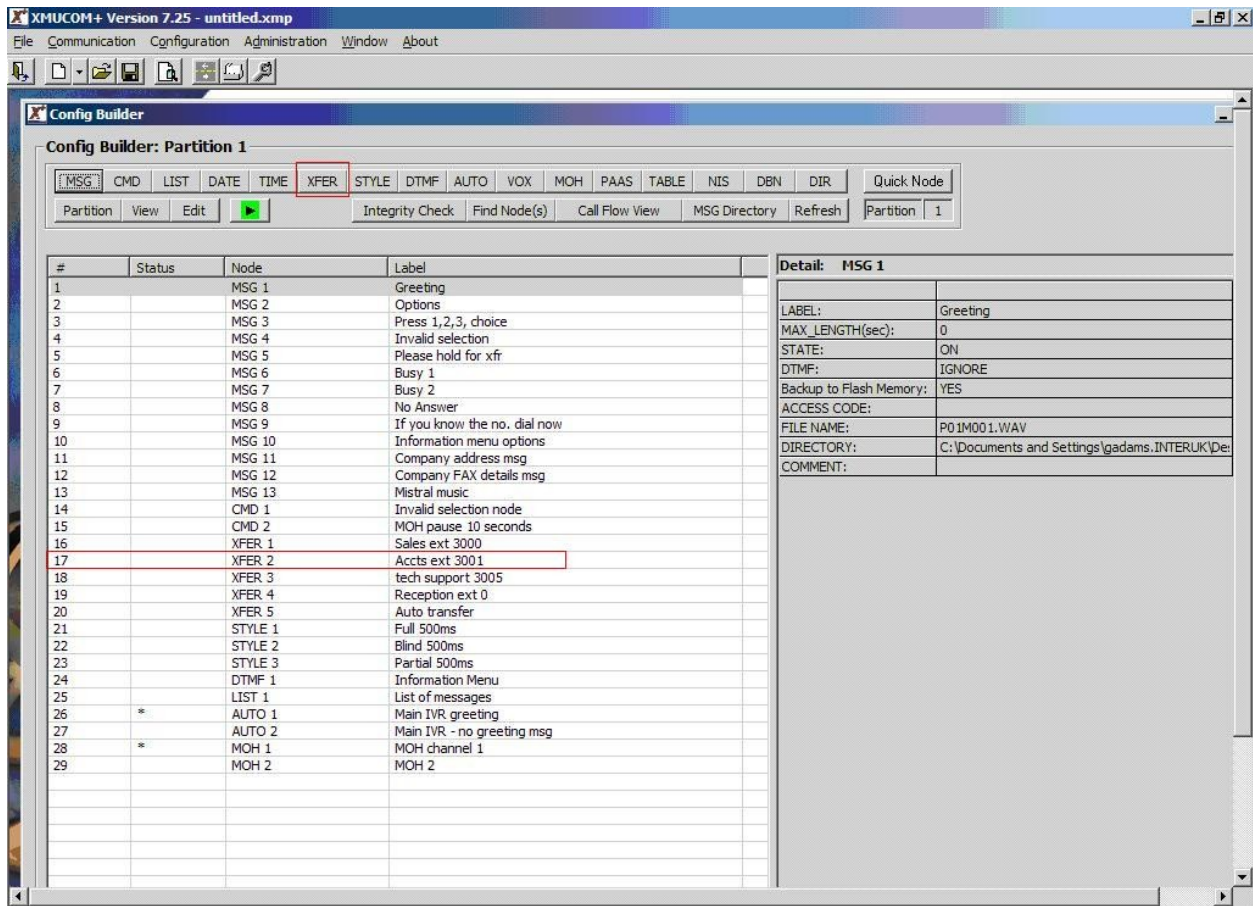
Ring On (msec): 1000

Ring Off (msec): 3000

OK Cancel Apply

Alter the Hook Flash values according to the call progress tones set for country option as referred to in **Section 4.6**.

During the monitoring of a call, it is possible to inform the caller of their progress. In the main configuration builder window you can edit calls transfers i.e. Xfer 2. Click on the **XFER** node as highlighted in the diagram below.



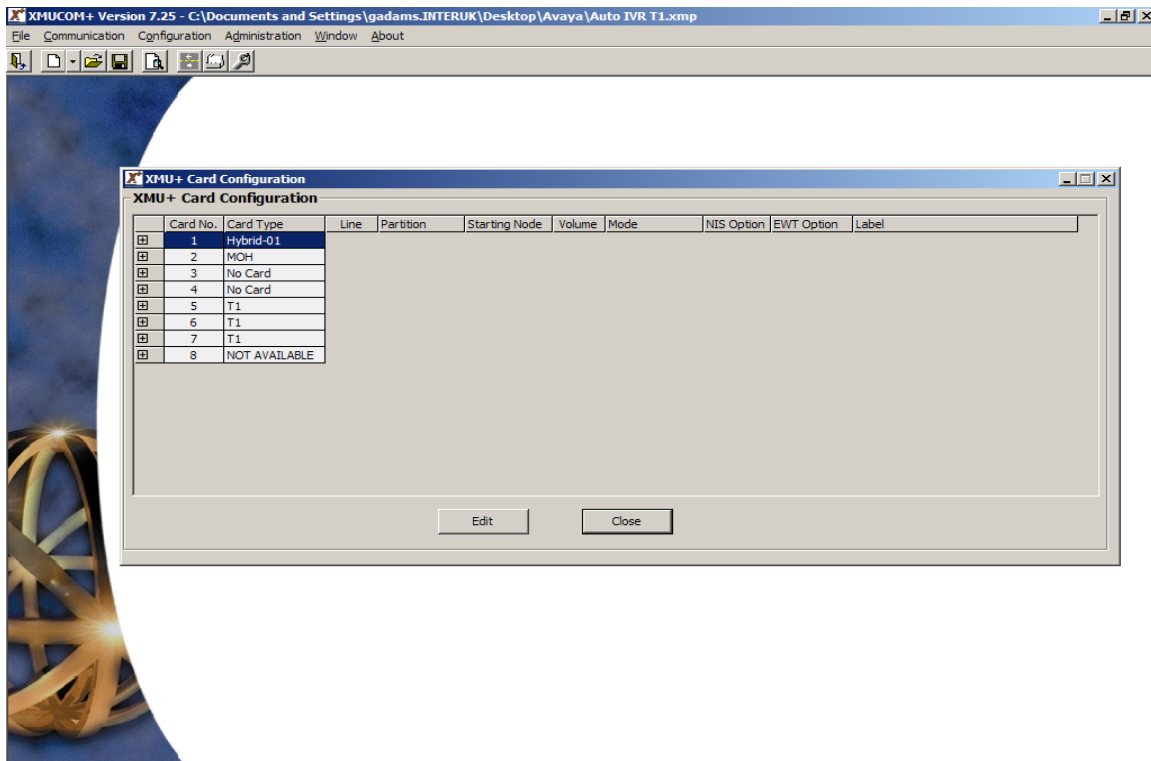
By double clicking the XFER 2 entry from the Config builder screen highlighted in the screen above, the **XFER 2** entry below will appear so the settings can be reviewed and edited. If the extension is busy, messages 6 and 7 (**MSG 6** and **MSG 7**) will play according to the Xfer Style (Num Retries). If there is no answer, then the **No Answer** message (**MSG 8**) is set to play.

	Command/Node	Label
Hold	MSG 5	Please hold for xfr
MOH	NOOP	
Busy 1	MSG 6	Busy 1
Busy 2	MSG 7	Busy 2
No Answer	MSG 8	No Answer
Answer	BEEP	

Note that whilst carrying out the fully supervised transfers, the status mode on the front of the XMU+ display will change to indicate the different call states e.g. B, b, B etc or R, r, R.

5.4 Configuring XMU+ cards

As the XMU+ can house multiple cards, the screen below shows an example of the XMU+ card configuration in a large XMU+ chassis. The first card is a standard DSP Hybrid 01 line card, followed by an MOH card.



Select the first card and then edit the card by clicking **Edit** to show the details below.
The first card is the Hybrid-01

The Card Editor window displays the Hybrid-01 card. The card name is selected in the dropdown menu. The table below shows the configuration for 8 input lines.

Input	Partition	Starting Node	Volume	Mode	NIS Option	EWT Option	Label
1	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
2	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
3	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
4	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
5	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
6	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
7	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	
8	Partition 1	AUTO 1	High	R= 1	Disabled	Disabled	

Navigation controls at the bottom show '1- Hybrid-01' and '1 of 5'.

The next card is the MOH card.

The Card Editor window displays the MOH card. The card name is selected in the dropdown menu. The table below shows the configuration for 4 output lines.

Output	Partition	Starting Node	Volume	Mode	NIS Option	EWT Option	Label
1	Partition 1	MOH 1	6	MOH	Disabled	Disabled	
2	Partition 1	MOH 1	6	MOH	Disabled	Disabled	
3	Partition 1	MOH 1	6	MOH	Disabled	Disabled	
4	Partition 1	MOH 1	6	MOH	Disabled	Disabled	

Navigation controls at the bottom show '2- MOH' and '2 of 5'.

6 General Test Approach and Test Results

The test approach was to validate the correct operation of typical interactive voice response applications such as ACD Announcements, Voicemail etc. The following results were obtained:

- Confirmation that interactive voice messages are played as expected in different call scenarios
- Confirmation that messages and music are routed successfully as expected
- Confirmation of good quality audio in all test cases
- Confirmation that music is played using the music card in XMU+ and SBX
- Successful recovery of XMU+ and SBX after failover testing
- Successful recovery of Communication Manager after failover testing.

The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

7 Verification Steps

This section provides the tests that can be performed to verify correct configuration of Communication Manager, XMU+ and SBX using analog ports.

7.1 Verify Avaya Aura™ Communication Manager

The following steps can ensure that the communication between Communication Manager and XMU+ / SBX is functioning correctly.

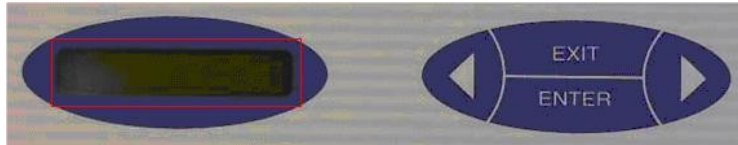
7.1.1 Status of Analog Stations

Check the status of the Analog stations set up in **Section 4.2** by running the command **status station 6010**. On **Page 1** the **Service State** is **in-service/on-hook**.

status station 6010		Page 1 of 4	
GENERAL STATUS			
Administered Type: 2500	Service State: in-service/on-hook		
Connected Type: N/A			
Extension: 6010			
Port: 01A0501	Parameter Download: not-applicable		
Call Parked? no	SAC Activated? no		
Ring Cut Off Act? no			
Active Coverage Option: 1	one-X Server Status: N/A		
EC500 Status: N/A	Off-PBX Service State: N/A		
Message Waiting:			
Connected Ports:			
Limit Incoming Calls? no			
User Cntrl Restr: none	HOSPITALITY STATUS		
Group Cntrl Restr: none	Awaken at:		
	User DND: not activated		
	Group DND: not activated		
	Room Status: non-guest room		

7.2 Verify XMU+ and SBX Status

The Status window, as highlighted below, on the display on the front of the XMU+, can be used to verify the communication of the XMU+. It is accessible by pressing the right arrow to enter the Status window. This shows the call flow as calls are made and received by the interactive voice response system.



8 Conclusion

These Application Notes describe the configuration steps required for Intermedia XMU+ and SBX to successfully interoperate with Avaya Aura™ Communication Manager using analog ports. All functionality and serviceability test cases were completed successfully.

9 Additional References

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

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

1. *Administering Avaya Aura™ Communication Manager, Release 5.2; Document No. 03-300509, May 2009*
2. *DEFINITY Enterprise Communications Server Release 9 System Description 555-233-200, Issue 2, November 2000*

The Intermedia documentation can be found at the following location:

1. <http://www.intermedia.com/Products/XMU/XMU-Overview>
2. <http://www.intermedia.com/Products/SBX/SBX-Overview>

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