

BroadWorks Device Management Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
	Shared Line Status	NA	
	Busy Lamp Field	NA	
	Network-Based Conference	NT	

5.2 Device Management Configuration

This section identifies the steps required to enable the Patton SmartNode for device management. For Device Management configuration details not covered here, refer to the *BroadWorks Device Management Configuration Guide* [2].

5.2.1 Configure BroadWorks Tags

The template files in Device Management use tags to represent the data stored on BroadWorks. When a configuration changes for a user, Device Management parses the template files and replaces the Device Management tags with the associated data stored on BroadWorks. Default tags are defined in the Device Management software and there are custom tags that a service provider can create and define via the web portal for use by Device Management. Two types of custom tags can be defined:

- System default – These tags are common to all phones on the system.
- Device type-specific – These tags are only common to Patton phone models.

The Patton SmartNode also makes use of dynamic tags, which can be configured by a BroadWorks administrator as system default or device type-specific tags. This section identifies the required tags.

5.2.1.1 Create System Default Tags

Browse to *System* → *Resources* → *Device Management Tag Sets* and select the *System Default* tag set. Patton configuration templates make use of the tags in the following table. Add the tags if they do not already exist.

Tag Name	Valid Settings	Description
%SNTP_SERVER%	IP address/FQDN	Network Time Protocol (NTP) server address.
%SBC_ADDRESS%	IP address/FQDN	SBC SIP address.
%SBC_PORT%	Port	SBC SIP port. The port should be set if the defined SBC address is an IP address. If the SBC address is an FQDN, the SBC port should be left unset.
%DNS_SERVER%	IP address	DNS server address.

Example System Default Tag Settings

System Welcome Default Administrator [Logout](#)

Options:

- Profile
- Resources
- Services
- Communication Barring
- Utilities

Device Management Tag Sets Modify

Display all the device management tags defined in the tag set. Tags can be added to the set or deleted from the set.

OK Apply Add Cancel

Tag Set: System Default

Delete	Tag Name	Tag Value	Edit
<input type="checkbox"/>	%APPLICATION_DOMAIN%	as.iop1.broadworks.net	Edit
<input type="checkbox"/>	%DNS_SERVER_1%	199.19.193.12	Edit
<input type="checkbox"/>	%DNS_SERVER_2%	199.19.193.39	Edit
<input type="checkbox"/>	%DNS_SERVER%	199.19.193.12	Edit
<input type="checkbox"/>	%SBC_ADDRESS%	sbc1.iop1.broadworks.net	Edit
<input type="checkbox"/>	%SBC_PORT%	5060	Edit
<input type="checkbox"/>	%SNTP_SERVER_1%	time-a.nist.gov	Edit
<input type="checkbox"/>	%SNTP_SERVER_2%	time-b.nist.gov	Edit
<input type="checkbox"/>	%SNTP_SERVER%	time-b.nist.gov	Edit
<input type="checkbox"/>	%USE_SBC_BOOLEAN%	1	Edit

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Tag Name Starts With Find Find All

OK Apply Add Cancel

Figure 2 System Default Tag Settings

5.2.1.2 Create Device Type Specific Tags

Browse to *System* → *Resources* → *Device Management Tag Sets* and click **Add** to add a new tag set. Configure the tag set name using the device name appended by *Tags*: *Patton_Tags*. Add the device type-specific tags in the following table to the device tag set. If the tag set already exists, ensure the following tags are defined.

Tag Name	Valid Settings	Description
%ADMIN_NAME%		Username for Administrator Account. (This is a space holder, actual value for each device should be entered at the device profile level per instruction in 5.2.3 Create Device Profile Instance .)
%ADMIN_PASSWORD%		Password for Administrator Account. (This is a space holder, actual value for each device should be entered at the device profile level per instruction in 5.2.3 Create Device Profile Instance .)
%DEF_GW%	IP address	Default IP Gateway of the IP Network. (This is a space holder, the actual value for each device should be entered at the device profile level per instruction in 5.2.3 Create Device Profile Instance .)

Tag Name	Valid Settings	Description
%WAN_IP%	IP address or "DHCP"	IP Address of the SmartNode or enter DHCP to request an IP Address from the DHCP server. (This is a space holder, the actual value for each device should be entered at the device profile level per instruction in 5.2.3 Create Device Profile Instance .)
%WAN_NETMASK%	Valid IPv4 Netmask	Netmask of the SmartNode's WAN interface. (This is a space holder. The actual value for each device should be entered at the device profile level per instruction in 5.2.3 Create Device Profile Instance .)

Example Device Type Specific Tag Settings

The screenshot shows the 'Device Management Tag Sets Modify' page in the BroadSoft interface. The page title is 'Device Management Tag Sets Modify' and it includes a subtitle 'Display all the device management tags defined in the tag set. Tags can be added to the set or deleted from the set.' The page has a sidebar with navigation links like 'System', 'Options', 'Profile', 'Resources', 'Services', 'System Services', 'Call Center', 'Communication Barring', 'Meet-Me Conferencing', and 'Utilities'. The main content area shows a table of tags for the 'Patton_Tags' set. The table has columns for 'Delete', 'Tag Name', 'Tag Value', and 'Edit'. The tags listed are %ADMIN_NAME%, %ADMIN_PASSWORD%, %DEF_GW%, %WAN_IP%, and %WAN_NETMASK%. The %WAN_IP% tag has a value of 1.2.3.4 and %WAN_NETMASK% has a value of 255.255.128.0. The page also includes search filters for 'Tag Name' and 'Starts With', and navigation buttons like 'OK', 'Apply', 'Add', and 'Cancel'.

Figure 3 Device Type-Specific Tag Settings

5.2.2 Configure BroadWorks Device Profile Type

The device profile type is a system-level structure that defines how the device interfaces with BroadWorks. It also identifies the default configuration files and other files, such as firmware, which are required for the phone to operate correctly. The device profile type is created by the system administrator. Group administrators use the device profile type to create a device profile. The device profile is an instance of the device profile type that is associated with a physical device or IP phone.

There are two BroadWorks device profile configuration methods described: Import and manual. The import method takes a DTAF as input and builds the BroadWorks device profile type(s) automatically. The manual method walks the administrator through the steps to manual add and configure the device profile type(s).

The import method should be used if all of the prerequisites are met:

- The BroadWorks Release is 17.0 or later.

- The device profile type(s) being imported do not already exist on the system. (If either a previous import or manual configuration was done, the import fails.)
- There is a DTAF file available for import with a BroadWorks release level that is the same as or prior to the release being imported to. If the DTAF file is at a release level later than the release being imported to, the import can fail.

Otherwise, use the manual method.

5.2.2.1 Configuration Method 1: Import

This section identifies the steps necessary to make use of the Device Management import feature to configure BroadWorks to add the Patton SmartNode as a Device Management-enabled device type.

The import method is available in BroadWorks Release 17.0 and later. For previous releases, use the manual configuration method described in the next section.

Download the Patton SmartNode CPE kit from BroadSoft Xchange at xchange.broadsoft.com. Extract the DTAF file(s) from the CPE kit. These are the import files. Repeat the following steps for each model you want to import.

- 1) Log in to BroadWorks as an administrator.
- 2) Browse to *System* → *Resources* → *Identity/Device Profile Types* and select *Import*.
- 3) Click **Browse** to find the extracted DTAF file for the model and click **OK** to start the import.

After the import finishes, complete the following post-import configuration.

- 4) Browse to *System* → *Resources* → *Identity/Device Profile Types*.
- 5) Perform a search to find the imported Patton device profile type, *Patton_SmartNode*.
- 6) Browse to the *Profile* page and change the Device Management Device Access FQDN to your Xtended Services Platform or Xtended Services Platform cluster address.

The screenshot shows the 'Device Management' configuration page. The 'Device Access FQDN' field is highlighted with a red rectangle. The configuration includes the following fields and options:

- Device Type URL: `http://xsp.iop1.broadworks.net:80/dms/Patton_SmartNode_2-8_FXS/`
- Device Configuration Tags:
 - ☐ No Tags
 - ☐ Use Default System Tag Set Only
 - ☒ Use Default System Tag Set and Tag Set:
 - Patton_Tags (dropdown)
- ☒ Allow Identity/Device Profiles to Configure Custom Tags
- ☒ Allow Groups to Configure Custom Tags
- ☐ Send Email Notification to User upon Device Reset Failure
- Device Access Protocol: http (dropdown)
- Device Access FQDN: xsp.iop1.broadworks.net (text field, highlighted)
- Device Access Port: 80 (text field)
- Device Access Context Name: dms (text field)
- Device Access URI: Patton_SmartNode_2-8_FXS/ (text field)
- Default Device Language: (text field)
- Default Device Encoding: (text field)
- Authentication Mode:
 - ☐ MAC-Based
 - ☐ User Name and Password
- Device Access Username: (text field)
- Device Access Password: (text field)
- Re-type Device Access Password: (text field)
- MAC Address In:
 - ☒ HTTP Request URI
 - ☐ HTTP Header with Following Format: (text field)
- Device Access HTTP Authentication:
 - ☒ Basic
 - ☐ Digest

Figure 4 Device Access FQDN

- 7) Click the *Files and Authentication* link and select the option to rebuild all the system files.

Firmware files must be obtained from Patton. These files are not included in the import. Complete the steps in section [5.2.2.2.3 Static Files](#) to define the static firmware files and to upload the firmware.

NOTE: The non-firmware static files in section [5.2.2.2.3 Static Files](#) are included in the import.

5.2.2.2 Configuration Method 2: Manual

This section identifies the manual steps necessary to configure BroadWorks to add the Patton SmartNode as a Device Management-enabled device type.

The manual method must be used for BroadWorks releases prior to Release 17.0. It is an optional method in Release 17.0 and later. To determine when to use the manual method, see section [5.2.2 Configure BroadWorks Device Profile Type](#). The steps in this section can also be followed to update previously imported or configured device profile type(s) with new configuration files and firmware.

The steps in this section must be completed for the device profile type for each Patton model.

5.2.2.2.1 Modify Device Profile Type

This section identifies the BroadWorks device profile type settings relevant to Device Management for the Patton SmartNode.

Browse to *System* → *Resources* → *Identity/Device Profile Types* and perform a search to find the Patton device profile type(s) created in section [3.1 BroadWorks Device Profile Type](#) Configuration or add the device profile type for each model using the settings from section [3.1 BroadWorks Device Profile Type](#) Configuration if they do not exist.

The *Standard Options* and *Advanced Options* should already be configured as specified in section [3.1 BroadWorks Device Profile Type](#) Configuration. If there are differences, perform an update to match the settings in section [3.1 BroadWorks Device Profile Type](#) Configuration.

The following subsections identify the required settings specific to Device Management.

5.2.2.2.1.1 Configure Device Configuration Options

If Device Management has been enabled previously for the device profile type(s), proceed to the next section.

Device Configuration is enabled differently depending on the deployed BroadWorks release.

For BroadWorks Release 18.0 and later, configure as described in the following table.

Parameter	Value	Description
Device Configuration Options	Device Management	Use BroadWorks Device Management

The following figure shows Device Management enablement for BroadWorks Release 18.0 and later.

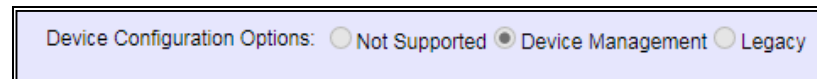


Figure 5 Enable Device Management (Release 18.0 and Later)

For BroadWorks releases prior to Release 18.0, configure as described in the following table.

NOTE: These settings serve only to enable Device Management and are otherwise not meaningful in this context.

Parameter	Value	Description
Auto Configuration Type	2 Config File	Not meaningful other than it must be selected.
CPE System File Name	not_used	This parameter must not be blank, so set it to "not_used".
Device File Format	not_used	This parameter must not be blank, so set it to "not_used".

The following figure shows Device Management enablement for BroadWorks release prior to Release 18.0.

Auto Configuration Options

Web Based Configuration URL Extension:

Auto Configuration Type: ☒ 2 Config File ☐ 3 Config File ☐ Not Supported

☐ Enable Monitoring

CPE System File Name:

Device File Format:

Figure 6 Enable Device Management (pre-Release 18.0)

5.2.2.2.1.2 Configure Device Management Options

Modify the device profile type *Device Management Options* as directed in the following table. These are common settings that apply to all devices enabled for Device Management.

If Device Management has been enabled previously for the device profile type(s), ensure the existing settings match the settings described in this section.

Parameters not identified in the following table can usually be left at the default values.

Parameter	Value	Description
Device Configuration Tags	Use Default System Tag Set and Tag Set. Select the device tag set created in section 5.2.1.2 Create Device Type Specific Tags .	
Allow Identity/Device Profiles to Configure Custom Tags	checked	Optional
Allow Groups to Configure Custom Tags	checked	Optional
Device Access Protocol	http	
Device Access FQDN	<BroadWorks-XSP-Cluster-Address> Example: xsp.iop1.broadworks.net	Set to the Xtended Services Platform cluster FQDN if using an Xtended Services Platform farm. Otherwise, set to the individual Xtended Services Platform FQDN or IP address.
Device Access Port	<BroadWorks-XSP-Port> Example: 80	This should be set to "80".
Device Access Context Name	dms	This does not need to be defined. BroadWorks defaults to the system-defined value.
Device Access URI	<model name> Example: SmartNode_2-8_FXS	This defines the directory the Xtended Services Platform uses to access the configuration files.

Example Device Management Options Settings:

Device Management

Device Type URL:

☐ No Tags

Device Configuration Tags: ☐ Use Default System Tag Set Only
☒ Use Default System Tag Set and Tag Set:

☒ Allow Identity/Device Profiles to Configure Custom Tags
☒ Allow Groups to Configure Custom Tags
☐ Send Email Notification to User upon Device Reset Failure

Device Access Protocol:
Device Access FQDN:
Device Access Port:
Device Access Context Name:
Device Access URI:
Default Device Language:
Default Device Encoding:
Authentication Mode: ☐ MAC-Based ☐ User Name and Password

Device Access Username:
Device Access Password:
Re-type Device Access Password:

MAC Address In: ☒ HTTP Request URI
☐ HTTP Header with Following Format:

Device Access HTTP Authentication: ☒ Basic ☐ Digest

Figure 7 Device Management Options Settings

5.2.2.2.2 Define Device Profile Type Files

This section describes the BroadWorks Device Management configuration necessary to identify the configuration files and other files that the Patton SmartNode downloads.

Configuration templates, firmware, and other files the SmartNode uses must be uploaded to BroadWorks. Download the Patton SmartNode CPE kit from BroadSoft Xchange at broadsoft.com/xchange. Extract the configuration files from the *Configuration Files* folder of CPE kit. Obtain the firmware files directly from Patton.

The following table identifies the Patton configuration files distributed with the CPE kit.

File Name	CPE Kit Template File Name	File Type	Description
Examples			
<i>Patton_%BWMACADDRESS%.cfg</i>	<i>Patton_%BWMACADDRESS%.cfg.template</i>	Device-specific	This file contains all the configuration and firmware files that the phone needs to load

The following table identifies other files that the Patton SmartNode downloads from the server or uploads to the server. These files are not provided in the CPE kit and must be obtained from Patton.

File Name	File Type	Description
<i>SN<Model Number>_H323_SIP_<release version_release date>.zip</i>	Static	This is the firmware for the specific SmartNode according to the <Model Number> field in the file name.

Browse to *System → Resources → Identity/Device Profile Types → Files and Authentication* to add the files as described in the following subsections.

5.2.2.2.2.1 Device-Specific Files

This section identifies the device-specific files used by Patton and provides instructions for defining and uploading the files for Device Management.

Each SmartNode downloads a device-specific file based on the MAC address using the following file name format: *Patton_%BWMACADDRESS%.cfg*.

Add a BroadWorks device profile type file to the Patton SmartNode device profile for the device specific file using the settings described in the following table.

Parameters not identified in the following table can usually be left at the default values.

Parameter	Value	Description
Device Access File Format	<device-specific-file-format> Example: <i>Patton_%BWMACADDRESS%.cfg</i>	This is the file name format the phone uses to request the file.
Repository File Format	<i>Patton_%BWFQDEVICEID%.cfg</i>	This is the file name format as stored in the Device Management repository.
File Category	Dynamic Per-Device	This file is unique per device.

Parameter	Value	Description
File Customization	Administrator and User	This identifies who can customize this file template.
Enable Caching	Not set	Caching should not be enabled for device-specific files.
Assign File	Custom	
Authentication Mode	User Name and Password	The phone-specific file is authenticated with the user name and password.
Device Access HTTP Authentication	Digest	

After defining the device-specific file type, upload the corresponding device-specific file template downloaded from BroadSoft Xchange. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

Example Device-Specific File Settings:

Identity/Device Profile Type File Modify
Modify or delete a file type defined in an Identity/Device Profile Type.

OK Apply Delete Cancel

Device Access File Format: Patton_%BWMACADDRESS%.cfg
Repository File Format: Patton_%BWFQDEVICEID%.cfg
Access File: http://xsp.iop1.broadworks.net:80/dms/Patton_SmartNode_2-8_FXS/Patton_{%25BWMACADDRESS%25}.cfg
Note: this URL has undefined content. Validate it manually by replacing any content between {} with valid value(s).

Repository File:
Template File: [Download](#)
File Category: ☐ Static ☐ Dynamic Per-Type ☒ Dynamic Per-Device
File Customization: **Administrator and User** ▼
☐ Allow Upload from Device

Assign File
☐ Manual
☒ Custom
Upload File: Browse...

Currently using configuration /var/broadworks/lpDeviceConfig/type/Patton_SmartNode_2-8_FXS/Patton_%BWMACADDRESS%.cfg.template

```

administrator %ADMIN_NAME% password %ADMIN_PASSWORD%
dns-client server %DNS_SERVER%
timer PROVISIONING now + 3 minute "provisioning execute
PF_PRO_BROADSOFT"

snmp-client server %SNMP_SERVER% port 123 version 4

actions
rule PROVISIONING_NOLOAD

```

File Authentication
Authentication Mode: ☐ MAC-Based ☒ User Name and Password
MAC Address In: ☒ HTTP Request URI
☐ HTTP Header with Following Format:
Device Access HTTP Authentication: ☐ Basic ☒ Digest
Allowed Access Protocols: ☒ http ☒ https ☒ tftp

Figure 8 Patton_%BWMACADDRESS%.cfg File

5.2.2.2.2 Static Files

Static files are files such as firmware and media files that are not configurable and/or do not make use of the dynamic BroadWorks Device Management tags.

The Patton SmartNode requires the following static files:

- `SN<Model Number>_H323_SIP_<firmware-version>_<release date>.zip`

Add a BroadWorks device profile type file to the Patton SmartNode device profile for each of the static files using the settings described in the following table.

Parameters not identified in the following table can usually be left at the default values.

Parameter	Value	Description
Device Access File Format	<file-name> Examples: SN4110_H323_SIP_R6.T_2013-10-31.zip	This is the file name the phone uses to request the file.
Repository File Format	<file-name> Examples: SN4110_H323_SIP_R6.T_2013-10-31.zip	This is the file name as stored in the Device Management repository. Use the same name as the actual file name.
File Category	Static	This is a static file. There are no dynamic tags in the file.
File Customization	Disallow	This file must not be modified.
Enable Caching	Selected	Caching is recommended for static files.
Assign File	Custom	
Authentication Mode	Not set	The static files are not authenticated. Do not select either of these options.

After defining the static file types, upload the corresponding static files. Firmware must be obtained from Patton. Use the **Browse** button on the file definition screen. Be sure to click **Apply** after uploading the file.

Example Static File Settings

Identity/Device Profile Type File Modify
Modify or delete a file type defined in an Identity/Device Profile Type.

OK Apply Delete Cancel

Device Access File Format: SN4110_H323_SIP_R6.T_2013-10-31.zip
Repository File Format: SN4110_H323_SIP_R6.T_2013-10-31.zip
Access File: http://xsp.iop1.broadworks.net:80/dms/Patton_SmartNode_2-8_FXS/SN4110_H323_SIP_R6.T_2013-10-31.zip
Repository File: [Download](#)
Template File: [Download](#)
File Category: ☒ Static ☐ Dynamic Per-Type ☐ Dynamic Per-Device
File Customization: **Disallow**
☒ Enable caching

Assign File
☐ Manual
☒ Custom
Upload File: [Browse...](#)
Currently using /var/broadworks/tpDeviceConfig/type/Patton_SmartNode_2-8_FXS/SN4110_H323_SIP_R6.T_2013-10-configuration file: 31.zip.template
Please obtain this file from the equipment vendor.

File Authentication
Authentication Mode: ☐ MAC-Based ☐ User Name and Password
MAC Address In: ☒ HTTP Request URI
☐ HTTP Header with Following Format:
Device Access HTTP Authentication: ☒ Basic ☐ Digest
Allowed Access Protocols: ☒ http ☒ https ☒ tftp

Figure 9 Firmware File

5.2.3 Create Device Profile Instance

The previous sections defined the device profile type such that the system is ready to mass deploy device profiles. A device profile is an instance of the device profile type and defines the BroadWorks interface to a Patton device deployed at a user's site.

This section describes how to create a BroadWorks device profile instance for an individual Patton SmartNode device. Device profile instances are usually created at the BroadWorks Group level and assigned to users.

When you create the device profile, you must define the authentication data. The authentication data is used by Device Management to challenge a request from a phone to download a configuration file. The device must send credentials that match the credentials stored in the device profile.

Browse to the BroadWorks <group> → *Resources* → *Identity/Device Profiles* page and select *Add* to add a new Patton SmartNode device profile. Define the device profile instance using the settings described in the following table.

Parameters not identified in the following table can usually be left at the default values.

Parameter	Value	Description
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Parameter	Value	Description
Identity/Device Profile Name	<device-profile-name> Example: Patton_SmartNode_2-8_FXS	The device profile name is a unique identifier for the device profile instance.
Identity/Device Profile Type	<Patton_SmartNode_2-8_FXS-device-profile-type> Example: BSFT_IOP_SN4110	From the drop-down list, select the Patton SmartNode device profile type created in the previous section.
Authentication	Use Custom Credentials	Use the unique login name and password for each phone.
Device Access User Name	<phone-login-name> Example: BSFT4110	The user name used to log in from the phone. The phone login user naming convention must be determined by the service provider.
Device Access Password	<phone-login-password> Example: 654321	The password used to log in from the phone.

Example Identity/Device Profile Add Settings

Identity/Device Profile Modify
Modify or delete an existing group identity/device profile.

Saved

OK Apply Delete Cancel

Profile Users Files Custom Tags

Identity/Device Profile Name: BSFT_IOP_SN4110
Identity/Device Profile Type: Patton_SmartNode_2-8_FXS
Device Type URL: http://xsp.iop1.broadworks.net:80/dms/Patton_SmartNode_2-8_FXS/

Protocol: SIP 2.0
Host Name/IP Address: Port:
Transport: Unspecified
MAC Address:
Serial Number:
Description:
Outbound Proxy Server:
STUN Server:
Physical Location:
Lines/Ports: 8
Assigned Lines/Ports: 1
Unassigned Lines/Ports: 7
Version:

Authentication
☐ Use Identity/Device Profile Type Credentials
☒ Use Custom Credentials
* Device Access User Name: BSFT4110
* Device Access Password:
* Re-type Device Access Password:

OK Apply Delete Cancel

Figure 10 Device Profile Instance

Provide device specific tag values by browsing to the under *Custom Tags* tab, set the parameters as described in the following table.

Parameter	Value	Description
Common Custom Tags (Must be defined for all SmartNode devices)		
%ADMIN_NAME %	<Administrator Username> Example: administrator	Username for Administrator Account
%ADMIN_PASSW ORD%	<Administrator Password> Example: 123456	Password for Administrator Account
%DEF_GW%	IP Address Example: 1.2.3.1	Default IP Gateway of the IP Network
%WAN_IP%	IP Address Example: 1.2.3.4	IP Address of the SmartNode or enter DHCP to request an IP Address from the DHCP server.
%WAN_NETMAS K%	Netmask Example: 255.255.128.0	Netmask of the SmartNode's WAN interface
PRI Devices Custom Tags (Must be defined only for Smart Node devices containing PRI interface)		
%PORT- TYPE_x% *Replace "x" with numeric value of 1-4	PRI service level type e1 or t1 Example: e1	An E1T1 Port can either work in T1 or in E1 (G.704) mode.
%LINECODE_x% *Replace "x" with numeric value of 1-4	Line code for each of the PRI ports ami or b8zs or hdb3 ami - Alternate Mark Inversion Code (T1 or E1) b8zs - Bipolar 8-Zero Substitution Code (T1 only) hdb3 - High Density Bipolar Order 3 Code (E1 only)	Line codes can be selected on the PRI port whereas only "ami" is standardized for E1 and T1.
%FRAMING_x% *Replace "x" with numeric value of 1-4	Frame format crc4 or esf or non-crc4 or sf crc4 - CRC4 multiframing (E1 only) esf - Extended Superframe (T1 only) non-crc4 - Framed without CRC4 (E1 only) sf - Superframe (T1 only)	Four framing formats are available for selection on the E1T1 port.

Parameter	Value	Description
%L3_PROTOCOL_x%	Layer 3 protocol	Specify the ISDN layer 3 protocol.
*Replace "x" with numeric value of 1-4	dms-100 or dss1 or ni2 or ntt or pss1 dms-100 - Nortel DMS-100 Primary Rate Protocol (Similar to NI-1/2) dss1- Digital Subscriber Signaling 1 ni2 - NI2 (National ISDN 2) ntt - NTT (Nippon Telecom) pss1 - Private Signaling System 1 (Q.SIG)	
%UNI_SIDE_x%	Specify the UNI side of the interface	Make sure that the device connected to a SmartNode ISDN port is operating the opposite side of the configured uni-side.
*Replace "x" with numeric value of 1-4	net or user net - Network side user - User side	
%BCHAN_ORDE R_x%	Specify B-channel allocation strategy	
*Replace "x" with numeric value of 1-4	Ascending or ascending-cyclic or descending or descending-cyclic ascending - Ascending ascending-cyclic - Ascending cyclic descending - Descending descending-cyclic - Descending cyclic	
%PCM_LAW%	ulaw or alaw aLaw - Uses aLaw (used in Europe) uLaw - Uses uLaw (used in USA)	The PCM law-select specifies the voice characteristic compression curve. Two values are possible: a-Law (used in Europe) and u-Law (used in the USA).
BRI Devices Custom Tags (Must be defined only for Smart Node devices containing BRI interface)		
%BRI_POWER%	To provides power to ISDN Phones? <blank> or power-feed power-feed - if yes. Leave blank - if no.	Enables or disabled the providing of -40V on the BRI ports.
%PP_PMP%	Specify Q.921 operating mode pmp or pp pmp - Point to multipoint (For BRI Phones) pp - Point to point	

Parameter	Value	Description
%L3_PROTOCOL_x%	Layer 3 protocol dms-100 or dss1 or ni2 or ntt or pss1 *Replace "x" with numeric value of 1-4 dms-100 - Nortel DMS-100 Primary Rate Protocol (Similar to NI-1/2) dss1- Digital Subscriber Signaling 1 ni2 - NI2 (National ISDN 2) ntt - NTT (Nippon Telecom) pss1 - Private Signaling System 1 (Q.SIG)	Specify the ISDN layer 3 protocol
%Bchan_ORDER_x%	Specify B-channel allocation strategy Ascending or ascending-cyclic or descending or descending-cyclic ascending - Ascending ascending-cyclic - Ascending cyclic descending - Descending descending-cyclic - Descending cyclic	
%UNI_SIDE_x%	Specify the UNI side of the interface net or user net - Network side user - User side	Make sure that the device connected to a SmartNode ISDN port is operating the opposite side of the configured uni-side.

Example Custom Tags Settings

Identity/Device Profile Modify
View and modify device management tags used by the Identity/Device Profile.

OK Apply Add Cancel

Profile Users Files Custom Tags

Identity/Device Profile Name: BSFT_IOP_SN4110
Identity/Device Profile Type: Patton_SmartNode_2-S_FXS

Delete	Tag Name	Tag Value	Edit
<input type="checkbox"/>	%ADMIN_NAME%	administrator	Edit
<input type="checkbox"/>	%ADMIN_PASSWORD%	123456	Edit
<input type="checkbox"/>	%DEF_GW%	1.2.3.1	Edit
<input type="checkbox"/>	%WAN_IP%	1.2.3.4	Edit
<input type="checkbox"/>	%WAN_NETMASK%	255.255.128.0	Edit

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Tag Name Starts With Find Find All

OK Apply Add Cancel

Figure 11 Device Profile Custom Tags

5.2.4 Configure BroadWorks User

Configure the user with the desired BroadWorks configuration and services. Any services that require a specific configuration on the device are managed via Device Management

and are defined in the device configuration files, provided that the template files are created with the correct Device Management tags.

The device profile created in the previous section should be assigned to the BroadWorks user. Assigning the device profile to the user automatically causes the Device Management feature to generate the device configuration files for this user's device.

To assign the device profile to the user, browse to the BroadWorks <user> → *Addresses* page and set the parameters as described in the following table.

It is expected that parameters not identified in the following table are already set or are self-explanatory.

Parameter	Value	Description
Identity/Device Profile Name	<device-profile-name> Example: BSFT_IOP_SN4110	From the drop-down list, select the device profile instance created in the previous section.
Line/Port	<SIP register address-of-record> Example: 8881001023@as.iop1.broadworks.net	Supply the desired SIP register Address-of-Record.

Example User Addresses Settings

Figure 12 Assign Device Profile to User

5.2.5 Configure Edge Device

In many deployments, an edge device is deployed on the enterprise edge. Configure the edge device SIP server setting with the service provider's session border controller IP address or FQDN.

To integrate the edge device with Device Management, the SBC address tag (%SBC_ADDRESS%) defined in section 5.2.1.1 *Create System Default Tags* must be overridden at the group level with the LAN address of the edge device. At the *Group* → *Utilities* → *Configure Device* page, select the Patton device profile (example: Patton_SmartNode_2-8_FXS). Perform the following steps.

- 1) Click on the *Custom Tags* tab.
- 2) Click **Add**.