BroadSoft Partner Configuration Guide

GXP11XX/GXP14XX/GXP21XX
Enterprise IP Phone

Grandstream GXV31XX
IP Multimedia Phone

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BroadWorks® Guide

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Document Revision History

Version	Reason for Change
1.1	Introduced document for Grandstream GXP21XX/GXP14XX/GXV31XX in validation with BroadWorks Release 17.0.
1.2	Edited and published document.
1.3	Added Device Management configuration instructions.
1.4	Edited and published document.
1.5	Modified manual instructions for device management device-specific file parameters.
1.6	Edited and published document.
1.7	Update the document with Grandstream GXP2120 version 1.0.1.108 interoperability test with BroadWorks Release 17SP4; Added GXP1100/GXP1105/GXP1400/GXP1405 product models.

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1 Overview

This document describes the configuration procedures required for the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX phones to be interoperable with BroadWorks. This includes the following Grandstream phone models:

- GXP1100
- GXP1105
- GXP1400
- GXP1405
- GXP1450
- GXP2100
- GXP2110
- GXP2120
- GXV3140
- GXV3175

The GXP11XX/GXP14XX/GXP21XX/GXV31XX phones use the Session Initiation Protocol (SIP) to communicate with BroadWorks for call control.

This guide describes the specific configuration items that are important for use of BroadWorks. It does not describe the purpose and use of all configuration items on the GXP11XX/GXP14XX/GXP21XX/GXV31XX. For those details, see the GXP11XX/GXP14XX/GXP21XX/GXV31XX User Manual supplied by Grandstream [1].

2   Interoperability Status

This section provides the known interoperability status of the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX with BroadWorks. This includes the version(s) tested, capabilities supported and known issues.

Interoperability testing validates that the device interfaces properly with BroadWorks via the SIP interface. Qualitative aspects of the device or device capabilities not affecting the SIP interface such as display features, performance, and audio qualities are not covered by interoperability testing. Requests for information and/or issues regarding these aspects should be directed to Grandstream.

2.1   Verified Versions

The following table identifies the verified Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX and BroadWorks versions and the month/year the testing occurred. If the device has undergone more than one test cycle, versions for each test cycle are listed, with the most recent listed first.

Compatible Versions in the following table identifies specific Grandstream versions, which the partner has identified as compatible and should interface properly with BroadWorks. Generally, maintenance releases of the validated version are considered compatible and may not be specifically listed here. Contact Grandstream for any questions concerning maintenance and compatible releases.

> NOTE: Interoperability testing is normally performed with the latest generally available (GA) device firmware/software and the latest GA BroadWorks release and service pack at the time the testing occurs. If there is a need to use a non-verified mix of BroadWorks and device software versions, customers can mitigate their risk by self-testing the combination using the *BroadWorks SIP Access Device Interoperability Test Plan* [5].

Verified Versions Table

Date (mm/yyyy)	BroadWorks Release	Grandstream Verified Version	Grandstream Compatible Versions
12/2001	Release 17 SP4	GXP11XX/GXP14XX//GXP21XX: 1.0.1.108 GXV3140: 1.0.7.50 GXV3175: 1.0.3.40	Any maintenance release of the verified versions.
01/2011	Release 17.0	GXP2120/GXP2110/GXP2100/GXP1450: 1.0.1.39 GXV3140: 1.0.7.3 GXV3175: 1.0.1.4	Any maintenance release of the verified versions.

2.2   Interface Capabilities Supported

The Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX has completed interoperability testing with BroadWorks using the *BroadWorks SIP Access Device Interoperability Test Plan* [5]. The results are summarized in the following table.

The BroadWorks test plan is composed of packages, each covering distinct interoperability areas, such as "Basic" call scenarios and "Redundancy" scenarios. Each package is composed of one or more test items which in turn are composed of one or more test cases. The test plan exercises the SIP interface between the device and BroadWorks with the intent to ensure interoperability sufficient to support the BroadWorks feature set.

The *Supported* column in the following table identifies the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX's support for each of the items covered in the test plan packages, with the following designations:

- Yes   Test item is supported
- No   Test item is not supported
- NA   Test item is not applicable to the device type
- NT   Test item was not tested

Caveats or clarifications are identified in the *Comments* column.

Note that *DUT* in the following table refers to the *Device Under Test,* which in this case is the Grandstream phone.

BroadWorks SIP Access Device Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
Basic	Call Origination	Yes	
	Call Termination	Yes	
	Session Audit	Yes	
	Session Timer	Yes	
	Ringback	Yes	
	Forked Dialog	Yes	
	Early UPDATE	No	
	Early-Session	No	
	181 Call Being Forwarded	Yes	
	Dial Plan	Yes	
	DTMF - Inband	Yes	
	DTMF – RFC 2833	Yes	
	DTMF – DTMF Relay	Yes	
	Codec Negotiation	Yes	
	Codec Renegotiation	Yes	
BroadWorks Services	Third-Party Call Control – Basic	NA	
	Third-Party Call Control – Advanced	Yes	
	Voice Message Deposit/Retrieval	Yes	
	Message Waiting Indicator	Yes	
	Voice Portal Outcall	Yes	

	Advanced Alerting	Yes	
	Calling Line ID	Yes	Except GXP11XX
	Connected Line ID	Yes	Except GXP11XX
	Connected Line ID on UPDATE	NT	
	Connected Line ID on Re-INVITE	NT	
	Diversion Header	Yes	
	History-Info Header	Yes	
	Advice of Charge	NT	
	Meet-Me Conferencing	Yes	
DUT Services – Call Control Services	Call Waiting	Yes	
	Call Hold	Yes	
	Call Transfer	Yes	No for attended transfer before answering
	Three-Way Call	Yes	No for three-way call before answering
	Network-Based Conference	Yes	Except GXP11XX/GXV31XX
DUT Services – Registration and Authentication	Register Authentication	Yes	
	Maximum Registration	Yes	
	Minimum Registration	Yes	
	Invite Authentication	Yes	
	Re-Invite/Update Authentication	Yes	
	Refer Authentication	Yes	
	Device Authenticating BroadWorks	No	
DUT Services – Fax	G711 Fax Passthrough	NA	
	G711 Fax Fallback	NA	
	T38 Fax Messaging	NA	
DUT Services – Short Message Service	Short Message Service	NT	
DUT Services – Miscellaneous	Do Not Disturb	Yes	Except GXP11XX
	Call Forward Always	Yes	
	Call Forward Always Diversion Inhibitor	Yes	
	Anonymous Call	Yes	
	Anonymous Call Block	Yes	
	Remote Restart Via Notify	Yes	
Advanced Phone Services – Busy Lamp Field	Busy Lamp Field	Yes	Except GXP11XX/GXV3140
	Call Park Notification	No	

Advanced Phone Services – Feature Key Synchronization, Private Line	Do Not Disturb	Yes	Except GXP11XX/GXV3140
	Do Not Disturb Ring Splash	Yes	Except GXP11XX/GXV3140
	Call Forward	Yes	Except GXP11XX/GXV3140
	Call Forward Always Ring Splash	Yes	Except GXP11XX/GXV3140
	Call Forward Always Diversion Inhibitor	Yes	Except GXP11XX/GXV3140
	Call Center Agent Logon/Logoff	No	
	Call Center Agent Unavailable Code	No	
Advanced Phone Services – Feature Key Synchronization, Shared Line	Do Not Disturb	NT	
	Do Not Disturb Ring Splash	NT	
	Call Forward	NT	
	Call Forward Always Ring Splash	NT	
	Call Forward Always Diversion Inhibitor	NT	
Advanced Phone Services – Missed Calls Display Synchronization	Missed Calls Display Sync	Yes	Except GXP11XX
Advanced Phone Services – Shared Call Appearance using Call Info	Line-Seize	Yes	Except GXP11XX/GXV31XX
	Call-Info / Lamp Management	Yes	Except GXP11XX/GXV31XX
	Public Hold	Yes	Except GXP11XX/GXV31XX
	Private Hold	Yes	Except GXP11XX/GXV31XX
	Multiple Call Arrangement	Yes	Except GXP11XX/GXV31XX
	Bridging	NT	
	Call Park Notification	No	
Advanced Phone Services – Shared Call Appearance using Dialog Event	Dialog Event	No	
	Hold/Retrieve	No	
	Multiple Call Arrangement	No	
	Bridging	No	
	Call Park Notification	No	
Advanced Phone Services – Call Center	Hold Reminder	No	
	Call Information	No	
	Hoteling Event	No	

	Status Event	No	
	Disposition Code	No	
	Emergency Escalation	No	
	Customer Originated Trace	No	
Advanced Phone Services – Call Park Notification	Call Park Notification	No	
Redundancy	DNS SRV Lookup	Yes	
	Register Failover/Failback	Yes	
	Invite Failover/Failback	Yes	
	Bye Failover	Yes	
SBC/ALG	Register	Yes	
	Outgoing Invite	Yes	
	Incoming Invite	Yes	
Video – Basic Video Calls	Call Origination	Yes	Supported by GXV3140/GXV3175
	Call Termination	Yes	Supported by GXV3140/GXV3175
	Call Hold	Yes	Supported by GXV3140/GXV3175
	Call Waiting	Yes	Supported by GXV3140/GXV3175
	Call Transfer	Yes	Supported by GXV3140/GXV3175
Video – BroadWorks Video Services	Auto Attendant	Yes	Supported by GXV3140/GXV3175
	Auto Attendant - HD	No	
	Voice Messaging	Yes	Supported by GXV3140/GXV3175
	Voice Messaging - HD	No	
	Custom Ringback	Yes	Supported by GXV3140/GXV3175
TCP	Register	Yes	
	Outgoing Invite	Yes	
	Incoming Invite	Yes	
IPV6	Call Origination	NT	
	Call Termination	NT	
	Session Audit	NT	
	Ringback	NT	
	Codec Negotiation/Renegotiation	NT	

Call Control	NT	
Registration w/ Authentication	NT	
T38 Fax Messaging	NT	
Busy Lamp Field	NT	
Redundancy	NT	
SBC	NT	
Video	NT	

2.3   Known Issues

This section lists the known interoperability issues between BroadWorks and specific partner release(s). Issues identified during interoperability testing and known issues identified in the field are listed.

The following table provides a description of each issue and, where possible, identifies a workaround. The verified partner device versions are listed with an "X" indicating that the issue occurs in the specific release. The issues identified are device deficiencies or bugs, so typically not BroadWorks release dependent.

The *Issue Number* is a BroadSoft ExtraView partner issue number if the testing was performed by BroadSoft. If the testing was performed by the partner or a third party, the partner may or may not supply a tracking number.

For more information on any issues related to the particular partner device release, see the partner release notes.

Issue Number	Issue Description	Partner Version			
		GXP2120 1.0.1.108	GXP2120 1.0.1.39		
	No issues identified.				

3 BroadWorks Configuration

This section identifies the required BroadWorks device profile for the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX as well as any other unique BroadWorks configuration required for interoperability with the Grandstream models listed previously.

3.1 BroadWorks Device Profile Configuration

This section identifies the device profile to use when deploying the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX with BroadWorks.

The following table identifies the required BroadWorks device identity/profile settings for interoperability between the GXP11XX/GXP14XX/GXP21XX/GXV31XX and BroadWorks. For an explanation of the profile parameters, see the *BroadWorks Device Management Configuration Guide* [2].

For most of the following parameters, an "X" indicates the parameter function is supported and/or required. If the item is blank, it is not supported. For items where text is supplied, the text content maps directly to the web page for adding or modifying a device profile.

Grandstream Identity/Device Profile	
Signaling Address Type	Intelligent Proxy Addressing
Standard Options	
Number of Ports	GXP1400: 2 GXP1405: 2 GXP1450: 2 GXP1100: 1 GXP1105: 1 GXP2100: 4 GXP2110: 6 GXP2120: 4 GXV3140: 3 GXV3175: 3
Ringback Tone/Early Media Support	Local Ringback – No Early Media
Authentication	Enabled
Registration Capable	X
Static Registration Capable	
E.164 Capable	
Trusted	
Authenticate REFER	X
RFC 3264 Hold	X
Video Capable	
Use History-Info Header	X
Advanced Options	
Route Advance	

Wireless Integration	
PBX Integration	
Add P-Called-Party-ID	
Auto Configuration Soft Client	
Requires BroadWorks Call Waiting Tone	
Advice of Charge Capable	X
Forwarding Override	
Conference Device	
Music On Hold Device	
Requires BroadWorks Digit Collection	
Requires MWI Subscription	
Support Call Center MIME Type	
Reset Event	checkSync
Trunk Mode	User
Auto Configuration Options	
Web Based Configuration URL Extension	
Auto Configuration Type	2 Config File
Enable Monitoring	
CPE System File Name	cfg%BWMACADDRESS%.xml
Device File Format	not_used

3.2   BroadWorks Configuration Steps

No special BroadWorks configuration is required.

4 GXP11XX/GXP14XX/GXP21XX/GXV31XX Configuration

Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX can be configured via web GUI as well as via the Configuration File through TFTP or HTTP/HTTPS.

The GXP11XX/GXP14XX/GXP21XX/GXV31XX accepts configuration files in XML format in addition to the legacy proprietary binary format.

When Grandstream device boots up or reboots, it issues a request for a configuration file named "cfgMAC.xml", where "MAC" is the MAC address of the device, for example "cfg000b820102ab.xml". The configuration file name should be in lower case.

The following examples describe how to set the parameters using a configuration file. The GXP11XX/GXP14XX/GXP21XX/GXV31XX should be configured to load the configuration file each time it resets or re-synchronizes. For detailed information on automated provisioning, see the GXP11XX/GXP14XX/GXP21XX/GXV31XX *User Manual* [1] and the *Grandstream XML Provisioning Guide* [6].

The capabilities of the GXP11XX/GXP14XX/GXP21XX/GXV31XX have been verified for use with BroadWorks based on the settings described in the following table. For more information on the meaning, purpose, and applicability of the individual configuration items see the GXP11XX/GXP14XX/GXP21XX/GXV31XX *Configuration Tool and Template* [7].

Configuration Files

Files Provided by Partner	Level	Description
cfgMAC.xml Example: cfg000b82000000.xml	System and Subscriber	Contains configurable parameters that apply to an individual device in a deployment.
Configuration Template Examples: gxp21xx_gxp1450_config_1.0.1.108.txt gxp110x_config_1.0.1.108.txt gxp140x_config_1.0.1.108.txt gxv3140_config_1.0.7.50.txt gxv3175_config_1.0.3.40.txt	System and Subscriber	Contains a complete list of configurable parameters that apply to an individual device in a deployment.

4.1 System Level Configuration

This section describes system-wide configuration items that are generally required for each GXP11XX/GXP14XX/GXP21XX/GXV31XX to work with BroadWorks. Subscriber-specific settings are described in the next section.

Step	Command	Purpose
System Configuration Items		
Step 1	**Set SIP Proxy/Domain.** SIP Server = as.broadworks.net	Set the GXP21xx/GXP14xx/ GXP11XX/GXV31XX SIP server to the Fully Qualified Domain Name (FQDN) for the BroadWorks Application Server cluster. The domain must match the domain configured for the BroadWorks subscriber's line/port domain.
Step 2	**Set Outbound Proxy.** Outbound Proxy = sbc.broadworks.net	Set the Outbound Proxy to the session border controller (SBC) if one is deployed between the GXP11XX/GXP14XX/GXP21XX/ GXV31XX and BroadWorks. If there are redundant SBCs, set it to the FQDN for the SBC cluster.
Step 3	**Enable DNS SRV lookup.** DNS Mode = "SRV"	Enable DNS SRV lookups.
Step 4	**Set register mode.** SIP Registration = "Yes"	Enable SIP register.
Step 5	**Set SIP Timers.** Register Expiration = 60	The default registration period is 60 minutes.
Step 6	**Enable reliable response.** Enable 100rel = "Yes"	Reliable provisional response (PRACK) should be enabled.
Step 7	**Enable negotiated DTMF type.** Send DTMF = "via RTP (RFC 2833)"	Set the GXP11XX/GXP14XX/GXP21XX/ GXV31XXto enable inband or RFC 2833 negotiated DTMF.
Step 8	**Configure dialplan.** Example: Dial Plan = "{ x+ | *x+ | *xx*x+ }"	Configure the GXP21xx/ GXP14xx/GXP11XX/GXV31XX dial plan according to the locale. The dial plan shown is the GXP11XX/GXP14XX/GXP21XX/ GXV31XX default dial plan.
Step 9	**Disable local feature code services.** Enable Call Features = "No"	Disable feature access codes controlled by the device.
Step 10	**Enable BroadSoft mode.** Special Feature = "BroadSoft"	Set the GXP21xx/GXP14xx/GXP11XX in BroadSoft mode. Note that this does not apply to GXV31XX.

4.2 Subscriber Level Configuration Parameters

This section identifies the device-specific parameters, including registration and authentication. These settings must be unique across devices to be matched with the settings for a BroadWorks subscriber.

Provisioning a subscriber to register with BroadWorks allows calls to terminate to the subscriber's line. Registration requires that a unique address of record (AoR) is provisioned on BroadWorks and the phone; provisioning an AoR on BroadWorks consists of setting the line/port parameter to a unique value within the Application Server cluster.

Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX each supports different numbers of SIP accounts. The following example shows how to configure subscriber elements for an account.

Step	Command	Purpose
Subscriber Configuration Items		
Step 1	**Enable each line to be used.** `Account Active  = "Yes" ;`	Enable a line of GXP21xx/GXP14xx/ GXV31XX in use.

Step 2	**Set display name for each line.**
	
	`Example:`
	`Account Name = "BroadSoft" ;`
		For each line, configure the SIP Account Name to be displayed on the phone.

Step 3	**Set Register User ID for each line.**
	
	`Example:`
	`SIP User_ID = "2405551111" ;`
		The Register User ID must correspond with the line/port setting on BroadWorks.

Step 4	**Enable SIP Authentication for each line.**
	
	`Example:`
	`Authenticate ID = "1111@as.mycompany.com" ;`
	`Authenticate Password = "welcome" ;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.

Step 5	**Configure caller ID name for each line.**
	
	`Example:`
	`Name = "Claire Smith" ;`
		Configure the caller ID name for each line.

Step	Command	Purpose
Subscriber BLF Configuration Items (GXP21xx only)		

Step 1	**Configure eventlist BLF for a line.**
	
	`Example:`
	`eventlist BLF URI = "BLF2405551111";`
		Configure the event list Busy Lamp Field (BLF) from the *Account Settings* page.

Step 2	**Configure BLF Call-pickup Prefix.** **Example:** `BLF Call-pickup Prefix =`	Configure the BLF Call-pickup Prefix from the *Account Settings* page.

Subscriber BLF Configuration Items (GXP21xx only)

	`"*97"`	

Step 3	**`Configure Multipurpose Key in Basic Settings page.`**
	
	`Example:`
	`Key Mode = "eventlist BLF";`
	`Account = "Account 1";`
	`Name = "Jane";`
	`UserID = "2405551000";`
		Configure a Multipurpose Key for the event list BLF from the *Basic Settings* page.
		
		The user ID is the monitored account SIP user ID.

Subscriber BLF Configuration Items (GXV3175 only)

Step 1	**`Configure Display Format.`**
	
	`Example:`
	`Display Format = "UserID";`
		Configure Display Format under Application Setting → BLF web UI.

Step 2	**`Configure Account.`**
	
	`Example:`
	`Account = "Account 1";`
		Configure Account for the BLF under Application Setting → BLF web UI.

Step 3	**`Configure BLF Call-pickup Prefix.`** **`Example:`** `BLF Call-pickup Prefix = "*97"`	Configure the BLF Call-pickup Prefix under Application Setting → BLF web UI.

Step 4	**`Configure eventlist BLF for a line.`**
	
	`Example:`
	`eventlist BLF URI = "BLF2405551111";`
		Configure the event list Busy Lamp Field (BLF) under Application Setting → BLF web UI.

4.3 Shared Call Appearance Configuration

The Shared Call Appearance (SCA) feature allows the administrator to add multiple locations to a given line. Any of the locations can be used to originate or receive calls.

When a call comes in to an idle line, all the provisioned locations for that line are alerted. The first location to answer the call is connected to the originator. If the line is already active in a call, only the active location is alerted.

A subscriber can originate calls from any of the configured locations. All other locations are unable to originate calls until all calls are released.

It is recommended that the phone number plus an index (<phoneNumber>_<index>) is used when provisioning the unique address of record (AoR) for each shared line. For example: 2405551111_2. If a phone number does not exist, the MAC address plus an index could be used (<macAddress>_<index>).
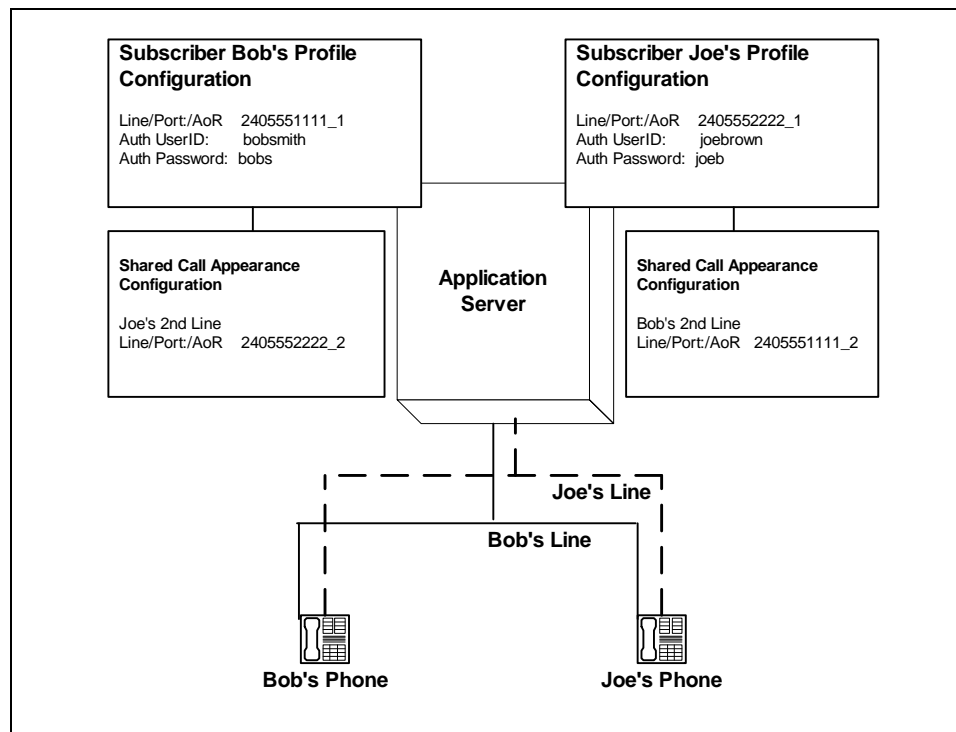
Figure 1 Shared Call Appearance Configuration

Figure 1 Shared Call Appearance Configuration shows that Bob and Joe each have two lines and that Bob shares a line with Joe and Joe shares a line with Bob. The figure also shows the applicable Subscriber Profile and Shared Call Appearance Configuration data for subscribers Bob and Joe.

When Bob (2405551111) is called, Bob's first line and Joe's second line will ring. When Joe (2405552222) is called, Joe's first line and Bob's second line will ring.

The following steps show how to configure both phones for this Shared Call Appearance configuration.

4.3.1   Bob's Phone Configuration

The following steps are used to configure line 1 for Bob's phone. This line rings when Bob is called, so it has Bob's authentication information.

Step	Command	Purpose

Step 1	**Configure Line Key 1 in Basic Settings page as Shared.**
	`Line Key 1`
	`Key Mode = "Shared Line";`
		Configure the line as "shared" (as opposed to "private").

Step 2	**Set Register User ID for Account1.**
	`Example:`
	`SIP User_ID =  "2405551111_1" ;`
		The register user ID must correspond with the line/port setting on BroadWorks.

Step 3	**Enable SIP Authentication for Account1.**
	`Example:`
	`Authenticate ID = "bobsmith" ;`
	`Authenticate Password = "bobs" ;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.
		
		This line rings when Bob is called, so it has Bob's authentication information.

Step 4	**Configure display name for Account1.**
	`Example:`
	`Account Name = "Bob Smith" ;`
		Configure the name to be displayed on the device for this line.

The following steps are used to configure line 2 for Bob's phone. This line rings when Joe is called, so it has Joe's authentication information.

Step	Command	Purpose

Step 1	**Configure Line Key 2 in Basic Settings page as Shared.**
	`Line Key 2`
	`Key Mode = "Shared Line" ;`
		Configure the line as "shared" (as opposed to "private").

Step 2	**Set Register User ID for Account2.**
	`Example:`
	`SIP User_ID = "2405552222_2" ;`
		The register user ID must correspond with the line/port setting on BroadWorks.

Step 3	**Enable SIP Authentication for Account2.**
	`Example:`
	`Authenticate ID = "joebrown" ;`
	`Authenticate Password = "joeb" ;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.
		
		This line rings when Joe is called, so it has Joe's authentication information.

Step 4	**Configure display name for Account2.**
	`Example:`
	`Account Name = "Joe Brown" ;`
		Configure the name to be displayed on the device for this line.

4.3.2   Joe's Phone Configuration

The following steps are used to configure line 1 for Joe's phone. This line rings when Joe is called, so it has Joe's authentication information.

Step	Command	Purpose

Step 1	**Configure Line Key 1 in Basic Settings page as Shared.**
	`Line Key 1`
	`Key Mode = "Shared Line";`
		Configure the line as "shared" (as opposed to "private").

Step 2	**Set Register User ID for Account1.**
	`Example:`
	`SIP User ID  = "2405552222_1" ;`
		The register user ID must correspond with the line/port setting on BroadWorks.

Step 3	**Enable SIP Authentication for Account1.**
	`Example:`
	`Authenticate ID = "joebrown" ;`
	`Authenticate Password = "joeb" ;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.
		This line rings when Joe is called, so it has Joe's authentication information.

Step 4	**Configure display name for Account1.**
	`Example:`
	`Account Name = "Joe Brown" ;`
		Configure the name to be displayed on the device for this line.

The following steps are used to configure line 2 for Joe's phone. This line rings when Bob is called, so it has Bob's authentication information.

Step	Command	Purpose

Step 1	**Configure Line Key 2 in Basic Settings page as Shared.**
	`Line Key 2`
	`Key Mode = "Shared Line" ;`
		Configure the line as "shared" (as opposed to "private").

Step 2	**Set Register User ID for Account2.**
	`Example:`
	`SIP User ID = "2405551111_2" ;`
		The register user ID must correspond with the line/port setting on BroadWorks.

Step 3	**Enable SIP Authentication for Account2.**
	`Example:`
	`Authenticate ID = "bobsmith" ;`
	`Authenticate Password = "bobs" ;`
		If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings.
		This line rings when Bob is called, so it has Bob's authentication information.

Step 4	**Configure display name for Account2.**
	`Example:`
	`Account Name = "Bob Smith" ;`
		Configure the name to be displayed on the device for this line.

5   Device Management

The BroadWorks Device Management feature provides the capability to automate the generation of device configuration files. This section identifies the device management capabilities supported by the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX and the configuration steps required. For Device Management configuration information that is not described in this document, see the *BroadWorks Device Management Configuration Guide* [2].
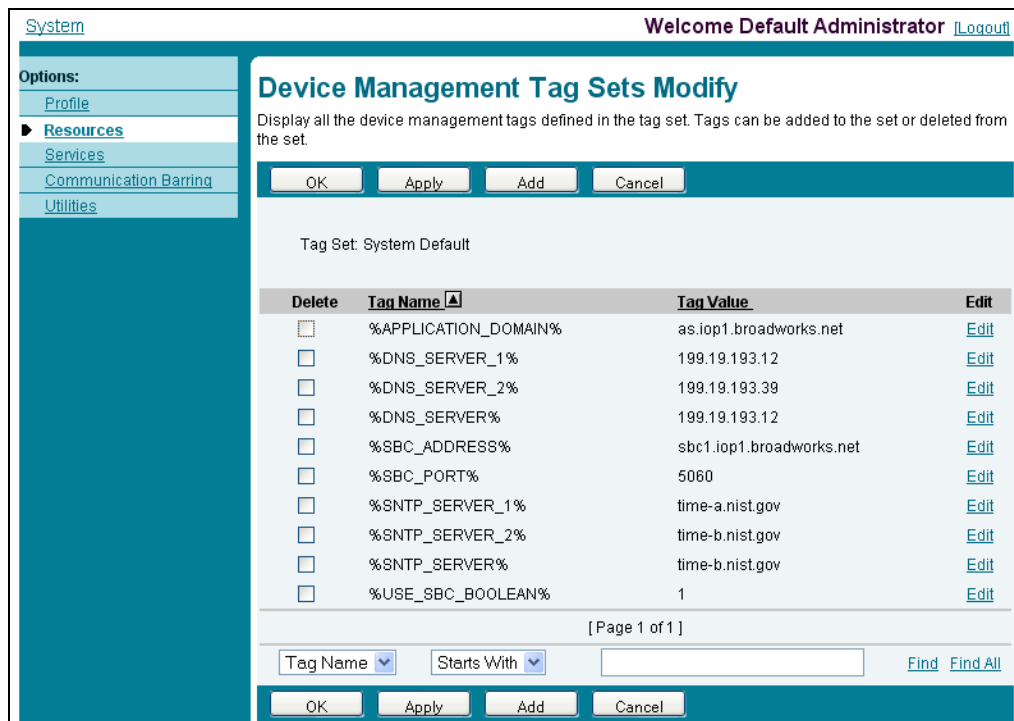
5.1   Device Management Capabilities Supported

The Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX has completed Device Management interoperability testing with BroadWorks using the *BroadWorks Device Management Interoperability Test Plan* [3]. The results are summarized in the following table.

The BroadWorks test plan is composed of packages, each covering distinct interoperability areas. Each package is composed of one or more test items which in turn are composed of one or more test cases. The test plan exercises the Device Management interface between the device and BroadWorks with the intent to ensure interoperability.

The *Supported* column in the following table identifies the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX's support for each of the items covered in the test plan packages, with the following designations:

- Yes   Test item is supported

- No   Test item is not supported

- NA   Test item is not applicable

- NT   Test item was not tested

Caveats or clarifications are identified in the *Comments* column.

Note that *DUT* in the following table refers to the *Device Under Test,* which in this case is the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX.

BroadWorks Device Management Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
HTTP File Download	HTTP Download Using XSP IP Address	Yes	
	HTTP Download Using XSP FQDN	Yes	
	HTTP Download Using XSP Cluster FQDN	Yes	
	HTTP Download With Double Slash	Yes	
HTTPS File Download	HTTPS Download Using XSP IP Address	Yes	
	HTTPS Download Using XSP FQDN	Yes	
	HTTPS Download Using	Yes	

BroadWorks Device Management Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
	XSP Cluster FQDN		
File Inspection	Inspect System Config File	NA	Config files cannot be retrieved from phone.
	Inspect Device-Specific Config File	NA	
	Inspect Other Config Files	NA	
	Inspect Static Files	NA	
Device Inspection	Inspect SIP Settings	Yes	
	Inspect Line Settings	Yes	
	Inspect Service Settings	Yes	
HTTP File Upload	HTTP Upload Using XSP IP Address	No	
	HTTP Upload Using XSP FQDN	No	
	HTTP Upload Using XSP Cluster FQDN	No	
Call Processing Sanity Tests	Register with Authentication	Yes	
	Call Origination	Yes	
	Call Termination	Yes	
	Remote Restart	Yes	
	Shared Line Origination	Yes	GXP models only
	Shared Line Termination	Yes	GXP models only
	Shared Line Status	Yes	GXP models only
	Busy Lamp Field	Yes	GXP models only

5.2 Device Management Configuration

This section identifies the steps required to enable the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX for device management. For Device Management configuration information that is not described in this document, see the *BroadWorks Device Management Configuration Guide* [2].

5.2.1 Configure BroadWorks Tags

The Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX makes use of dynamic tags which may be configured by a BroadWorks administrator as either 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. Add the system default tags in the following table if they do not already exist.

Tag Name	Valid Settings	Description
%SBC_ADDRESS%	IP address/FQDN	SBC SIP address

Example *System Default Tag* settings:

Figure 2 System Default Tag Settings

5.2.1.2   Create Device Type Specific Tags

Browse to *System → Resources → Device Management Tag Sets* and then to add a new tag set, select *Add*. Configure the tag set name using the device name *Grandstream GXP GXV Tags*. Add the device type specific tags in the following table to the device tag set.

Note that the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX does not currently require device type specific tags, but it is important to create the tag set as a placeholder to enable use of tags in the future.

5.2.2   Configure BroadWorks Device Profile

There are two BroadWorks device profile configuration methods described: import and manual. It is necessary to perform only one of the BroadWorks configuration methods. The import method is quick and easy. The manual method walks the administrator through each step.

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 Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX models as Device Management-enabled device types.

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.
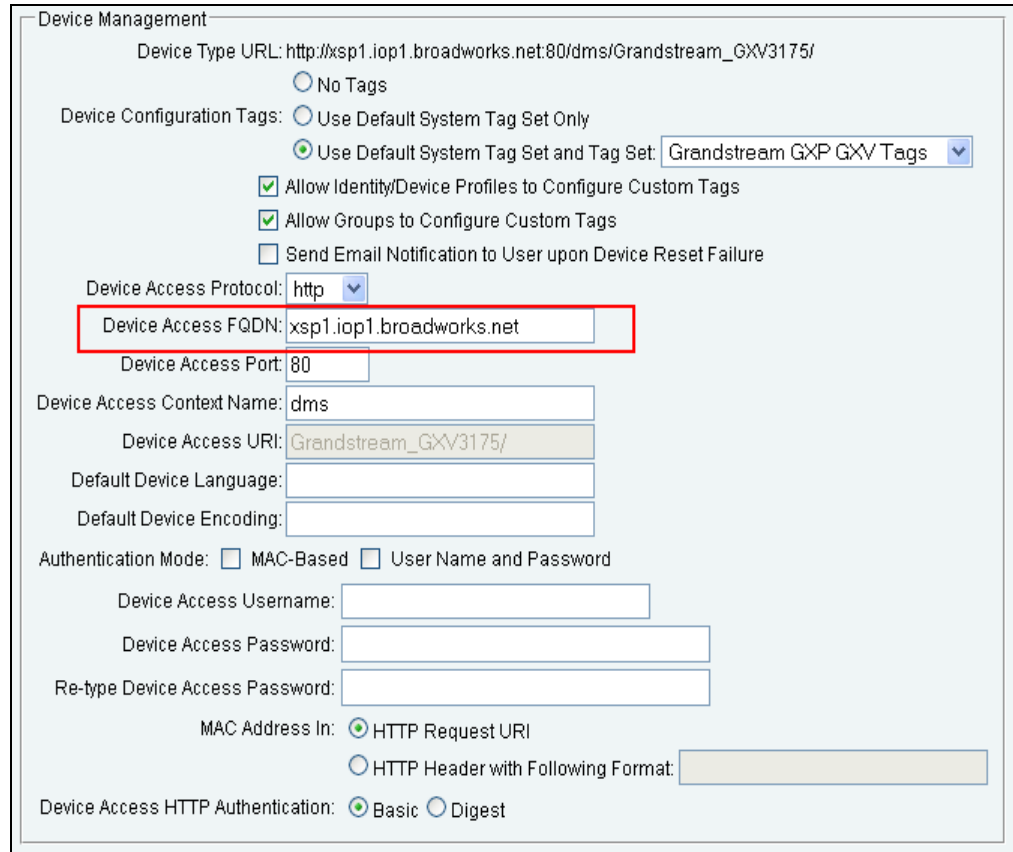
Download the Grandstream GXP21xx-GXP14xx-GXV31XX CPE kit from BroadSoft Xchange at xchange.broadsoft.com. Extract the DTAF files from the CPE kit. These are the import files. Repeat the following steps for each model you want to import.

Log in to BroadWorks as an administrator. Browse to *System → Resources → Identity/Device Profile Types* and select *Import*. Select *Browse* to find the extracted DTAF file for the model and select *OK* to start the import.

After the import finishes, the following post-import configuration steps must be completed.

Browse to *System → Resources → Identity/Device Profile Types* and perform a search to find the imported Grandstream device profile type, (for example, Grandstream GXV3175). Browse to the *Profile* page and change the *Device Management Device Access FQDN* to your Xsp or Xsp cluster address.

Example:

Figure 3 Configuration Method 1: Import

Firmware files must be obtained from Grandstream. The firmware files are defined for the device profile type but the binaries are not included in the import. To upload the firmware, complete the steps described in section *5.2.2.2.2 Static Files*.

5.2.2.2   Configuration Method 2: Manual

This section identifies the manual steps necessary to configure BroadWorks to add the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX models as Device Management-enabled device types.

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.

5.2.2.2.1   *Modify Device Profile Type*

This section identifies the BroadWorks device profile type settings relevant to Device Management for the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX.

Browse to *System → Resources → Identity/Device Profile Types* and perform a search to find the Grandstream device profile types created in section *3.1 BroadWorks Device Profile Configuration* or add the device profile types for each model using the settings from section *3.1 BroadWorks Device Profile Configuration.*

The *Standard Options* and *Advanced Options* should already be configured as specified in section 3.1 BroadWorks Device Profile Configuration. This section identifies the required settings for *Auto Configuration Options* and *Device Management*.
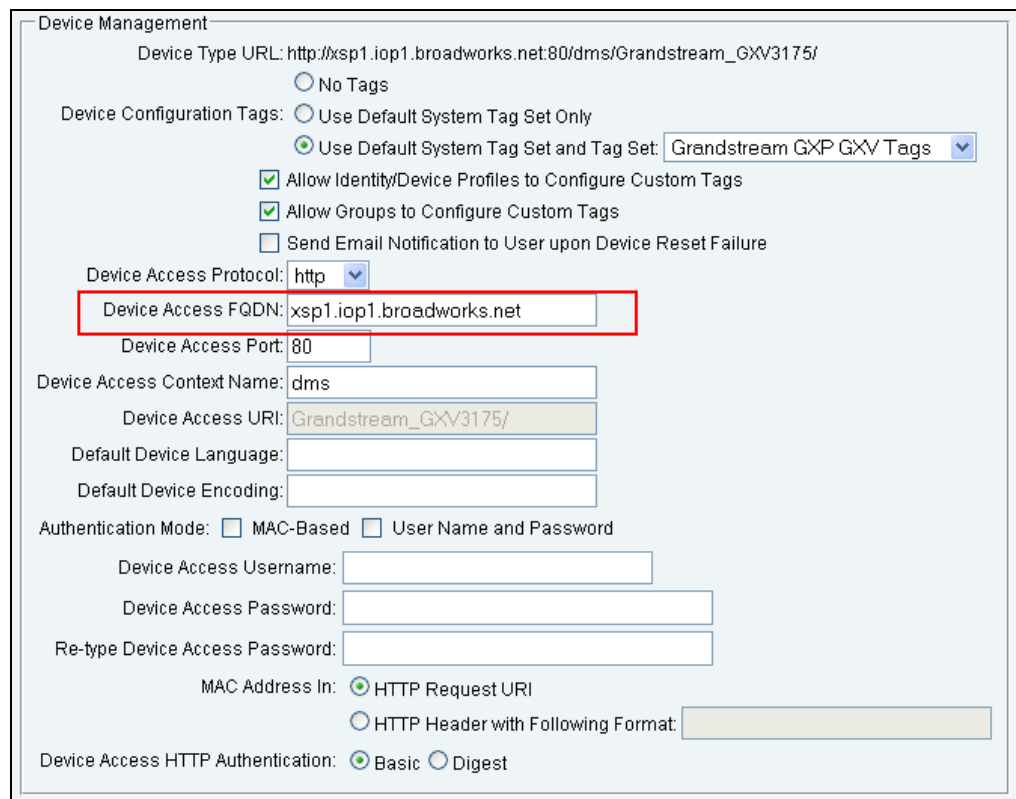
5.2.2.2.1.1   Configure Auto Configuration Options

Modify the device profile type *Auto Configuration Options* as shown in the following table. Note that these are common settings that apply to all devices enabled for Device Management.

Parameter	Value	Description / Notes
Auto Configuration Type	2 Config File	This setting activates the Device Management configuration items. The *2 Config File* button has no relevance to Device Management, it only activates the setting field.
CPE System File Name	not_used	This field is not used by Device Management and should be set to "not_used".
Device File Format	not_used	This field is not used by Device Management and should be set to "not_used".

Example *Auto Configuration Options* settings are as follows:
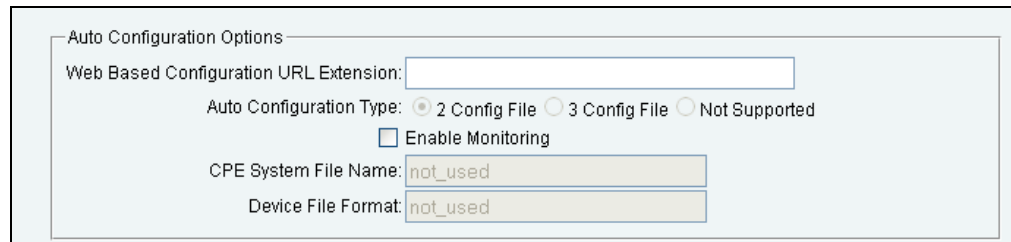
Figure 4 Auto Configuration Options Settings

5.2.2.2.1.2   Configure Device Management Options

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

Parameters that have not been identified in the following table can be left set to the defaults.

Parameter	Value	Description/Notes
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

Parameter	Value	Description/Notes
Allow Groups to Configure Custom Tags	Checked	Optional
Device Access Protocol	HTTP	
Device Access FQDN	<BroadWorks-XSP-Cluster-Address> Example: xsp.iop1.broadworks.net	When using an Xsp farm, this is set to the Xsp cluster FQDN. Otherwise, it is set to the individual Xsp FQDN or IP address.
Device Access Port	<BroadWorks-XSP-Port> Example: 80	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	<device-name> Example: Grandstream_GXV3175	This defines the directory that the Xsp uses to access the configuration files.

Example *Device Management Options* settings:

Figure 5 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 config files and other files that the Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX downloads.

To define the files, configuration templates, firmware, and other files that the Grandstream phones use, you must upload them to BroadWorks. Download the Grandstream *GXP21xx-GXP14xx-GXV31XX CPE kit* from BroadSoft Xchange at xchange.broadsoft.com. Extract the MAC config files from the CPE kit. Obtain the firmware files directly from Grandstream.

To add the files, browse to *System → Resources → Identity/Device Profile Types → Files and Authentication*.

5.2.2.2.2.1 Device-Specific File

Each Grandstream phone downloads a device-specific file based on the MAC address using the following file name format:

cfg%BWMACADDRESS%.xml
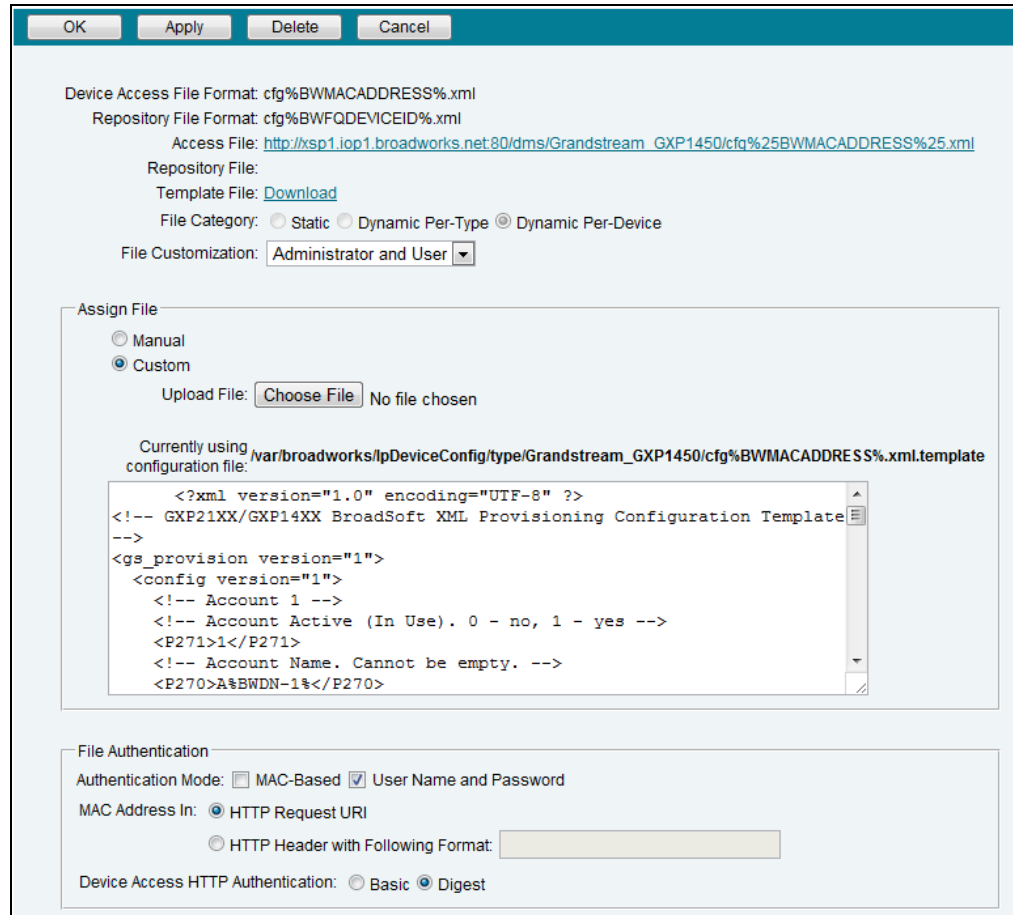
Add a BroadWorks device profile type file to each Grandstream model device profile for the device-specific file, using the settings described in the following table.

Parameters that have not been identified in the following table can usually be left with their default settings.

Parameter	Value	Description/Notes
Device Access File Format	cfg%BWMACADDRESS%.xml	This is the file name format the phone uses to request the file.
Repository File Format	cfg%BWFQDEVICEID%.xml	This is the file name format as stored in the Device Management repository.
File Category	Dynamic Per-Type	Only one system file is generated for the profile type.
File Customization	Administrator and User	This identifies who can customize the system file template.
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 MAC file template downloaded from BroadSoft Xchange. Use the *Browse* button on the file definition screen and be sure to select *Apply* after uploading the file.

Example *Device-Specific File* settings:

Figure 6 Device-Specific File Settings

5.2.2.2.2.2   *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 Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX requires the following static files:

- Grandstream GXP1100/GXP1105

    – gxp1100base.bin

    – gxp1100boot.bin

    – gxp1100core.bin

    – gxp1100prog.bin

- Grandstream GXP1400/GXP1405

    – gxp1400base.bin

    – gxp1400boot.bin

- – gxp1400core.bin

- – gxp1400prog.bin

- ■ Grandstream GXP1450

  - – gxp1450base.bin

  - – gxp1450boot.bin

  - – gxp1450core.bin

  - – gxp1450prog.bin

- ■ Grandstream GXP2100

  - – gxp2100aux.bin

  - – gxp2100base.bin

  - – gxp2100boot.bin

  - – gxp2100core.bin

  - – gxp2100prog.bin

- ■ Grandstream GXP2110

  - – gxp2110aux.bin

  - – gxp2110base.bin

  - – gxp2110boot.bin

  - – gxp2110core.bin

  - – gxp2110prog.bin

- ■ Grandstream GXP2120

  - – gxp2120aux.bin

  - – gxp2120base.bin

  - – gxp2120boot.bin

  - – gxp2120core.bin

  - – gxp2120prog.bin

- ■ Grandstream GXV3140

  - – gxv3140base.bin

  - – gxv3140boot.bin

  - – gxv3140core.bin

  - – gxv3140prog.bin

  - – gxv3140guia.bin

  - – gxv3140guib.bin

  - – gxv3140rcvr.bin

- ■ Grandstream GXV3175

  - – gxv3170base.bin

- gxv3170boot.bin

- gxv3170core.bin

- gxv3170prog.bin

- gxv3170guia.bin

- gxv3170guib.bin

- gxv3170rcvr.bin

- gxv3170supp.bin

Add a BroadWorks device profile type file to each Grandstream model device profile for each of the static files, using the settings described in the following table.
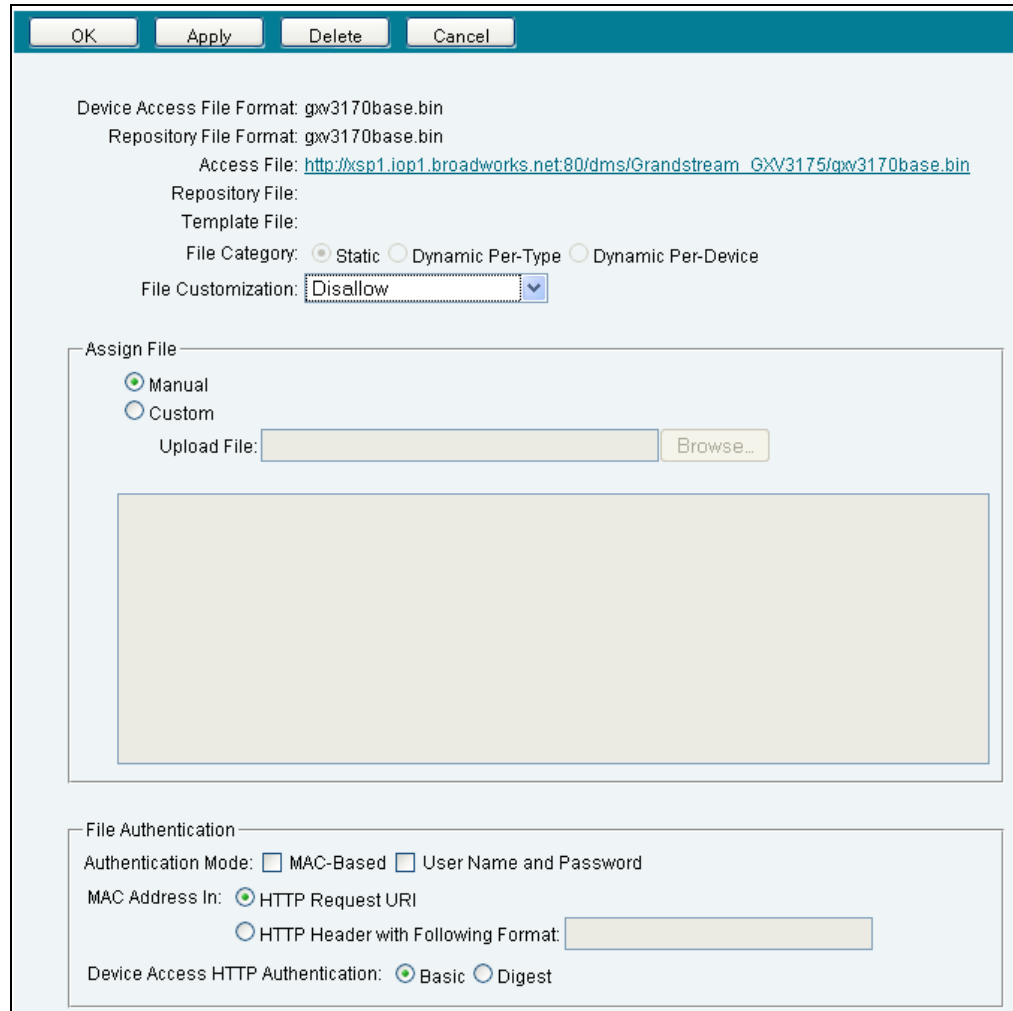
Parameters that have not been identified in the following table can usually be left with their default settings.

Parameter	Value	Description/Notes
Device Access File Format	<file-name> Examples: gxv3170base.bin gxv3170boot.bin	This is the file name that the phone uses to request the file.
Repository File Format	<file-name> Examples: gxv3170base.bin gxv3170boot.bin	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.
Assign File	*Custom*	
Authentication Mode	Not set	The static files are not authenticated so do not select either of the options.

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

Example *Static File* settings:

Figure 7 Static File Settings
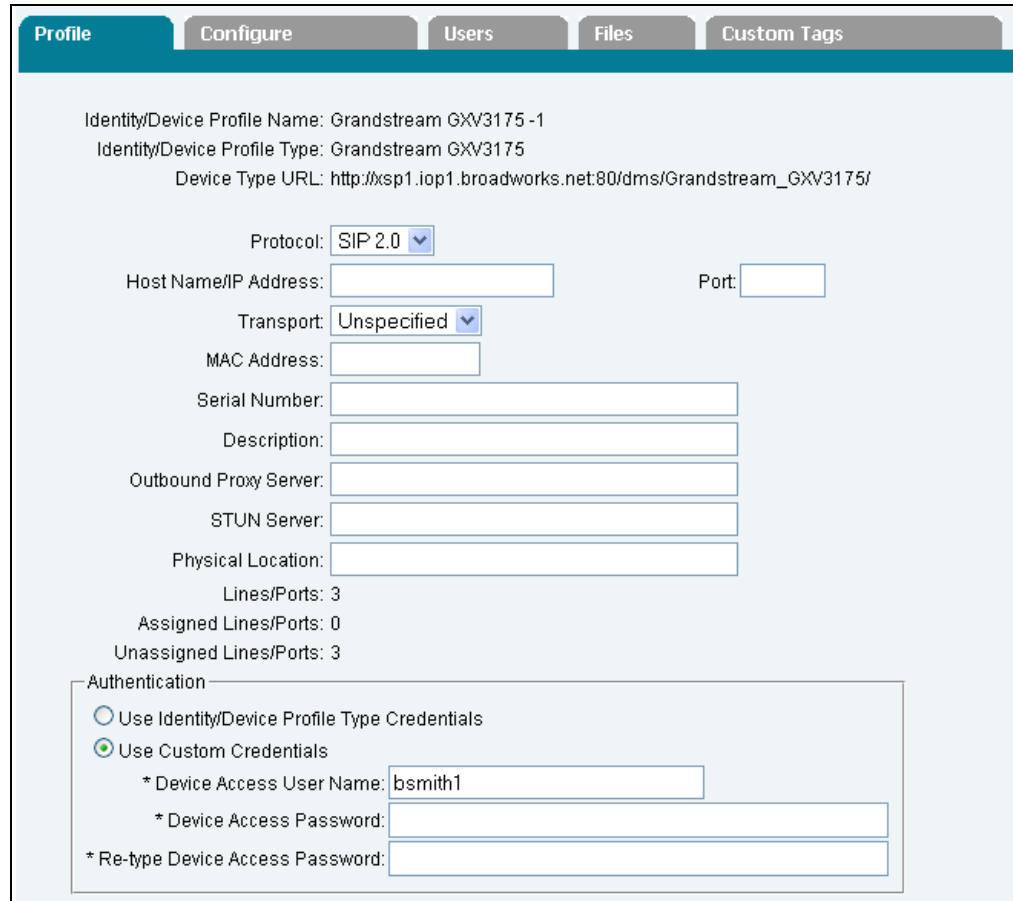
5.2.3 Create Device Profile Instance

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

To add a new Grandstream device profile, browse to the BroadWorks *<group>* → *Resources* → *Identity/Device Profiles* and select *Add*. Select the specific Grandstream model to be used. Define the device profile instance using the settings described in the following table.

Parameters that have not been identified in the following table can usually be left with their default settings.

Parameter	Value	Description/Notes
Identity/Device Profile Name	<device-profile-name> Example: Grandstream GXV3175 - 01	The device profile name is a unique identifier for the device profile instance.
Identity/Device Profile Type	<grandstream-device-profile-type> Example: Grandstream GXV3175	From the drop-down menu, select one of the Grandstream device profile types (created in the previous sections).
Authentication	*Use Custom Credentials*	Use the unique login ID and password for each phone.
Device Access User Name	<phone-login-name> Example: bsmith	The naming conventions for the *phone-login-name* are determined by the service provider.
Device Access Password	<phone-login-password> Example: bsmith456	

Example *Identity/Device Profile Add* settings:

Figure 8 Identity/Device Profile Add Settings

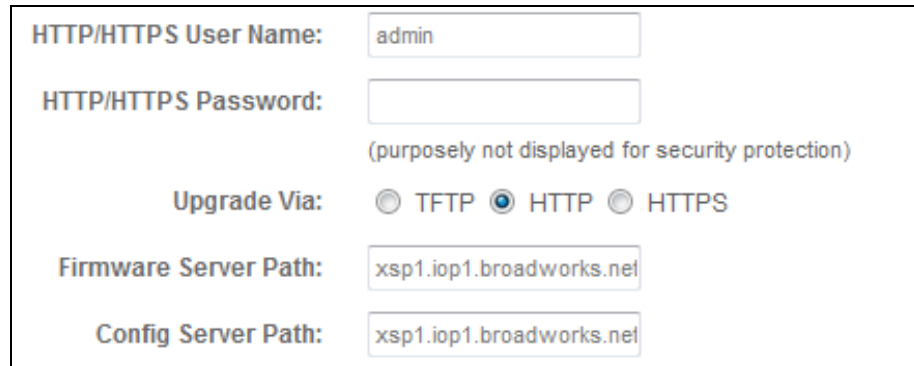### 5.2.4 Configure Grandstream GXP11XX/GXP14XX/GXP21XX/GXV31XX

This section describes the steps necessary to configure the Grandstream phone for integrating with BroadWorks Device Management.

To auto-provision mass deployments, Grandstream provides service providers an HTTP/S redirection service. All Grandstream phones are pre-configured so that when a unit is powered up, it automatically contacts the Grandstream provisioning server. The Grandstream provisioning server then redirects the unit to the appropriate BroadWorks Xsp server. The unit reboots and sends further HTTP/S provisioning requests to the BroadWorks Xsp Server.

Note that if the Grandstream redirection service is not used, the phone can also be manually configured with the BroadWorks Xsp address. This is described in the following sections.

5.2.4.1 GXP21xx/GXP14xx Model Manual Configuration

1) Log in to the phone's web user interface via http://phone_IP_address. (The default login is admin/admin.)

2) Browse to the *Settings → Advanced Settings* page. Set the following:

   – HTTP/HTTPS User Name: BroadWorks Device Access User Name

   Example: bsmith

   – HTTP/HTTPS Password: BroadWorks Device Access Password

   Example: 123456

   – Upgrade Via: HTTP (or HTTPS)

   – Firmware Server Path: Device Management server (XSP) device address URL

   Example: xsp1.broadworks.net:80/dms/Grandstream_GXV3175/

   – Config Server Path: Device Management server (XSP) device address URL

   Example: xsp1.broadworks.net:80/dms/Grandstream_GXV3175/

3) Click **Update** and then **Reboot**.

   Example *Advanced* settings:

Figure 9 GXP21xx/GXP14xx/GXP11XX Advanced Settings

5.2.4.2 GXV31XX Model Manual Configuration

1) Log in to the phone's web user interface via http://phone_IP_address. (The default login is admin/admin.)

2) Browse to the *Maintenance → Upgrade* page. Set the following:

   - HTTP/HTTPS User Name: BroadWorks Device Access User Name

     Example: bsmith

   - HTTP/HTTPS Password: BroadWorks Device Access Password

     Example: 123456

   - Upgrade Via: HTTP (or HTTPS)

   - Firmware Server Path: Device Management server (XSP) device address URL

     Example: xsp1.broadworks.net:80/dms/Grandstream_GXV3175/

   - Config Server Path: Device Management server (XSP) device address URL

     Example: xsp1.broadworks.net:80/dms/Grandstream_GXV3175/

3) Click **Save** and then **Reboot**.

   Example *Upgrade* settings:

Figure 10 GXV31XX Upgrade Settings

Appendix A: Sample GXP11XX/GXP14XX/GXP21XX/GXV31XX Configuration Files

NOTE: The following samples are examples and should be used only as a reference. DO NOT CUT AND PASTE THESE EXAMPLES TO GENERATE YOUR CONFIGURATION FILES. Use the configuration files from Grandstream with the specific release to generate your configuration files.

GXV21xx/GXP14xx/GXP11XX

Phone-Specific File: cfg%BWMACADDRESS%.xml

NOTE: This is an example file and should be used only for reference.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- GXP21XX/GXP14XX BroadSoft XML Provisioning Configuration Template -->
<gs_provision version="1">
  <config version="1">
    <!-- Account 1 -->
    <!-- Account Active (In Use). 0 - no, 1 - yes -->
    <P271>1</P271>
    <!-- Account Name. Cannot be empty. -->
    <P270>A%BWDN-1%</P270>
    <!-- SIP User ID -->
    <P35>%BWLINEPORT-1%</P35>
    <!-- Authenticate ID -->
    <P36>%BWAUTHUSER-1%</P36>
    <!-- Authenticate password -->
    <P34>%BWAUTHPASSWORD-1%</P34>
    <!-- Display Name (John Doe) -->
    <P3>%BWCLID-1%</P3>
    <!-- SIP Server -->
    <P47>%BWHOST-1%</P47>
    <!-- Outbound Proxy -->
    <P48>%SBC_ADDRESS%</P48>
    <!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
    <P103>1</P103>
    <!-- SIP Registration. 0 - no, 1 - yes -->
    <P31>1</P31>
    <!-- Register Expiration (in minutes. default 1 hour, max 45 days) -->
    <P32>60</P32>
    <!-- Send DTMF. 0 - no, 1 - yes -->
    <!-- In Audio -->
    <P2301>0</P2301>
    <!-- RFC 2833 -->
    <P2302>1</P2302>
    <!-- SIP INFO -->
    <P2303>0</P2303>
    <!-- Dial Plan -->
    <P290>{ x+ | *x+ | *xx*x+ }</P290>
    <!-- Enable 100rel. 0 - no, 1 - yes -->
    <P272>1</P272>
    <!-- Enable Call Features. 0 - no, 1 - yes -->
```

```
<P191>0</P191>
<!-- eventlist BLF URI -->
<P134>%BWBLF-USER-1%</P134>
<!-- Special Feature. 102 - BroadSoft -->
<P198>102</P198>


<!-- Account 2 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P401>1</P401>
<!-- Account Name. Cannot be empty. -->
<P417>A%BWDN-2%</P417>
<!-- SIP User ID -->
<P404>%BWLINEPORT-2%</P404>
<!-- Authenticate ID -->
<P405>%BWAUTHUSER-2%</P405>
<!-- Authenticate password -->
<P406>%BWAUTHPASSWORD-2%</P406>
<!-- Display Name (John Doe) -->
<P407>%BWCLID-2%</P407>
<!-- SIP Server -->
<P402>%BWHOST-2%</P402>
<!-- Outbound Proxy -->
<P403>%SBC_ADDRESS%</P403>
<!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
<P408>1</P408>
<!-- SIP Registration. 0 - no, 1 - yes -->
<P410>1</P410>
<!-- Register Expiration (in minutes. default 1 hour, max 45 days) -->
<P412>60</P412>
<!-- Send DTMF. 0 - no, 1 - yes -->
<!-- In Audio -->
<P2401>0</P2401>
<!-- RFC 2833 -->
<P2402>1</P2402>
<!-- SIP INFO -->
<P2403>0</P2403>
<!-- Dial Plan -->
<P459>{ x+ | *x+ | *xx*x+ }</P459>
<!-- Enable 100rel. 0 - no, 1 - yes -->
<P435>1</P435>
<!-- Enable Call Features. 0 - no, 1 - yes -->
<P420>0</P420>
<!-- eventlist BLF URI -->
<P444>%BWBLF-USER-2%</P444>
<!-- Special Feature. 102 - BroadSoft -->
<P424>102</P424>


<!-- Account 3 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P501>1</P501>
<!-- Account Name. Cannot be empty. -->
<P517>A%BWDN-3%</P517>
<!-- SIP User ID -->
<P504>%BWLINEPORT-3%</P504>
<!-- Authenticate ID -->
<P505>%BWAUTHUSER-3%</P505>
<!-- Authenticate password -->
<P506>%BWAUTHPASSWORD-3%</P506>
<!-- Display Name (John Doe) -->
<P507>%BWCLID-3%</P507>
<!-- SIP Server -->
```

```
<P502>%BWHOST-3%</P502>
<!-- Outbound Proxy -->
<P503>%SBC_ADDRESS%</P503>
<!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
<P508>1</P508>
<!-- SIP Registration. 0 - no, 1 - yes -->
<P510>1</P510>
<!-- Register Expiration (in minutes. default 1 hour, max 45 days) -->
<P512>60</P512>
<!-- Send DTMF. 0 - no, 1 - yes -->
<!-- In Audio -->
<P2501>0</P2501>
<!-- RFC 2833 -->
<P2502>1</P2502>
<!-- SIP INFO -->
<P2503>0</P2503>
<!-- Dial Plan -->
<P559>{ x+ | *x+ | *xx*x+ }</P559>
<!-- Enable 100rel. 0 - no, 1 - yes -->
<P535>1</P535>
<!-- Enable Call Features. 0 - no, 1 - yes -->
<P520>0</P520>
<!-- eventlist BLF URI -->
<P544>%BWBLF-USER-3%</P544>
<!-- Special Feature. 102 - BroadSoft -->
<P524>102</P524>

<!-- Account 4 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P601>1</P601>
<!-- Account Name. Cannot be empty. -->
<P617>A%BWDN-4%</P617>
<!-- SIP User ID -->
<P604>%BWLINEPORT-4%</P604>
<!-- Authenticate ID -->
<P605>%BWAUTHUSER-4%</P605>
<!-- Authenticate password -->
<P606>%BWAUTHPASSWORD-4%</P606>
<!-- Display Name (John Doe) -->
<P607>%BWCLID-4%</P607>
<!-- SIP Server -->
<P602>%BWHOST-4%</P602>
<!-- Outbound Proxy -->
<P603>%SBC_ADDRESS%</P603>
<!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
<P608>1</P608>
<!-- SIP Registration. 0 - no, 1 - yes -->
<P610>1</P610>
<!-- Register Expiration (in minutes. default 1 hour, max 45 days) -->
<P612>60</P612>
<!-- Send DTMF. 0 - no, 1 - yes -->
<!-- In Audio -->
<P2601>0</P2601>
<!-- RFC 2833 -->
<P2602>1</P2602>
<!-- SIP INFO -->
<P2603>0</P2603>
<!-- Dial Plan -->
<P659>{ x+ | *x+ | *xx*x+ }</P659>
<!-- Enable 100rel. 0 - no, 1 - yes -->
<P635>1</P635>
```

```
<!-- Enable Call Features. 0 - no, 1 - yes -->
<P620>0</P620>
<!-- eventlist BLF URI -->
<P644>%BWBLF-USER-4%</P644>
<!-- Special Feature. 102 - BroadSoft -->
<P624>102</P624>


<!-- Account 5 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P1701>1</P1701>
<!-- Account Name. Cannot be empty. -->
<P1717>A%BWDN-5%</P1717>
<!-- SIP User ID -->
<P1704>%BWLINEPORT-5%</P1704>
<!-- Authenticate ID -->
<P1705>%BWAUTHUSER-5%</P1705>
<!-- Authenticate password -->
<P1706>%BWAUTHPASSWORD-5%</P1706>
<!-- Display Name (John Doe) -->
<P1707>%BWCLID-5%</P1707>
<!-- SIP Server -->
<P1702>%BWHOST-5%</P1702>
<!-- Outbound Proxy -->
<P1703>%SBC_ADDRESS%</P1703>
<!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
<P1708>1</P1708>
<!-- SIP Registration. 0 - no, 1 - yes -->
<P1710>1</P1710>
<!-- Register Expiration (in minutes. default 1 hour, max 45 days) -->
<P1712>60</P1712>
<!-- Send DTMF. 0 - no, 1 - yes -->
<!-- In Audio -->
<P2701>0</P2701>
<!-- RFC 2833 -->
<P2702>1</P2702>
<!-- SIP INFO -->
<P2703>0</P2703>
<!-- Dial Plan -->
<P1759>{ x+ | *x+ | *xx*x+ }</P1759>
<!-- Enable 100rel. 0 - no, 1 - yes -->
<P1735>1</P1735>
<!-- Enable Call Features. 0 - no, 1 - yes -->
<P1720>0</P1720>
<!-- eventlist BLF URI -->
<P1744>%BWBLF-USER-5%</P1744>
<!-- Special Feature. 102 - BroadSoft -->
<P1724>102</P1724>


<!-- Account 6 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P1801>1</P1801>
<!-- Account Name. Cannot be empty. -->
<P1817>A%BWDN-6%</P1817>
<!-- SIP User ID -->
<P1804>%BWLINEPORT-6%</P1804>
<!-- Authenticate ID -->
<P1805>%BWAUTHUSER-6%</P1805>
<!-- Authenticate password -->
<P1806>%BWAUTHPASSWORD-6%</P1806>
<!-- Display Name (John Doe) -->
<P1807>%BWCLID-6%</P1807>
```

```xml
<!-- SIP Server -->
<P1802>%BWHOST-6%</P1802>
<!-- Outbound Proxy -->
<P1803>%SBC_ADDRESS%</P1803>
<!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
<P1808>1</P1808>
<!-- SIP Registration. 0 - no, 1 - yes -->
<P1810>1</P1810>
<!-- Register Expiration (in minutes. default 1 hour, max 45 days) -->
<P1812>60</P1812>
<!-- Send DTMF. 0 - no, 1 - yes -->
<!-- In Audio -->
<P2801>0</P2801>
<!-- RFC 2833 -->
<P2802>1</P2802>
<!-- SIP INFO -->
<P2803>0</P2803>
<!-- Dial Plan -->
<P1859>{ x+ | *x+ | *xx*x+ }</P1859>
<!-- Enable 100rel. 0 - no, 1 - yes -->
<P1835>1</P1835>
<!-- Enable Call Features. 0 - no, 1 - yes -->
<P1820>0</P1820>
<!-- eventlist BLF URI -->
<P1844>%BWBLF-USER-6%</P1844>
<!-- Special Feature. 102 - BroadSoft -->
<P1824>102</P1824>


<!-- Basic Settings Page -->
<!-- Line Keys -->
<!-- Line Key 1 -->
<!-- Key Mode. 0 - Line,1 - Shared Line -->
<P1363>%BWSCA-LOCATION-BINARY-1%</P1363>

<!-- Line Key 2 -->
<!-- Key Mode. 0 - Line,1 - Shared Line -->
<P1365>%BWSCA-LOCATION-BINARY-2%</P1365>

<!-- Line Key 3 -->
<!-- Key Mode. 0 - Line,1 - Shared Line -->
<P1367>%BWSCA-LOCATION-BINARY-3%</P1367>

<!-- Line Key 4 -->
<!-- Key Mode. 0 - Line,1 - Shared Line -->
<P1369>%BWSCA-LOCATION-BINARY-4%</P1369>

<!-- Line Key 5 -->
<!-- Key Mode. 0 - Line,1 - Shared Line -->
<P1371>%BWSCA-LOCATION-BINARY-5%</P1371>

<!-- Line Key 6 -->
<!-- Key Mode. 0 - Line,1 - Shared Line -->
<P1373>%BWSCA-LOCATION-BINARY-6%</P1373>

  </config>
</gs_provision>
```

GXV31XX

Phone-Specific File: cfg%BWMACADDRESS%.xml

> NOTE: This is an example file and should be used for reference only.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!--GXV3140/GXV3175 BroadSoft XML Provisioning Configuration Template -->
<gs_provision version="1">
  <config version="1">
    <!-- Account 1 -->
    <!-- Account Active (In Use). 0 - no, 1 - yes -->
    <P271>1</P271>
    <!-- Account Name. Cannot be empty. -->
    <P270>A %BWDN-1%</P270>
    <!-- SIP User ID -->
    <P35>%BWLINEPORT-1%</P35>
    <!-- Authenticate ID -->
    <P36>%BWAUTHUSER-1%</P36>
    <!-- Authenticate password -->
    <P34>%BWAUTHPASSWORD-1%</P34>
    <!-- Display Name (John Doe) -->
    <P3>%BWCLID-1%</P3>
    <!-- SIP Server -->
    <P47>%BWHOST-1%</P47>
    <!-- Outbound Proxy -->
    <P48>%SBC_ADDRESS%</P48>
    <!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
    <P103>1</P103>
    <!-- SIP Registration. 0 - no, 1 - yes -->
    <P31>1</P31>
    <!--Register Expiration (in minutes. default 1 hour, max 45 days) -->
    <P32>60</P32>
    <!-- Send DTMF. 0 - no, 1 - yes -->
    <!-- In Audio -->
    <P2301>0</P2301>
    <!-- RFC 2833 -->
    <P2302>1</P2302>
    <!-- SIP INFO -->
    <P2303>0</P2303>
    <!-- Dial Plan -->
    <P290>{ x+ | *x+ | *xx*x+ }</P290>
    <!-- Enable 100rel. 0 - no, 1 - yes -->
    <P272>1</P272>
    <!-- Enable Call Features. 0 - no, 1 - yes -->
    <P191>0</P191>
    <!-- Enable Video (0- no, 1 -yes) -->
    <P292>1</P292>
    <!-- Preferred Video Codec: 99 - H.264, 34 - H.263, 100 - H.263+
(1998) -->
    <!-- Choice 1 -->
    <P295>99</P295>
    <!-- Choice 2 -->
    <P296>100</P296>
    <!-- Choice 3 -->
    <P1307>34</P1307>
    <!-- H.264 Payload Type -->
    <P293>99</P293>
    <!-- H.263+ Payload Type -->
```

```xml
<P350>100</P350>


<!-- Account 2 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P401>1</P401>
<!-- Account Name. Cannot be empty. -->
<P417>A %BWDN-2%</P417>
<!-- SIP User ID -->
<P404>%BWLINEPORT-2%</P404>
<!-- Authenticate ID -->
<P405>%BWAUTHUSER-2%</P405>
<!-- Authenticate password -->
<P406>%BWAUTHPASSWORD-2%</P406>
<!-- Display Name (John Doe) -->
<P407>%BWCLID-2%</P407>
<!-- SIP Server -->
<P402>%BWHOST-2%</P402>
<!-- Outbound Proxy -->
<P403>%SBC_ADDRESS%</P403>
<!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
<P408>1</P408>
<!-- SIP Registration. 0 - no, 1 - yes -->
<P410>1</P410>
<!--Register Expiration (in minutes. default 1 hour, max 45 days) -->
<P412>60</P412>
<!-- Send DTMF. 0 - no, 1 - yes -->
<!-- In Audio -->
<P2401>0</P2401>
<!-- RFC 2833 -->
<P2402>1</P2402>
<!-- SIP INFO -->
<P2403>0</P2403>
<!-- Dial Plan -->
<P459>{ x+ | *x+ | *xx*x+ }</P459>
<!-- Enable 100rel. 0 - no, 1 - yes -->
<P435>1</P435>
<!-- Enable Call Features. 0 - no, 1 - yes -->
<P420>0</P420>
<!-- Enable Video (0- no, 1 -yes) -->
<P461>1</P461>
<!-- Preferred Video Codec: 99 - H.264, 34 - H.263, 100 - H.263+
(1998) -->
<!-- Choice 1 -->
<P464>99</P464>
<!-- Choice 2 -->
<P465>100</P465>
<!-- Choice 3 -->
<P475>34</P475>
<!-- H.264 Payload Type -->
<P462>99</P462>
<!-- H.263+ Payload Type -->
<P473>100</P473>


<!-- Account 3 -->
<!-- Account Active (In Use). 0 - no, 1 - yes -->
<P501>1</P501>
<!-- Account Name. Cannot be empty. -->
<P517>A %BWDN-3%</P517>
<!-- SIP User ID -->
```

```
        <P504>%BWLINEPORT-3%</P504>
        <!-- Authenticate ID -->
        <P505>%BWAUTHUSER-3%</P505>
        <!-- Authenticate password -->
        <P506>%BWAUTHPASSWORD-3%</P506>
        <!-- Display Name (John Doe) -->
        <P507>%BWCLID-3%</P507>
        <!-- SIP Server -->
        <P502>%BWHOST-3%</P502>
        <!-- Outbound Proxy -->
        <P503>%SBC_ADDRESS%</P503>
        <!-- DNS Mode. 0 - A Record, 1 - SRV, 2 - NAPTR/SRV. -->
        <P508>1</P508>
        <!-- SIP Registration. 0 - no, 1 - yes -->
        <P510>1</P510>
        <!--Register Expiration (in minutes. default 1 hour, max 45 days) -->
        <P512>60</P512>
        <!-- Send DTMF. 0 - no, 1 - yes -->
        <!-- In Audio -->
        <P2501>0</P2501>
        <!-- RFC 2833 -->
        <P2502>1</P2502>
        <!-- SIP INFO -->
        <P2503>0</P2503>
        <!-- Dial Plan -->
        <P559>{ x+ | *x+ | *xx*x+ }</P559>
        <!-- Enable 100rel. 0 - no, 1 - yes -->
        <P535>1</P535>
        <!-- Enable Call Features. 0 - no, 1 - yes -->
        <P520>0</P520>
        <!-- Enable Video (0- no, 1 -yes) -->
        <P561>1</P561>
        <!-- Preferred Video Codec: 99 - H.264, 34 - H.263, 100 - H.263+
(1998) -->
        <!-- Choice 1 -->
        <P564>99</P564>
        <!-- Choice 2 -->
        <P565>100</P565>
        <!-- Choice 3 -->
        <P575>34</P575>
        <!-- H.264 Payload Type -->
        <P562>99</P562>
        <!-- H.263+ Payload Type -->
        <P573>100</P573>


  </config>
</gs_provision>
```

References

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[2] BroadSoft, Inc. 2010. *BroadWorks Device Management Configuration Guide*, *Release 17.0.* Available from BroadSoft at xchange.broadsoft.com.

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