ALGO
Communication Solutions

BroadSoft Partner Configuration Guide

Algo 8180 SIP Audio Alerter IP Loud Ringer

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BroadWorks® Guide

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Document Revision History

Version	Reason for Change
1.1	Introduced document for Algo 8180 SIP Audio Alerter version 1.6.6 validation with BroadWorks Release 18.sp1.
1.2	Edited and published document.
1.3	Updated section 5 Device Management.
1.4	Edited changes and published document.

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1 Overview

This document describes the configuration procedures required for the Algo 8180 SIP Audio Alerter to be interoperable with BroadWorks.

The 8180 in ringer mode is a SIP access device that uses the Session Initiation Protocol (SIP) to communicate with BroadWorks for call control.

This guide describes the specific configuration items that are important for use with BroadWorks. It does not describe the purpose and use of all configuration items on the 8180 in ringer mode. For more information, see the *8180 SIP Audio Alerter User Guide* [1] supplied by Algo Communication Products.

2   Interoperability Status

This section provides the known interoperability status of the Algo 8180 SIP Audio Alerter 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 Algo Communication Products.

2.1   Verified Versions

The following table identifies the verified Algo 8180 SIP Audio Alerter 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 8180 versions in ringer mode 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 Algo Communication Products 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* [4].

Verified Versions Table

Date (mm/yyyy)	BroadWorks Release	8180 in ringer mode Verified Version	8180 in ringer mode Compatible Versions
02/2012	Release 18.sp1	1.6.6	Any maintenance revisions of the validated version(s).

2.2   Interface Capabilities Supported

The Algo 8180 SIP Audio Alerter has completed interoperability testing with BroadWorks using the *BroadWorks SIP Access Device Interoperability Test Plan* [4]. 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 Algo 8180 SIP Audio Alerter'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 Algo 8180 SIP Audio Alerter.

BroadWorks SIP Access Device Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
Basic	Call Origination	No	
	Call Termination	Yes	Only as a ringer device.
	Session Audit	No	
	Session Timer	No	
	Ringback	No	
	Forked Dialog	No	
	Early UPDATE	No	
	Early-Session	No	
	181 Call Being Forwarded	No	
	Dial Plan	No	
	DTMF – Inband	No	
	DTMF – RFC 2833	No	
	DTMF – DTMF Relay	No	
	Codec Negotiation	No	
	Codec Renegotiation	No	
BroadWorks Services	Third-Party Call Control – Basic	No	
	Third-Party Call Control – Advanced	No	
	Voice Message Deposit/Retrieval	No	
	Message Waiting Indicator	Yes	Only Unsolicited mode.
	Voice Portal Outcall	No	
	Advanced Alerting	Yes	

BroadWorks SIP Access Device Interoperability Test Plan Support Table

Test Plan Package	Test Plan Package Items	Supported	Comments
	Calling Line ID	No	
	Connected Line ID	No	
	Connected Line ID on UPDATE	No	
	Connected Line ID on Re-INVITE	No	
	Diversion Header	Yes	
	History-Info Header	Yes	
	Advice of Charge	No	
	Meet-Me Conferencing	No	
DUT Services – Call Control Services	Call Waiting	No	
	Call Hold	No	
	Call Transfer	No	
	Three-Way Call	No	
	Network-Based Conference	No	
DUT Services – Registration and Authentication	Register Authentication	Yes	
	Maximum Registration	Yes	
	Minimum Registration	Yes	
	Invite Authentication	No	
	Re-Invite/Update Authentication	No	
	Refer Authentication	No	
	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	No	
No DUT Services – Miscellaneous	Do Not Disturb	No	
	Call Forward Always	No	
	Call Forward Always Diversion Inhibitor	No	
	Anonymous Call	No	

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BroadWorks SIP Access Device Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
	Anonymous Call Block	No	
	Remote Restart Via Notify	Yes	
Advanced Phone Services – Busy Lamp Field	Busy Lamp Field	No	
	Call Park Notification	No	
Advanced Phone Services – Feature Key Synchronization, Private Line	Do Not Disturb	No	
	Do Not Disturb Ring Splash	No	
	Call Forward	No	
	Call Forward Always Ring Splash	No	
	Call Forward Always Diversion Inhibitor	No	
	Call Center Agent Logon/Logoff	No	
	Call Center Agent Unavailable Code	No	
Advanced Phone Services – Feature Key Synchronization, Shared Line	Do Not Disturb	No	
	Do Not Disturb Ring Splash	No	
	Call Forward	No	
	Call Forward Always Ring Splash	No	
	Call Forward Always Diversion Inhibitor	No	
Advanced Phone Services – Missed Calls Display Synchronization	Missed Calls Display Sync	No	
Advanced Phone Services – Shared Call Appearance using Call Info	Line-Seize	No	
	Call-Info/Lamp Management	No	
	Public Hold	No	
	Private Hold	No	
	Multiple Call Arrangement	No	
	Bridging	No	
	Call Park Notification	No	
Advanced Phone Services – Shared Call Appearance	Dialog Event	No	
	Hold/Retrieve	No	

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BroadWorks SIP Access Device Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
using Dialog Event	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	No	
	Register Failover/Failback	No	
	Invite Failover/Failback	No	
	Bye Failover	No	
SBC/ALG	Register	Yes	
	Outgoing Invite	Yes	
	Incoming Invite	Yes	
Video – Basic Video Calls	Call Origination	NA	
	Call Termination	NA	
	Call Hold	NA	
	Call Waiting	NA	
	Call Transfer	NA	
Video – BroadWorks Video Services	Auto Attendant	NA	
	Auto Attendant – HD	NA	
	Voice Messaging	NA	
	Voice Messaging – HD	NA	
	Custom Ringback	NA	

BroadWorks SIP Access Device Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
TCP	Register	No	
	Outgoing Invite	No	
	Incoming Invite	No	
IPV6	Call Origination	No	
	Call Termination	No	
	Session Audit	No	
	Ringback	No	
	Codec Negotiation/Renegotiation	No	
	Call Control	No	
	Registration w/ Authentication	No	
	T38 Fax Messaging	No	
	Busy Lamp Field	No	
	Redundancy	No	
	SBC	No	
	Video	No	

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			
		1.6.6			
	None				

3 BroadWorks Configuration

This section identifies the required BroadWorks device profile for the Algo 8180 SIP Audio Alerter as well as any other unique BroadWorks configuration required for interoperability with the 8180 in ringer mode.

3.1 BroadWorks Device Profile Configuration

This section identifies the device profile to use when deploying the Algo 8180 SIP Audio Alerter with BroadWorks.

The following table identifies the required BroadWorks device identity/profile settings for interoperability between the 8180 in ringer mode and BroadWorks. For an explanation of the profile parameters, refer to 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.

Algo 8180 SIP Audio Alerter Identity/Device Profile	
Signaling Address Type	Intelligent Proxy Addressing
Standard Options	
Number of Ports	1
Ringback Tone/ Early Media Support	Local Ringback – No Early Media
Authentication	Enabled
Registration Capable	X
Static Registration Capable	
E.164 Capable	
Trusted	
Authenticate REFER	
RFC 3264 Hold	
Video Capable	
Use History-Info Header	
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	

Algo 8180 SIP Audio Alerter Identity/Device Profile	
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	Not Supported
Enable Monitoring	
CPE System File Name	Not_Used
Device File Format	Not_Used

3.2   BroadWorks Configuration Steps

There are no additional BroadWorks configurations required.

4 Algo 8180 in Ringer Mode Configuration

The 8180 can be configured with a configuration file using the Trivial File Transfer Protocol (TFTP) or through its embedded web server. The following examples describe how to set the parameters using a configuration file. This configuration description assumes the 8180 will use the Dynamic Host Configuration Protocol (DHCP) to obtain an IP address, TFTP server, and other network settings. The 8180 should be configured to load the configuration file each time it resets or re-synchronizes. For detailed information on automated provisioning, see the 8180 Installation and User Guide supplied by Algo Communication Products.

The capabilities of the 8180 have been verified for use with BroadWorks based on the settings described in the following table. For more information on the meaning, purposes, and applicability of the individual configuration items, see the 8180 Installation and User Guide supplied by Algo Communication Products.

Configuration Files

Files Provided by Partner	Level	Description
algo-8180-VERSION.fw & algo-8180-VERSION.md5	System	Contains the device firmware load. If the firmware version in the new provisioning file does not match the actual device firmware version then the device will start downloading.
algo-pa-kernel-VERSION.fw & algo-pa-kernel-VERSION.md5	System	Contains the device kernel load. If the kernel version in the new provisioning file does not match the actual device kernel version then the device will start downloading.
algop8180.conf	System	Contains configurable parameters that apply to all devices in a given deployment.
algom[MAC address].conf Example: algom0022EE020009.conf	Subscriber	Contains 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 8180 to work with BroadWorks. Subscriber-specific settings are described in the next section.

Step	Command	Purpose
System Configuration File <system-wide configuration file name>		
Step 1	**Set SIP Proxy/Domain.** sip.proxy = as.broadworks.net **Set Outbound Proxy.** sip.obproxy = xxx.xxx.xxx.xxx (as.broadworks.net IP address)	Set the 8180 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. With redundant Application Servers set outBoundProxy to the main SIP server IP address if Session Border Controller is not used.
Step 2	**Set Outbound Proxy.** sip.obproxy = sbc.broadworks.net	Set the outbound proxy to the session border controller (SBC) if one is deployed between the 8180 and BroadWorks. If there are redundant SBCs, set it to the FQDN for the SBC cluster.
Step 3	**Register Period.** sip.regexp = 3600	Maximum requested period of time where the 8180 will re-register with the SIP server. Default setting is 3600 seconds (1 hour). Only change if instructed otherwise.
Step 4	**Set Extension.** sip.alert1.user = 8180 page extension #	The phone number that the 8180 registers with the SIP Server. It will ring any inbound calls.
Step 5	**DHCP.** net.dhcp.use = 1	Normally set to On, DHCP will automatically configure IP addresses for each 8180 on the network. Alternatively, if your IT Administrator has assigned one or more *static* IP addresses, set the DHCP setting to Off.

4.2 Subscriber Level Configuration Parameters

This section identifies the device-specific parameters; 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 device; provisioning an AoR on BroadWorks consists of setting the line/port parameter to a unique value within the Application Server cluster.

Step	Command	Purpose
Subscriber parameters for the 8180		
Step 1	**Enable SIP Authentication** sip.alert1.auth = SIP Authentication ID sip.alert1.pwd = SIP password	If the Authentication service is configured on BroadWorks, these parameters must be configured to match the BroadWorks settings. Authentication ID; Used to register the device on the SIP Server. SIP password used to register the device on the SIP Server.

5   Device Management

The BroadWorks Device Management feature provides the capability to automate generation of device configuration files to support mass deployment of devices. This section identifies the device management capabilities supported by the Algo 8180 and the configuration steps required. For Device Management configuration details not covered here, see the *BroadWorks Device Management Configuration Guide* [2].

The basic steps to integrate a device with Device Management are as follows:

Create device template files for the device with the appropriate BroadWorks Device Management tags.

1) Define custom and system tags and add them to the *device template* files. Note that these custom and system tags must also be defined on BroadWorks.

2) Create a device profile type on BroadWorks for each device model to be integrated with Device Management.

3) Add the device template files and other associated files to the device profile type.

4) Create a device profile instance of the device profile type and assign it to a user. A user name and password are assigned to this device profile.

5) Configure the end device with the Device Management URL for device files, as well as the user name and password access credentials.

This section describes the steps to integrate the Algo 8180 products.

As part of the Algo 8180 customer premises equipment (CPE) kit, BroadSoft has defined a standard device configuration in the device template files that service providers can use on their systems. These files can be uploaded directly to Device Management without modification. However, the service provider also has the option to modify these template files as required to fit their deployment needs.

The CPE kit also includes tools to help automate the integration effort. For releases after Release 17.0, there is a Device Management import/export utility. The CPE kit contains Device Type Archive File (DTAF) files that are used to import the device type and template files.

5.1   Device Management Capabilities Supported

The Algo 8180 has completed Device Management interoperability testing with BroadWorks using the *BroadWorks Device Management 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. 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 Algo 8180'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 and clarifications are identified in the *Comments* column.

NOTE: *DUT* in the following table refers to the *Device Under Test,* which in this case is the Algo 8180.

BroadWorks Device Management Interoperability Test Plan Support Table			
Test Plan Package	**Test Plan Package Items**	**Supported**	**Comments**
HTTP File Download	HTTP Download Using Xtended Services Platform (Xsp) IP Address	Yes	
	HTTP Download Using Xtended Services Platform FQDN	Yes	
	HTTP Download Using Xtended Services Platform Cluster FQDN	Yes	
	HTTP Download With Double Slash	Yes	
HTTPS File Download	HTTPS Download Using Xtended Services Platform IP Address	No	
	HTTPS Download Using Xtended Services Platform FQDN	No	
	HTTPS Download Using Xtended Services Platform Cluster FQDN	No	
File Inspection	Inspect System Config File	Yes	
	Inspect Device-Specific Config File	Yes	
	Inspect Other Config Files	No	
	Inspect Static Files	Yes	
Device Inspection	Inspect SIP Settings	Yes	
	Inspect Line Settings	Yes	
	Inspect Service Settings	No	
HTTP File Upload	HTTP Upload Using Xtended Services Platform IP Address	No	
	HTTP Upload Using Xtended Services Platform FQDN	No	
	HTTP Upload Using Xtended Services Platform Cluster FQDN	No	
Call Processing Sanity Tests	Register with Authentication	Yes	
	Call Origination	No	
	Call Termination	Yes	
	Remote Restart	Yes	
	Shared Line Origination	No	
	Shared Line Termination	No	

BroadWorks Device Management Interoperability Test Plan Support Table			
Test Plan Package	Test Plan Package Items	Supported	Comments
	Shared Line Status	No	
	Busy Lamp Field	No	
	Network-Based Conference	No	

5.2 Device Management Configuration

This section identifies the steps required to enable the Algo 8180 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 Algo phone models.

The Algo 8180 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. Algo 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
%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.

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Example System Default Tag Settings
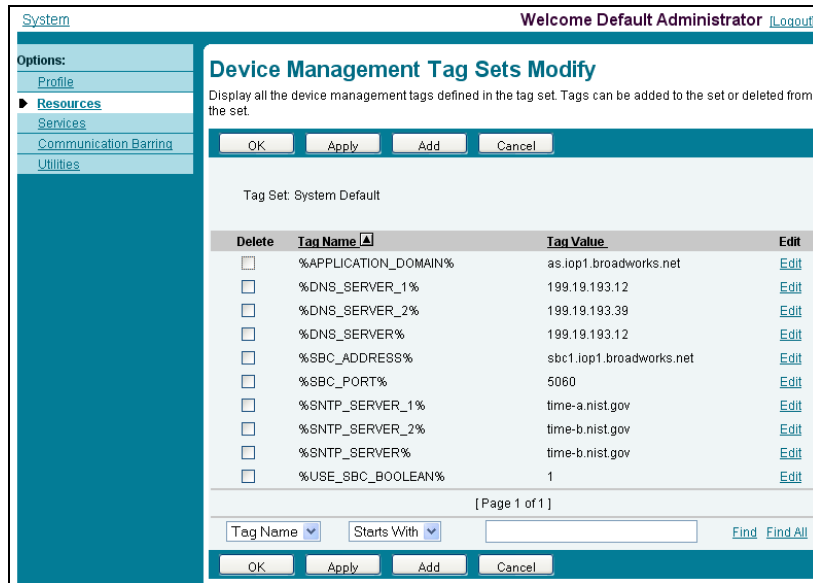
Figure 1 System Default Tag Settings

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*: *Algo_8180_DM-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
ALGOFIRMWAREV	<x.x.x.x> Example: 2.1.0.1	Indentify 8180 firmware version.
ALGOKERNELV	r<x> Example: r5	Indentify 8180 kernel version.

Example Device Type Specific Tag Settings
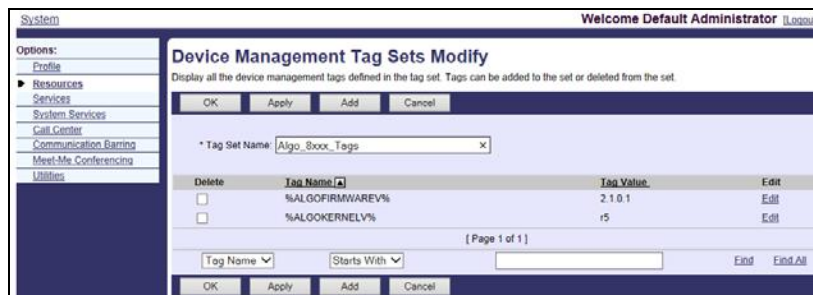
Figure 2 Device Type-Specific Tag Settings

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 manually 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 Algo 8180 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 Algo 8180 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.

Log in to BroadWorks as an administrator.

1) Browse to *System → Resources → Identity/Device Profile Types* and select *Import*.

2) 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.

3) Browse to *System → Resources → Identity/Device Profile Types*.

4) Perform a search to find the imported Algo device profile type, Algo 8180.

5) Browse to the *Profile* page and change the Device Management Device Access FQDN to your Xtended Services Platform or Xtended Services Platform cluster address.

Figure 3 Device Access FQDN

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

Firmware files must be obtained from Algo. These files are not included in the import. Complete the steps in section *5.2.2.2.2.3 Static Files* to define the static firmware files and to upload the firmware.

NOTE: The non-firmware static files in section *5.2.2.2.2.3 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 Algo 8180 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 Algo 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 Algo 8180.

Browse to *System → Resources → Identity/Device Profile Types* and perform a search to find the Algo 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 4 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".

Parameter	Value	Description
Device File Format	not_used	This parameter must not be blank, set it to "not_used".

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

Figure 5 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.

Parameter	Value	Description
Device Access URI	Algo_8180	This defines the directory that the Xtended Services Platform uses to access the configuration files.

Example Device Management Options Settings

Figure 6 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 Algo 8180 downloads.

Configuration templates, firmware, and other files the 8180 uses must be uploaded to BroadWorks. Download the Algo 8180 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 Algo.

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

File Name	CPE Kit Template File Name	File Type	Description
Examples			
algom%BWMACADDRESS%.conf	algom%BWMACADDRESS%.conf.template	Device-specific	This file contains configurable parameters that apply to an individual device.
algop8180.conf	algop8180.conf.template	System-level	This file contains configurable parameters that apply to all devices in a given deployment.

The following table identifies other files that the Algo 8180 downloads from the server or uploads to the server. These files are not provided in the CPE kit and must be obtained from Algo.

File Name	File Type	Description
algo-8180-%ALGOFIRMWAREV%.fw	System-level	This file contains 8180 firmware load.
algo-8180-%ALGOFIRMWAREV%.md5	System-level	This file contains 8180 firmware MD5.
algo-pa-kernel-%ALGOKERNELV%.fw	System-level	This file contains 8180 kernel load.
algo-pa-kernel-%ALGOKERNELV%.md5	System-level	This file contains 8180 kernel MD5.

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 System Files

This section identifies the system-level files used by Algo and provides instructions for defining the files and uploading for Device Management.

The 8180 downloads a system file, named as follows: algop8180.conf.

Add a BroadWorks device profile type file to the Algo 8180 device profile for the system 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	algop8180.conf	This is the file name that 8180 uses to request the file.

Parameter	Value	Description
Repository File Format	algop8180_%BWTIMESTAMP%.conf	This is the file name as stored in the Device Management repository. If group customization of the system file is required, the repository file name must contain the timestamp tag.
File Category	Dynamic Per-Type	The system file applies to the device type.
File Customization	Administrator	This identifies who can customize the system file template.
Enable Caching	Not set	Caching is optional for a system file.
Assign File	Custom	
Authentication Mode	User Name and Password	This must be set based on what the device supports. If group customization of the system file is required, the authentication mode must be set to the user name and password.
Device Access HTTP Authentication	Basic	Basic mode is supported authentication method on device.

After defining the system file type, upload the corresponding system 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 System File Settings

Figure 7 algop8180.conf File

5.2.2.2.2.2   Device-Specific Files

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

Each 8180 downloads a device-specific file based on the MAC address using the following file name format: Algom*[MAC-address].conf.*

Add a BroadWorks device profile type file to the Algo 8180 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	algom%BWMACADDRESS%.conf	This is the file name format the 8180 uses to request the file.
Repository File Format	algom%BWFQDEVICEID%.conf	This is the file name format as stored in the Device Management repository.
File Category	Dynamic Per-Device	This file is unique per device.
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.

Parameter	Value	Description
Assign File	Custom	
Authentication Mode	User Name and Password	The device-specific file is authenticated with the username and password.
Device Access HTTP Authentication	Basic	Basic mode is supported authentication method on device.

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

Figure 8 algom%BWMACADDRESS%.conf File

5.2.2.2.2.3   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 Algo 8180 requires the following static files:

■   *algo-8180-<ALGO Firmware Version>.fw*

■   *algo-8180-<ALGO Firmware Version>.md5*

■   *algo-pa-kernel-<ALGO Kernel Version>.fw*

■ *algo-pa-kernel-<ALGO Kernel Version>.md5*

Add a BroadWorks device profile type file to the Algo 8180 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:
	`algo-8180-%ALGOFIRMWAREV%.fw`
	`algo-8180-%ALGOFIRMWAREV%.md5`
	`algo-pa-kernel-%ALGOKERNELV%.fw`
	`algo-pa-kernel-%ALGOKERNELV%.md5`
		This is the file name the phone uses to request the file.

Repository File Format	<file-name>
	Examples:
	`algo-8180-%ALGOFIRMWAREV%.fw`
	`algo-8180-%ALGOFIRMWAREV%.md5`
	`algo-pa-kernel-%ALGOKERNELV%.fw`
	`algo-pa-kernel-%ALGOKERNELV%.md5`
		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	User Name and Password	The device-specific file is authenticated with the username and password.
Device Access HTTP Authentication	Basic	Basic mode is supported authentication method on device.

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

Example Static File Settings

Figure 9 algo-8180-%ALGOFIRMWAREV%.fw 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 an Algo phone deployed at a user's desk.

This section describes how to create a BroadWorks device profile instance for an individual Algo 8180 phone. 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 Algo 8180 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
Identity/Device Profile Name	<device-profile-name> Example: Algo8180-1	The device profile name is a unique identifier for the device profile instance.

Parameter	Value	Description
Identity/Device Profile Type	Algo_8180	From the drop-down list, select the Algo 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	<device-login-name> Example: Algo8180user1	User name used to log in from the device. The device login user naming convention must be determined by the service provider.
Device Access Password	<device-login-password> Example: 654321	Password used to log in from the device.

Example Identity/Device Profile Add Settings

Figure 10 Device Profile Instance

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: Algo8180-1	From the drop-down list, select the device profile instance created in the previous section.
Line/Port	<SIP register address-of-record> Example: 2404980342@as.iop1.broadworks.net	Supply the desired SIP register address-of-record.

Example User Addresses Settings

Figure 11 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 Algo device profile (example: <partner-model>). Perform the following steps.

Click on the *Custom Tags* tab.

1) Click **Add**.

2) Add the SBC tag.

3) For the tag, enter "SBC_ADDRESS".

4) For the value, enter the IP address (that is, the edge device LAN IP address).

5) To save the tag data, click **OK**.

This Tag/Value is applied to all Algo model phones in the group using the modified *Device Profile Type*.

Repeat for each Algo model provisioned in the group.

5.2.6 Configure Algo 8180

This section describes the steps necessary to configure the Algo 8180 for integrating with BroadWorks Device Management.
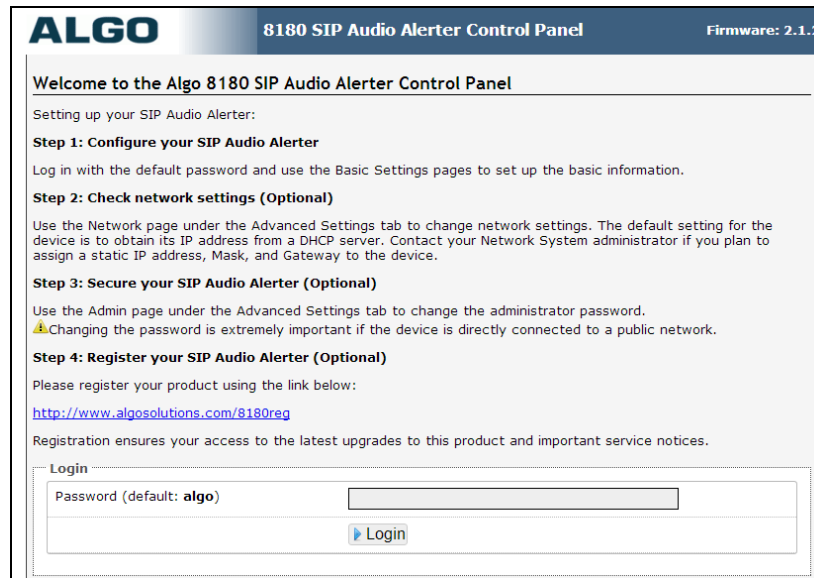
Log in to the 8180 web user interface.

Figure 12 Algo 8180 Login Screen – Default Password is "algo"

1) Browse to *Advanced Settings → Provisioning*.

2) Set the Provisioning Mode to "Enabled".

3) Set the *Server Method* to "Static" and under *Static Server* enter the Xtended Services Platform (Xsp) IP Address with the port number (for example, "xsp1.iop1.broadworks.net:80").

4) Set *Download Method* to "HTTP". Under *Auth User Name* enter the Device Access User Name and under *Auth Password* enter the Device Access Password.

5) The Configuration Download Path and the Firmware Download Path are the same and they have to be set to "Device Access Context Name/Device Access URI" (for example, "dms/Algo_8180").
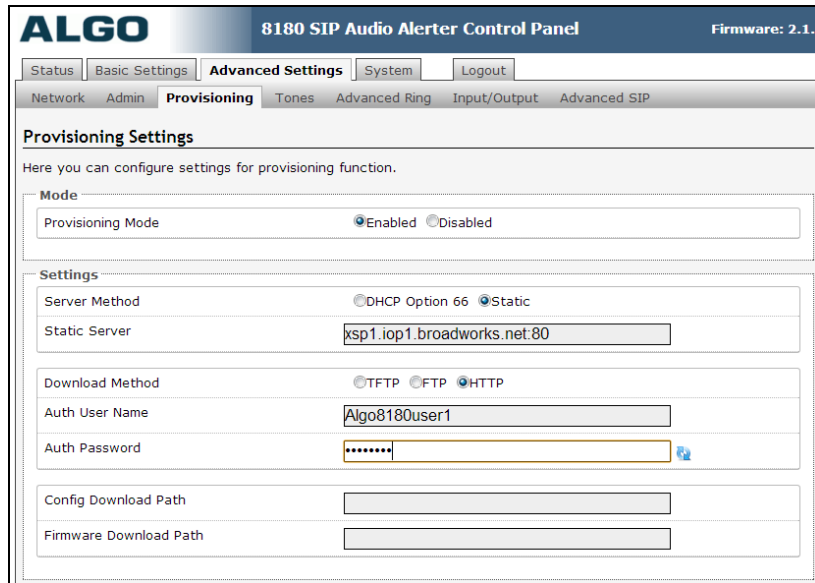
Figure 13 Algo 8180 Provisioning Screen

Restart the 8180 and log back into the device web interface.

NOTE: By default the device configuration template will assigned the first user linked to the 8180 profile to the 8180 Ring function. The second user linked to the 8180 profile will be assigned to the 8180 page function.

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Appendix A: Sample 8180 in Ringer Mode Configuration Files

NOTE: The following samples are examples and should be used as a reference only. DO NOT CUT AND PASTE THESE EXAMPLES TO GENERATE YOUR CONFIGURATION FILES. Use the configuration files obtained from Algo 8180 with the specific release to generate your configuration files.

System Default File: algop8180.conf

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

```
admin.devname = sipalerter
admin.keyui = 1
admin.lang = en
admin.pwd = algo
admin.voice = en
admin.welcome = 1
audio.mcast.mode = 3
audio.mcast.zone = 224.0.2.62:5000
audio.mcast.zone2 =
audio.mcast.zone3 =
audio.mcast.zone4 =
audio.mcast.zone5 =
audio.mcast.zone6 =
audio.menu.vol = 1
audio.noise.level = 66
audio.noise.use = 0
audio.page.mode = 0
audio.page.timeout = 0
audio.page.tone = page-notif.wav
audio.page.vol = 1
audio.relay.mode = 0
audio.ring.tone = warble2-med.wav
audio.ring.vol = 1
audio.spk.mode = 0
audio.test.mode = 0
log.level = error
log.method = local
log.server =
log.size = 100
net.dhcp.timeout = 60
net.dhcp.use = 1
net.discovery = 1
net.dns1 =
net.dns2 =
net.gateway =
net.http = 1
net.ip =
net.mask =
net.time =
net.vlan.id = 0
net.vlan.priority = 0
net.vlan.use = 0
prov.download.method = tftp
prov.download.path =
```

```
prov.server.method = option66
prov.server.static =
prov.use = 1
sip.alert1.auth =
sip.alert1.event =
sip.alert1.mode =
sip.alert1.pwd =
sip.alert1.user =
sip.diffport = 0
sip.ka.method = 0
sip.ka.period = 30
sip.mwi.event = 0
sip.mwi.mode = 0
sip.obproxy =
sip.proxy =
sip.regexp = 3600
sip.registrar =
sip.stun =
sip.u1.auth =
sip.u1.pwd =
sip.u1.user =
```

Phone-Specific File: algom[MAC address].conf

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

```
admin.devname = sipalerter
admin.keyui = 1
admin.lang = en
admin.pwd = algo
admin.voice = en
admin.welcome = 1
audio.mcast.mode = 3
audio.mcast.zone = 224.0.2.62:5000
audio.mcast.zone2 =
audio.mcast.zone3 =
audio.mcast.zone4 =
audio.mcast.zone5 =
audio.mcast.zone6 =
audio.menu.vol = 1
audio.noise.level = 66
audio.noise.use = 0
audio.page.mode = 0
audio.page.timeout = 0
audio.page.tone = page-notif.wav
audio.page.vol = 1
audio.relay.mode = 0
audio.ring.tone = warble2-med.wav
audio.ring.vol = 1
audio.spk.mode = 0
audio.test.mode = 0
log.level = error
log.method = local
log.server =
log.size = 100
net.dhcp.timeout = 60
net.dhcp.use = 1
net.discovery = 1
```

```
net.dns1 =
net.dns2 =
net.gateway =
net.http = 1
net.ip =
net.mask =
net.time =
net.vlan.id = 0
net.vlan.priority = 0
net.vlan.use = 0
prov.download.method = tftp
prov.download.path =
prov.server.method = option66
prov.server.static =
prov.use = 1
sip.alert1.auth =
sip.alert1.event =
sip.alert1.mode =
sip.alert1.pwd =
sip.alert1.user =
sip.diffport = 0
sip.ka.method = 0
sip.ka.period = 30
sip.mwi.event = 0
sip.mwi.mode = 0
sip.obproxy =
sip.proxy =
sip.regexp = 3600
sip.registrar =
sip.stun =
sip.u1.auth =
sip.u1.pwd =
sip.u1.user =
```

References

[1] Algo Communication Products Ltd. 2012. *8180 SIP Audio Alerter User Guide*. Available from Algo Communication at http://www.algosolutions.com/8180.

[2] BroadSoft, Inc. 2013. *BroadWorks Device Management Configuration Guide*, *Release 18.0*. Available from BroadSoft at xchange.broadsoft.com.

[3] BroadSoft, Inc. 2013. *BroadWorks Redundancy Guide, Release 18.0*. Available from BroadSoft at xchange.broadsoft.com.

[4] BroadSoft, Inc. 2013. *BroadWorks SIP Access Device Interoperability Test Plan, Release 18.0*. Available from BroadSoft at xchange.broadsoft.com.

[5] BroadSoft, Inc. 2013. *BroadWorks Device Management Interoperability Test Plan*, *Release 18.0*. Available from BroadSoft at xchange.broadsoft.com.

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