

OBIHAI OBI 302 (ATA) CONFIGURATION GUIDE

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DOCUMENT CONTROL

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1. INTRODUCTION

This document covers details on provisioning and maintenance of OBiHai OBi 302 Analogue Telephone Adapter device accredited by Vocus IP Tel. The OBiHai OBi 302 device supplied by Vocus are hosted on BroadWorks Device Management System (DMS) platform and are capable of MAC based authentication to simplify deployment and for enhanced security.

The OBiHai OBi302 is equipped with 2 x FXS ports for connection to Analog phone or Fax machine. The device is support up to 4 x ITSP for SIP registration and can receive and make phone calls to mobile, fixed line and faxes. The OBi302 supports the T.38 fax standard for reliable facsimile calls over Internet.



1.1 AUDIENCE

This technical document is intended for Vocus direct customer and Reseller with the purpose of provisioning the OBiHai OBi302 using MAC Based authentication with Vocus IPTel platform.

Understanding the basic concept of IP/Routing and SIP/RTP is also necessary to complete the configuration and for troubleshooting, if necessary.

This configuration guide is offered as a convenience to Vocus customers or resellers. The specifications and information regarding the product in this guide are subject to change without notice. User must take full responsibility for the application of the specification and information in this guide.

2. OVERVIEW

This guide describes the configuration and procedures required for the OBiHai OBi 302 for interoperability with Vocus IPTel.

The OBiHai OBi 302 is an analog telephone adapter, which is an access device that uses the Session Initiation Protocol (SIP) to communicate with Vocus IPTel for call control.

This guide describes the specific configuration items that are important for use with Vocus IPTel, It does not describe the purpose and use of all configuration items on the OBiHai OBi 302 device.

2.1 INTEROPERABILITY TEST PLAN SUPPORT

The OBiHai OBi 302 have completed interoperability testing with Vocus IPTel platform. The Supported column in the following table identifies the OBiHai OBi 302 support for each items covered in the test plan with the following designations:

Yes – Test item is supported

No – Test item is not supported

NA – Test item is not applicable to device type

NT – Test item was not tested

TEST PLAN PACKAGES	TEST PLAN ITEMS	SUPPORTED	COMMENTS
POTS Service	Call Origination	Yes	
	Call Termination	Yes	
	Call Waiting	Yes	Switching Between Calls
	Call Waiting	Yes	Accept 2 nd Incoming Call, and hangup initial call
	Call Waiting	Yes	Reject Incoming Call
	Call Enquiry	Yes	
	Call Transfer	Yes	
	Blind Transfer	Yes	
	Calling Number Display	Yes	
	Calling Number Presentation	Yes	
	Calling Number Blocking	Yes	

Fax Service	T.38 Fax Messaging	Yes
	G711 Fax Passthrough	Yes
Basic Service	Ringback	Yes
	Dial Plan	Yes
	DTMF – Inband	Yes
	DTMF – RFC 2833	NT
	DTMF – Relay	NT
	Early Update	No
	Codec Negotiation	Yes
Conference Service	Codec Renegotiation	Yes
	Local 3-Way Calling	Yes
Registration and Authentication	Network Based Conference	Yes
	Register Authentication	Yes
Authentication	Maximum Registration	Yes
	Minimum Registration	Yes
	Invite Registration	Yes
	Refer Authentication	Yes
	Device Authentication Broadsoft	No
Miscellaneous Service	Do Not Disturb	Yes
	Remote Restart Via Notify	Yes
	TCP Register	Yes
	TCP outgoing INVITE	Yes
	TCP Incoming INVITE	Yes

2.2 KNOWN ISSUES

This section lists the known interoperability issues between Vocus IPTel and specific firmware releases. Issues identified during interoperability testing and known issues identified in the field are listed.

ISSUE NUMBER	ISSUE DESCRIPTION	FIRMWARE	COMMENTS
IM-0001	SSL Handshake with DMS	3-0-1-4738	Fixed on firmware 3-0-1-5079

2.3 VERIFIED VERSION

The following table identified the verified OBiHai OBi 302 and Vocus IPTel versions when the testing is conducted. If the device has undergone more than one test cycle, version for each test cycle are listed, with the most recent listed first.

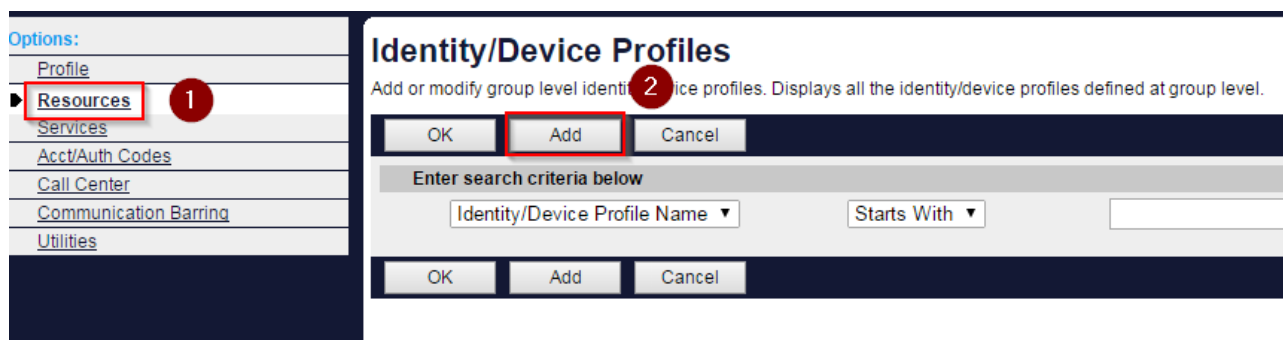
VENDOR	TYPE	FIRMWARE VERSION
OBiHai	OBi 302	3.0.1 (Build: 5079)
Broadsoft	Vocus Hosted PBX	R20

3. VOCUS IPTEL PROVISIONING

This section describe the details to provision the OBiHai OBi 302 analogue telephone adapter device profile required for interoperability in Vocus IPTel Commpilot. This includes creating user profile and assigning service license pack for the ATA to function correctly. If you familiar with the device profile creation in Commpilot, you may need to skip to the next section.

3.1 CREATING DEVICE PROFILE TYPE

1. Log in to the **Commpilot > Group Level**
2. On the left navigation pane, click on the **Resource > Identity / Device Profiles**
3. Then, click on the **Add** button as shown



4. Enter the MAC Address of the OBiHai OBi 302 under the **Identity/Device Profile Name**
5. Select "**Obihai-OBi302**" from the drop down menu **for Identity/Device Profile Type**
6. Enter the MAC Address of the OBiHai OBi 302 on the **MAC Address** field.
7. Click **OK** button when finished.

Identity/Device Profile Add

Add a new group identity/device profile.

The screenshot shows the 'Identity/Device Profile Add' form. The form is titled 'Group: AMM-TestGroup-01-R20'. The 'Identity/Device Profile Name' field contains '9CADEF4215A2'. The 'Identity/Device Profile Type' dropdown is set to 'Obihai-OBi302'. The 'Protocol' dropdown is set to 'SIP 2.0'. The 'MAC Address' field contains '9CADEF4215A2'. The 'Host Name/IP Address' and 'Port' fields are empty. The 'Transport' dropdown is set to 'Unspecified'. The 'Serial Number' field is empty.

3.2 CREATING USER PROFILE

This section describe the process of creating User profile, assigning licensing and associate device profile to User Profile in Vocus's Commpilot.

1. Log in to the **Commpilot > Group Level > Users**
2. Click on the **Add** button to create new user
3. Enter the **User ID, First and Last Name**, and **Password** for this user profile
4. Select correct **Time Zone** based on your region.
5. Click **OK** button when finished

Profile

Profile allows you to view and maintain your profile information. The information filled in specifies your primary phone number, extension, and device that are used for handling calls additional information section allows your mobile phone, pager, and other information to be visible to other group members in the group phone list. Some of this information can only be visible to your administrator.

Service Provider ID: Amcom
User ID: 0865570097@amcomvoice.ipsystems.com.au
Group: AMM-TestGroup-01-R20
[Change User ID \(Also saves current screen data\)](#)

* Last Name: * First Name:
* Calling Line ID Last Name: * Calling Line ID First Name:
Name Dialing Last Name: Name Dialing First Name:
Department: Language:
Time Zone: Network Class of Service:

Buttons: OK, Apply, Delete, Cancel

3.3 ASSIGNING SERVICE PACK LICENSE

It is important to add license to User Profile. The capabilities of license provides incoming calls features and authentication method to register the OBiHai OBi 302 ATA. Generally, a Standard Service Pack license is adequate for basic fax service. Additionally, any advance features ie. N-way conference are required Premium Service Pack.

1. Log in to the **Commpilot > Group Level > Users**
2. On the left navigation pane, click on **Profiles > Assign Services**
3. Select **License Service Pack**, then Click on the **Add** button from **Available Service Packs**
4. Click **OK** button when finished

Assign Services

Assign Services allows you to assign or unassign services and service packs for a user. If a service or service pack is unassigned the service data that has been filled out will be lost.

NOTE: For N-WAY Conferencing, user profile must be assigned with Hosted PBX Premium for this feature to work.

3.4 ASSOCIATE DEVICE PROFILE & PHONE NUMBER ALLOCATION

1. Log in to the **Commpilot > Group Level > Users**
2. On the left navigation pane, click **Profile > Addresses**
3. Select the **phone number** from the drop down menu, Commpilot will automatically populate the **extension number**
4. Select **Identity/Device Profile** radio button
5. Select the **Device Profile Name** from the drop down menu for OBiHai OBi 302 ATA
6. Then enter the phone number on the **Line/Port** field
7. Click **OK** button when finished

Addresses

Addresses allow you to view and maintain your phone number and other identities that are used to make and receive calls.

4. OBIHAI DEVICE PROVISIONING

This section describe the baseline requirement for provisioning the OBiHai OBi 302 ATA and details of network configuration, tag set used for features and maintenance.

4.1 NETWORK CONFIGURATION

The OBiHai OBi 302 Telephone Analogue Adapter by default does not use CDP or LLDP discovery protocol, therefore the switch port connected to the OBiHai devices must be configured to use Access VLAN only for Cisco Layer 2 switch.

See below example switch port configuration

```
interface FastEthernet0/6
description OBiHai OBi 302
switchport access vlan 101
switchport mode access
spanning-tree portfast
end
```

The Access VLAN can either be data VLAN or dedicated voice VLAN for OBiHai devices with Quality of Service (QoS) configuration applied. OBiHai Devices that connecting to dedicated voice VLAN can be configured to use DHCP scope options 66 for the device to reach the provisioning server URL.

DHCP OPTION	PROVISIONING URL
OPTION 66	https://dms.phoneconfigs.com.au/bootstrap/\$DM.xml

4.2 DMS PROVISIONING (MAC-BASED)

The OBiHai OBi 302 has built-in provisioning URL that will direct the device to download its configuration files from the DMS provisioning server. The provisioning URL is accessible by OBiHai devices over 3rd Party Internet and Vocus Private voice network such as IPVPN and VoiceAccess.

During the boot sequence, the OBiHai devices will listen for DHCP Option 66 and attempt to download its configuration files from the DMS profile server. However, if there is no Option 66 configured, then the device will attempt to use the inbuilt provisioning URL to reach the DMS provisioning server.

When reaching the DMS provisioning server, the OBihai devices will perform SSL handshake to authenticate each other by exchanging and validating digital certificates. Then the DMS provisioning server will send request to OBihai 302 devices to present valid MAC address for verification check. Once the DMS provisioning server passed the verification successfully, the devices then download its configuration files and register to make inbound and outbound calls.

NOTE: The device must be provisioned in Vocus IPTel Manager before it can connect and download its configuration files.

The OBihai OBi 302 will get its configuration files from the DMS provisioning server in sequence and each files serve different purposes.

The following table show each configurations file and the description in order.

ORDER	OBI 302 CONFIG FILE	LEVEL	DESCRIPTION
1	OBi302.xml	System	Contains Config URL in Bootstrap to reach template.xml
2	Obi302Template.xml	System	File contain configurable parameters to reach system and macaddress.xml
3	Obi302System.xml	System	Contains configurable parameters that apply to all device in a given deployment
4	OBi202-3-0-1-5079.fw	System	Contains the device firmware load
5	MACADDRESS.xml	Subscriber	Contains configurable parameters that apply to an individual device in a deployment

4.3 NETWORK BASED CONFERENCE (N-WAY)

The OBihai device come with conference feature to perform 3-Way calling with Local audio mixing. The settings is enabled by default in the OBi302System.xml configuration file. However, the device can also allow N-Way calling audio conference call for more than 3 parties through the external conference service via Broadsoft platform by applying custom DMS tag to the device parameter.

4.3.1 TO ENABLE EXTERNAL CONFERENCE WITH CUSTOM TAG

1. Browse to the **Custom Tags** tab on the **Identity/Device Profile Modify** page
2. Click on the **Add** button
3. Enter the **Tag Name** and **Tag Value** (see table below)
4. Click on the **OK** button when finished
5. Click on the **Files** tab, then click **Rebuilt the Files** and **Reset the Phone**

Custom Tag set for External Conference call

TAG NAME	TAG VALUE	DESCRIPTION
EXT_CONF-BRIDGE_1	true	Enable the use of External Conference Bridge for Phone POTS 1
EXT_CONF-BRIDGE_2	true	Enable the use of External Conference Bridge for Phone POTS 2

Identity/Device Profile Custom Tag Modify

Modify or delete a **4** from device management tag for the Identity/Device Profile.

OK **Delete** **Cancel**

Identity/Device Profile Name: 9CADEF40F3FC **3**
Identity/Device Profile Type: Obihai-OBi302

Tag Name: %EXT_CONF_BRIDGE_1%
Tag Value:

OK **Delete** **Cancel**

5. DEVICE MAINTENANCE

5.1 ACCESSING THE WEBGUI

By default, the OBihai Device downloaded its configuration files with WebAccess disabled. This can be enabled by using Custom DMS Tag allow access to the WebGui. Although the OBihai device by default opened http port 80, it denied from accessing the configuration from the WAN.

5.1.1 TO ENABLE WEB ACCESS WITH CUSTOM TAG

1. Browse to the **Custom Tags** tab on the **Identity/Device Profile Modify** page
2. Click on the **Add** button
3. Enter the **Tag Name** and **Tag Value** (see table below)
4. Click on the **OK** button when finished
5. Click on the **Files** tab, then click **Rebuilt the Files** and **Reset the Phone**

NOTE: This option needs a reboot for this change to take effect. You should always disable this settings once troubleshooting has been performed.

Custom Tag set for enabling Web Access

TAG NAME	TAG VALUE	DESCRIPTION
ACCESS_FROMWAN	true	Allow access to WebGui from WAN

Identity/Device Profile Custom Tag Modify

Modify or delete **4** custom device management tag for the Identity/Device Profile.

Identity/Device Profile Name: 9CADEF40F3FC
Identity/Device Profile Type: Obihai-OBi302
Tag Name: %ACCESS_FROMWAN%
Tag Value: true

5.2 FIRMWARE UPGRADE

The OBihai device will loaded with certified firmware by Vocus. Often OBihai vendor will release new firmware for bug fixed from time to time, so performing firmware upgrade can be done using DMS Custom Tag instead of upload it manually via the WebGui.

5.2.1 TO ENABLE WEB ACCESS WITH CUSTOM TAG

1. Browse to the **Custom Tags** tab on the **Identity/Device Profile Modify** page
2. Click on the **Add** button
3. Enter the **Tag Name** and **Tag Value** (see table below)
4. Click on the **OK** button when finished
5. Click on the **Files** tab, then click **Rebuild the Files** and **Reset the Phone**

Example Custom Tag set for firmware upgrade

TAG NAME	TAG VALUE	DESCRIPTION
FIRMWARE_VERSION	<firmware_version>.fw	Firmware version for the use of upgrade or downgrade

Identity/Device Profile Custom Tag Add

Add a new custom **4** device management tag to the Identity/Device Profile.

Identity/Device Profile Name: 9CADEF40F3FC
Identity/Device Profile Type: Obihai-OBi302

Tag Name: %FIRMWARE_VERSION% **3**
Tag Value: OBi202-3-0-1-5110.fw

5.3 FACTORY RESET

The OBi device may be reset to factory default condition. Call history and various statistical information will be removed at the same time. Resetting the device configuration should be used with extreme caution as the operation cannot be undone.

5.3.1 FACTORY RESET USING HARDWARE PIN

- > Press Reset button at the back of the Obihai device
- > Hold down for 10 seconds and monitor the status light flashing red.
- > Obihai device will start rebooting.

Note : Using the Hardware reset will reset all settings in the Obihai device including Router and Voice parameters.

5.3.2 FACTORY RESET USING OBI IVR

- > Accessing OBi IVR by dialling ***0
- > Enter the IVR password of "34739"
- > Enter the Option by dialling 81# to reset the Voice configuration
- > Press 1 to confirm when prompted

6. REFERENCE

OBi302 Data Sheet

<http://www.obihai.com/docs/OBi302DS.pdf>

OBi302 Administration Guide

<http://www.obihai.com/docs/OBiDeviceAdminGuide.pdf>

OBi302 Provisioning Guide

<http://www.obihai.com/docs/OBiProvisioningGuide.pdf>

OBi302 Firmware Download

<http://www.obitalk.com/forum/index.php?topic=9.0>

Xchange Broadsoft Partner Configuration Guide

http://xchange.broadsoft.com/php/xchange/system/files/Interop/PartnerConfigurationGuides/PartnerConfigGuide_Obihai_OBi2xx_OBi3xx.pdf