
IceWarp Unified Communications

CISCO Integration

Version 12





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CISCO Integration

Legend

Icon	Description
	Warning – very important!
	Note or tip – good to know.
NOTE: Areas ...	Note within a table.
► Figure 4	Figure link – click the link to reveal the figure. Click it again to close it. (Works only in the CHM format.)

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About

IceWarp Mail4CISCO

IceWarp Mail4CISCO is a special version of IceWarp Messaging Server created as an alternative to or replacement of Microsoft Exchange.

IceWarp Mail4CISCO is integrated with Cisco Unified Communications Manager (CUCM), CISCO Unity Connection (CUC) and CISCO Unified Presence (CUP) to deliver a brand new user experience to users of CISCO products such as, for example, BE6000, and enables them to use popular IceWarp all-in-one web interface to seamlessly handle mail, voicemail, phone calls and chat.

IceWarp Mail4CISCO:

- allows to synchronize already existing accounts to IceWarp Mail4CISCO email server (CUCM, LDAP, AD can serve as accounts sources) easily
- can synchronize user accounts to integrated LDAP server, which can be used by CISCO devices as an account source
- offer possibility to synchronize and manage voicemail messages via IceWarp Mail4CISCO WebClient
- allows voicemail push – instant synchronization of voicemail after changes on CISCO are detected
- enables renaming or moving voicemail folders without disrupting their functionality
- is integrated with CUP Jabber server enabling users to chat directly from IceWarp Mail4CISCO IM client (built in WebClient)
- allows to make and receive VoIP calls directly into IceWarp Mail4CISCO WebClient softphone – integration will automatically create 3rd party SIP device in CUCM (security policy profile, line number, etc. are handled as well)
- manage voicemail messages with mp3 attachments on mobile devices using EAS server or any other IMAP client

Phone call solution in IceWarp WebClient interface is based on WEBRTC SIP client developed by IceWarp. It enables users to make calls instantly from their WebClient without lengthy “SIP clients download / installation” process. It also provides improved security as the most vulnerable part of traffic is carried by the HTTP protocol encrypted by SSL.

All user data stored on the Mail4CISCO server are accessible on:

- desktop via Outlook with the IceWarp OutlookSync plugin, Desktop Client or WebClient
- mobile devices via Microsoft Exchange ActiveSync or WebClient tablet interface

IceWarp Mail4CISCO can be deployed on a physical or a virtual server (VMWARE, KVN, HYPER-V, etc.) under Windows or Linux operating system. For accounts storage and synchronization, either LDAP server included in IceWarp Mail4CISCO or existing Active Directory Server can be used. Also, CISCO users can be synchronized from a Mail4CISCO's LDAP server.

For corporates that already have Exchange Server deployed, IceWarp offers full Exchange-to-IceWarp conversion, so they can profit from benefits of IceWarp user-friendly interface, low cost and easy administration.

Reference

This chapter describes the <domain> – Cisco Integration tab of the IceWarp Server administrative console.

General

General

☒ Enable Cisco integration

CISCO ID Source: Alias (User ID)

Local ID Source: Any e-mail

Database settings and database maintenance: DB Settings...

Field	Description
Enable Cisco integration	General switch – must be enabled any type of integration to work.
CISCO ID Source	<p>Define mapping between CISCO accounts and IceWarp accounts here. The matching accounts have the same value of ID.</p> <p>Available choices:</p> <ul style="list-style-type: none"> <i>Alias (User ID)</i> – It is called <i>Alias</i> in CUC, but if accounts are synchronized from AD/LDAP, this field gets filled with <i>LDAP Attribute for User ID</i>. <p>Name</p> <p>Alias* <input type="text" value="alan"/></p> <ul style="list-style-type: none"> <i>Part before @ of Alias (User ID)</i> – Sometimes the <i>Alias (User ID)</i> field is filled with whole email (e.g. when <i>LDAP Attribute for User ID</i> is set to <i>mail</i>). Then it may make sense to use only the part before @ for the mapping. <i>SMTP Address</i> <p>SMTP Address <input type="text" value="alan"/> @test2003.com</p> <p>BE AWARE: For accounts synchronized from AD/LDAP, CISCO automatically creates the <i>SMTP address</i> value by appending the domain to <i>Alias(User ID)</i>. If <i>Alias (User ID)</i> already contains @, it is replaced by _. This may lead to crazy SMTP addresses like <i>alan_test2003.com@test2003.com</i>.</p> <p>BE AWARE: Do not confuse it with <i>Corporate Email Address</i> – IceWarp Server does not recognize this CISCO attribute .</p> <ul style="list-style-type: none"> <i>Part before @ of SMTP Address</i> <i>Extension</i> <p>Phone</p> <p>Extension* <input type="text" value="1"/></p>
Local ID Source	<p>Define mapping between CISCO accounts and IceWarp accounts here. The matching accounts have the same value of ID.</p> <p>Available choices:</p> <ul style="list-style-type: none"> <i>Any e-mail</i> <i>Any alias</i>

	<ul style="list-style-type: none">• <i>Username</i>• <i>Alias or e-mail</i> – If CISCO ID contains @, it is treated as <i>Any e-mail</i>, otherwise it is treated as <i>Any alias</i>.
Database settings and maintenance	Connection to a database where information about synchronized items is stored. Each domain must have its own database.

Account Matching Scenarios

IceWarp Server and CISCO Configured Against the Same AD

We expect that in this scenario, we must not change CISCO LDAP/AD settings. We have to adjust IceWarp Server settings to be compatible. It can be achieved using several settings.

Find the recommendations here:

(See the **VoiceMail Integration** section for explanation of the choices).

LDAP Attribute for User ID	IW AD sync setting	CISCO ID Source	Local ID Source
saAMAccountName	LocalUserName Source: Custom AD Property saAMAccountName	Alias(User ID)	Username
mail	arbitrary	Alias(User ID)	Any E-mail
employeeNumber	LocalUserName Source: Custom AD Property employeeNumber	Alias(User ID)	Username
telephoneNumber	LocalUserName Source: Custom AD Property telephoneNumber	Alias(User ID)	Username
vuserPrincipalName	LocalUserName Source: Custom AD Property userPrincipalName	Alias(User ID)	Username

IceWarp Server Configured to Export Accounts to LDAP, CISCO Configured against this LDAP

On the *CISCO Integration* tab, the domain has to enable export of CISCO related attributes to LDAP. If enabled, *uid*, *password* and *telephoneNumber* will be exported to LDAP. *Password* is needed so that CISCO can authenticate the accounts against LDAP.



NOTE: LDAP Synchronization Mapping – this section is enabled when IceWarp Server is configured to synchronize its accounts to LDAP/AD server in **Domains and Accounts – Global Settings – Advanced**.

LDAP Synchronization Mapping

☒ Export special properties to LDAP

Export uid from: Primary alias

Export phone from: empty

Re-Synchronize

Field	Description
Export special properties to LDAP	Tick this box to synchronize UID and phone fields into AD/LDAP. This is needed when you want to synchronize CISCO with the same LDAP as IceWarp Server is synchronizing into.
Export uid from	<p><i>UID</i> is a very important property – CISCO can be defined to use its value as <i>Alias (User ID)</i>. Select the appropriate value:</p> <ul style="list-style-type: none"> • <i>Primary alias</i> • <i>Primary e-mail</i> • <i>Username</i> • <i>Internal UID</i> (unique DB account number – not visible) • <i>Phone #</i> – the phone alias • <i>Numeric characters of Phone #</i> – sometimes the phone alias can contain *, this choice strips all non numeric characters.

Export phone from	<p>CISCO can simply import an account extension from <i>telephoneNumber</i>, hence it may be vital to export it from IceWarp Server.</p> <p>Select the appropriate value:</p> <ul style="list-style-type: none"> • <i>Empty</i> • <i>Numeric characters of Phone #</i> • <i>Phone #</i>
Re-Synchronize	Clicking this button re-synchronizes all accounts from this domain into AD immediately. It is vital after changing the settings above.

Again, the account matching can be done using several ways. Find recommendations here:

LDAP Attribute for User ID	IW Export UID From	CISCO ID Source	Local ID Source
uid	Primary Alias	Alias(User ID)	Any Alias
uid	Primary Email	Alias(User ID)	Any E-mail
uid	Username	Alias(User ID)	Username
uid	Phone#	Alias(User ID)	Any Alias
mail	arbitrary	Alias(User ID)	Any E-mail
employeeNumber	N/A		
telephoneNumber	N/A		

Manual Matching

Account matching can be set manually in many ways. The easiest and most straightforward way is to add a CISCO directory number as a phone alias to IceWarp Server, or set SMTP address of an account in CISCO.

Change on CISCO	Change on IW Server	CISCO ID Source	Local ID Source
none	Add directory number to alias	Extension	AnyAlias
SetMTP Address	none	Email	Any E-mail

Accounts Synchronization from Cisco to IceWarp Server

Accounts on IceWarp Server are automatically synchronized from CISCO (instead of synchronization from AD), see the **Account Synchronization from CISCO** chapter. In this scenario, the matching can be set in various combinations. The recommended setting is to use *username* as *Local ID source*, because it also determinates what is used as a username.

CISCO ID Source	Local ID Source
Alias (user ID)	UserName, Alias or Email
Part before @ of Alias	UserName, Any Alias, Alias or Email
SMTP Address	UserName, Any Email, Alias or Email
Part before @ of SMTP Address	UserName, Any Alias, Alias or Email
Extension	UserName, Any Alias, Alias or Email

VoiceMail Integration

Setup

This section allows to set integration with CISCO VoiceMail. Integration is configurable per domain.

The screenshot shows a configuration window titled "Cisco Unity Integration". It contains the following elements:

- A checkbox labeled "Enabled" which is checked.
- A "Host:" label followed by a text input field containing "192.168.6.169".
- An "Administrator:" label followed by a text input field containing "Administrator".
- A "Password:" label followed by a password input field with masked characters (dots).
- A "Local PUSH URL:" label followed by a text input field containing "192.168.6.61/rpc".
- Two buttons on the right: "Synchronize Now" and "Test Connection".

Field	Description
Enabled	Tick the box to enable integration.
Host	Fill in the IP address that must point to the CUC server web interface.
Administrator	Fill in a username of an account with administrative privileges – special permission to impersonate all accounts must be set (<i>Mailbox Access Delegate Account</i>). Default administration account can be used, but it does not have the “impersonate” permission by default.
Password	Fill in a password of the account mentioned above.
Local PUSH URL	Fill in a local URL of <i>rpc</i> accessible from CISCO. If empty, the <i>Host</i> value from the System – Services – SmartDiscover – SMS field is used. Enter e.g. <i>http://192.168.6.5/rpc</i> <i>Https</i> is not supported. This URL is used for push notification of changes on CISCO side.
Synchronize Now	Click the button to send a signal to IMAP service to start synchronization of this domain.
Test Connection	Click the button to try to connect to CUC, list all accounts and count their messages.

Functionality

- Synchronizes contents of three basic folders on CUC (***inbox, sent, deleted***) with IMAP.
- Synchronization is done periodically with the same interval as AD synchronization.
- Folders can be renamed or moved on IMAP – the synchronization engine still recognizes them.
- Handled CISCO actions: *Add, Delete, Change read status*.
- Handled IceWarp Server actions: *Delete, Change read status* (i.e. mails added on IMAP are not synchronized to CISCO VoiceMail).
- IMAP changes automatically schedules synchronization of the corresponding account (synchronization will be performed after five seconds – so that multiple actions in a row schedule only one synchronization).
- CISCO changes are handled immediately (see Local PUSH URL).
- Logging implemented, but not put to GUI (use the *c_system_log_services_ciscoAPI* variable).

Jabber Integration

Setup

Generally, the steps from the **Integrating Third-Party XMPP Client Applications on Cisco Unified Presence** document have to be followed

(http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cups/8_0/english/install_upgrade/deployment/guide/CUPdeploy/dgXMPPclient.html), but from practical point of view, only little steps have to be done:


1. Turning on *Cisco Unified Presence Services* to support XMPP clients (nothing to do by default – everything enabled):
 - Step 1: Select *Cisco Unified Serviceability – Tools – Service Activation*.
 - Step 2: Select the *Cisco Unified Presence* server from the *Server* menu.
 - Step 3: Turn on the following services:
 - *Cisco UP XCP Connection Manager* – turn on this service if you are integrating XMPP clients (such as Cisco Unified Personal Communicator), or XMPP-based API clients, on Cisco Unified Presence.
 - *Cisco UP XCP Authentication Service* – turn on this service if you are integrating XMPP clients (such as Cisco Unified Personal Communicator), or XMPP-based API clients, on Cisco Unified Presence.
 - *Cisco UP XCP Web Connection Manager* – optionally, turn on this service if you are integrating XMPP clients (such as Cisco Unified Personal Communicator), or XMPP-based API clients, on Cisco Unified Presence.
 - Step 4: Select *Save*.
2. Domain name for XMPP clients:
 - The domain name on IceWarp Server configuration page, must match the domain on *Cisco Unified Presence*. To verify the domain value on *Cisco Unified Presence*, select *Cisco Unified Presence Administration – System – Cluster Topology*, select *Settings* in the right pane, and verify the *Domain Name* value.

Cisco Unified Presence Integration

☒ Enabled

Host:


Jabber Domain:

 **Cluster-Wide Topology Settings**

Routing Communication Type:

Cluster ID*:

IM and Presence Domain*:

 Cisco Presence Engine, Cisco Proxy and Cisco XCP Router services must be stopped on all nodes in the cluster before the Domain Name can be modified.

3. DNS configuration for XMPP clients:
 - Instead of any DNS configurations, just enter the IP of the Jabber service in the IceWarp Server configuration page.
4. LDAP integration for XMPP *Contact Search*:
 - Nothing can be configured in this respect, IceWarp Server client does not support this feature.
5. Configuring a *Secure Connection* between *Cisco Unified Presence* and XMPP clients:

Nothing needs to be setup. IceWarp Server client automatically supports SSL and also non SSL mode

BE AWARE: Valid connection to Cisco Unified Communication Manager is also required

Functionality

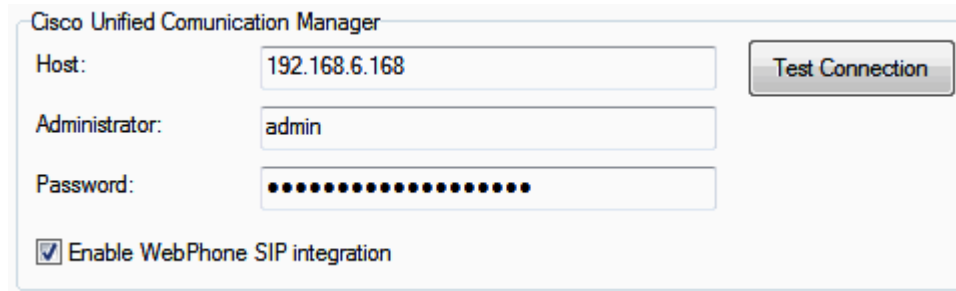
Users from a domain integrated with CISCO can enable IM client within WebClient. They can normally communicate with other CISCO accounts using CISCO Jabber clients.

- Add/remove contact
- See status changes (WebClient user see status changes of CISCO user and vice versa)
- Send/receive messages

WebPhone Integration

Setup

Valid connection to the call manager has to be specified here. For each WebClient user, one third-party SIP device has to be defined. This is done fully automatically.



The screenshot shows a configuration window titled "Cisco Unified Communication Manager". It contains three input fields: "Host:" with the value "192.168.6.168", "Administrator:" with the value "admin", and "Password:" with a masked password represented by 15 dots. To the right of these fields is a "Test Connection" button. At the bottom, there is a checkbox labeled "Enable WebPhone SIP integration" which is checked.

Functionality

If enabled, WebClient users in Firefox and Chrome are able to make and receive calls.

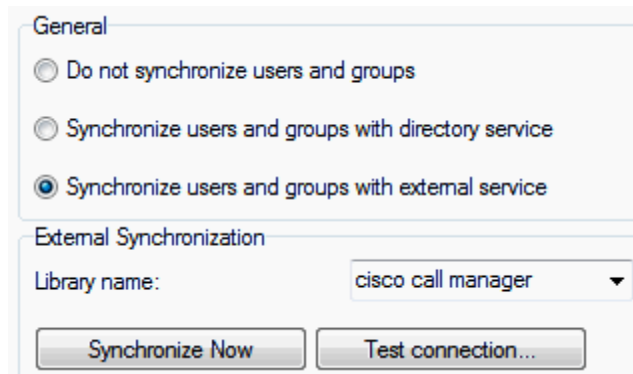
After login, CISCO server is checked whether this account has a corresponding third-party SIP device. If the device does not exist, it is created within *IceWarp Security Profile*, which forces digest authentication. If third-party SIP device, not created by IceWarp Server before, already exists, we are not able to create a new device (CISCO does not allow more third-party SIP devices per user). In such a case, the integration does not work.

If the account has defined *Primary Extension*, the automatically created device uses this extension. Otherwise, we create a new extension which is used by nobody.

Account Synchronization from CISCO

Setup

Just enable the appropriate checkbox. The synchronization on the **Directory service** tab will be switched to *Synchronize users and groups with external service* automatically and the used library will be set to *cisco call manager*.



The screenshot shows a configuration window with two sections. The 'General' section has three radio buttons: 'Do not synchronize users and groups' (unselected), 'Synchronize users and groups with directory service' (unselected), and 'Synchronize users and groups with external service' (selected). The 'External Synchronization' section has a 'Library name:' label followed by a dropdown menu showing 'cisco call manager'. At the bottom are two buttons: 'Synchronize Now' and 'Test connection...'.

Functionality

It automatically creates CISCO accounts on IceWarp Server and allows such users to authenticate against CISCO CUCM. It fills the following account properties:

- *Username* (if *local ID source* is set to *Username*, then username is synchronized from the corresponding *CISCO ID source*, otherwise username is synchronized from *CISCO userid*)
- *Name* (from *FirstName* and *LastName*)
- *Phone* (from *Primary extension*, if set)
- *Aliases* (from *userid* and *SMTP alias*)

The synchronized accounts are of the *DLL authentication* type, where the form of the *authmodevalue* is *cisco call manager;domain;ciscoid*.