



Administration Guide

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Administration Guide

Description and Architecture

Imagicle VoiceMail is a complete voicemail solution which extends the features of Cisco UCM-based IP Telephony solutions.

Imagicle VoiceMail delivers a personal Voice Mail with advanced functionalities of messages management and consultation.

VoiceMail users have a better access and control over their communications.

VoiceMail collects voice messages when a user can't answer a call and allows him/her to access and manage these messages from anywhere, at any time, regardless of access device or media type.

Users can access their voice messages through:

- Web Browser
- E-mail
- IP phone
- Traditional fixed/mobile phones

Product architecture

Imagicle VoiceMail is built on different modules:

- voicemail recording
- voicemail notifying
- voicemail managing

Each directory number (extension) configured on Cisco UCM requires a dedicated voicemail number to forward unanswered incoming calls to record and store an audio message in the right voice mailbox.

As an alternative, Imagicle VoiceMail also supports unanswered calls redirection to a **single VoiceMail pilot number**, where each access to VoiceMail is correlated to relevant user by its redirecting number (ext. number).

As an example: 0759379300 calls ext. 325 which is not available to answer. After the configured **No Answer Timeout** (on CUCM), the call is forwarded to the number 9325 corresponding to own voicemail number. By leveraging "Redirecting Number" CUCM feature, you can otherwise redirect the unanswered call VM Pilot Number 9999 (same to all users). The personal welcome message is played to the caller, which is invited to leave a message. Caller leaves a message and hangs up.

This is the **voicemail recording module** job: answer the call, prompt a welcome and record the message.

When the call ends, Imagicle VoiceMail sends a message waiting indication (MWI) to above 325 IP Phone to turn on its messages light and, if enabled in the user profile, the recorded message is sent through E-Mail and/or notified to a mobile phone.

This is the voicemail **notifying module** job: to switch on-off the MWI and notify voicemail to email. The email messages are localized in the user's language and the message templates can be edited.

Then the voicemail attendant system provides access to voicemails by:

- Web Browser
- E-mail
- IP phone
- Traditional phone (PSTN/GSM)

While using phones, users can dial the voicemail pilot number assigned to VoiceMail.

VoiceMail answers the call and drive the caller through a complete attendant system to:

- Manage new messages (listen/delete/save/repeat/forward/details)

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- Manage saved messages (listen/delete/repeat/forward/details)
- Record new welcome messages (record/listen back/repeat recording/activate)
- Record new assisted welcome messages (record/listen/repeat recording/activate)
- Manage welcome messages (listen/delete/repeat/activate)
- Change the personal voicemail pin
- Listen to message details

Note: the assisted welcome message is composed by a standard header announcing "You are connected to the voicemail of" and your name

Imagicle VoiceMail communicates with Cisco UCM through H.323 protocol using either G.711 or G.729 codecs for audio. G.729 is not available during the evaluation period.

Product Configuration

Users list

The fields involved for the voicemail configuration are:

- **First extension number:** identifies the user's extension number
- **Enable Call Analytics for voicemail number:** If selected, Imagicle Call Analytics monitors all incoming calls hitting user's voice mail number. This option consumes one additional Call Analytics user's license.
- **Voicemail number:** identifies a personal voice mailbox number or a common VoiceMail pilot number, if CUCM "Redirecting Number" feature is enabled.
- **Pin:** this will be required by the integrated IVR to authenticate the user. It must be 4 digits long
- **Voicemail address:** specific email address to forward voicemail messages (no value means no notification)
- **Do not keep sent voicemails:** if this checkbox is set, the voicemail messages delivered by email are not stored. The MWI never turns on.

Users permissions

By selecting the "User permissions" icon from the **Admin -> User Management** link, you can specify the user's access to the voicemail. This can be **Basic Access** (level 1) or **Complete Management** (level 10). Basic access allows to manage own messages through the web interface and to change the personal preferences; Complete Management allows to manage global settings and to start or stop the service.

Creating a voicemail numbering plan

If you wish to associate a personal VoiceMail number to each user, we suggest to reserve a range of internal, unused numbers for this purpose.

As an example, you can reserve a numbering range including a prefix (i.e. 9..) + ext. number for voicemail boxes.

Ext. 301 is assigned to voicemail 9301, 302 to 9302, etc...

Once again, you can always choose to assign same VM Pilot Number to each user and leverage CUCM "Redirecting Number" feature.

Global SMTP settings

Voicemail forwarding to email will work only if the general SMTP settings are properly configured. See SMTP Configuration [here](#).

Configuration example

If your internal numbering plans have more than 3 digits:

- You have reserved 3xx numbers for the phone extensions of the users
- You will reserve 9xx numbers for the related voicemail boxes
- You will reserve 999 for voicemail pilot number

Then we will create a TEST user to test voicemail features with the following parameters:

- Name and Surname: Christian Bianchi
- Phone number: 325
- Fax number: 925
- Email address: cb@yourdomain.com

Configuring the Pilot Number

The pilot number is unique reserved internal number which all the users calls to listen to their messages. VoiceMail identifies correct voicemail box to consult based on the caller number. If caller number is hidden/not available, VoiceMail asks to enter personal PIN number.

To configure the voicemail pilot on the Imagicle UC Suite, click on the **Admin** link, then on "**System parameters**" and "**IP Telephony system**". Here you need to specify:

- **Voicemail number:** identifies the voicemail pilot number to call in order to access the voicemail messages.
- **MWI number:** the prefix to be called to turn MWI on or off on Cisco IP Phones

Product Administration

Changing the default welcome message

Through the **Manage Service** link it is possible to activate a new welcome message for all users.

With the **browse** and **upload new messages** button you can fill the welcome messages table and then **select the check box** for the message to be activated for all users. Only .wav files in PCM format are allowed. They'll be automatically converted to the right bitrate.

Starting Services

Ssam service can be started either through the web interface or through Windows service manager console.

To **start** VoiceMail through the Windows service manager, you have to launch "Imagicle SSAM Startup".

To **stop** VoiceMail through the Windows service manager, you have to launch "Imagicle SSAM Shutdown".

Retrieving messages from PSTN

If you would like to enable voicemail access from PSTN, you need to publish the voicemail pilot number.

Suppose you have a free public of number that is: 297482999.

You need to add a Translation Pattern to your CUCM able to convert the number into the configured voicemail pilot number (999 in our example).

Accessing the voicemail from PSTN will require to insert the extension number to access messages to, followed by the trailer #. After the extension has been recognized, the PIN is required as while calling from the internal IP Phone.

If you do not have free public numbers, you can use Imagicle Auto Attendant to leverage multiple choices with one only public number.

PBX Configuration


Cisco Unified Communications Manager

Imagicle VoiceMail interacts with Cisco UCM as a H.323 endpoint. You need to configure:

- A gateway pointing to Imagicle UC Suite server
- A route pattern pointing to the gateway
- The voicemail pilot
- The "forward on no answer" settings for each phone

1. Add a H.323 gateway with UC Suite IP address, in our example: 10.10.10.10

Device Information

Product	H.323 Gateway
Device Protocol	H.225
Registration	Unknown
IP Address	192.168.204.165
 Device is not trusted	
Device Name*	<input type="text" value="10.10.10.10"/>
Description	<input type="text" value="SAS server"/>
Device Pool*	<input type="text" value="Default"/>
Common Device Configuration	<input type="text" value=" < None >"/>
Call Classification*	<input type="text" value=" Use System Default"/>
Media Resource Group List	<input type="text" value=" < None >"/>
Packet Capture Mode*	<input type="text" value=" None"/>
Packet Capture Duration	<input type="text" value=" 0"/>
Location*	<input type="text" value=" Hub_None"/>
AAR Group	<input type="text" value=" < None >"/>
Tunneled Protocol*	<input type="text" value=" None"/>
QSIG Variant*	<input type="text" value=" No Changes"/>
ASN.1 ROSE OID Encoding*	<input type="text" value=" No Changes"/>
Use Trusted Relay Point*	<input type="text" value=" Default"/>
Signaling Port*	<input type="text" value=" 1720"/>
<input type="checkbox"/> Media Termination Point Required	
<input type="checkbox"/> Retry Video Call As Audio	

If you wish to leverage CUCM "Redirecting Number" feature, to associate each user to a common VM Pilot Number, then please check the following flag too:

Call Routing Information - Outbound Calls	
Calling Party Selection *	Originator
Calling Party Presentation *	Default
Called party IE number type *	Cisco CallManager
Calling party IE number type *	Cisco CallManager
Called Numbering Plan *	Cisco CallManager
Calling Numbering Plan *	Cisco CallManager
Caller ID DN	
<input type="checkbox"/> Display IE Delivery	
<input checked="" type="checkbox"/> Redirecting Number IE Delivery - Outbound	
Redirecting Party Transformation CSS	< None >

2. Insert a Route Pattern pointing to Voice mail number range. Continuing the example, add a *9XXX Route Pattern **using the 10.10.10.10 gateway**. This pattern must include:

- Voice mail personal numbers, to forward calls to correct voice mailboxes
- Pilot number, which is the number to dial in order to retrieve messages and/or the common VM Pilot Number to redirect all calls.

E.g. if the route pattern is *9XXX the pilot can be *9999 and the voice mail numbers *9001, *9002....

Pattern Definition	
Route Pattern *	*9XXX
Route Partition	LabDevices
Description	SSAM VoiceMail
Numbering Plan	-- Not Selected --
Route Filter	< None >
MLPP Precedence *	Default

3. Create a new voicemail pilot (*9999 in our example) into the Advanced Features > Voice mail > Voice mail pilot.

Pilot Number	Description	Calling Search Space
Default	Default	
No Voice Mail	No Voice Mail	
*9999	SSAM Pilot	ALL

4. Create a new voice mail profile named SSAM and choose from **Voice Mail Pilot** combo box the *9999 voice mail pilot you created. Check "Make this default Voice Mail profile" checkbox to activate it for all IP phones. This configures the "Message" key on Cisco IP Phone to directly dial voice mail pilot.

Voice Mail Profile Information

Voice Mail Profile: SSAM (used by 24 devices)

Voice Mail Profile Name*: SSAM

Description: Imagicle VoiceMail

Voice Mail Pilot*: *9999/ALL

Voice Mail Box Mask:

☒ Make this the default Voice Mail Profile for the System

5. Configure "Call Forward" panel on each IP Phone you wish to enable VoiceMail (this is different than Cisco Unity).

If you wish to leverage CUCM "Redirecting Number" feature, please configure the common VM Pilot Number instead of personal VoiceMail number.

Note: Don't flag the "Voice Mail" check box

Call Forward and Call Pickup Settings

	Voice Mail	Destination	Calling Search Space
Calling Search Space Activation Policy			Use System Default
Forward All	<input type="checkbox"/> or		< None >
Secondary Calling Search Space for Forward All			< None >
Forward Busy Internal	<input type="checkbox"/> or		< None >
Forward Busy External	<input type="checkbox"/> or		< None >
Forward No Answer Internal	<input type="checkbox"/> or	*9001	ALL
Forward No Answer External	<input checked="" type="checkbox"/> or	*9001	ALL
Forward No Coverage Internal	<input type="checkbox"/> or		< None >
Forward No Coverage External	<input type="checkbox"/> or		< None >
Forward on CTI Failure	<input type="checkbox"/> or		< None >
Forward Unregistered Internal	<input type="checkbox"/> or	*9001	ALL
Forward Unregistered External	<input type="checkbox"/> or	*9001	ALL
No Answer Ring Duration (seconds)			
Call Pickup Group		< None >	

6. Message Waiting Indicator. On the UC Suite Web interface, click on Main → System Parameters → IP Telephony parameters.
In the MWI address textbox enter a prefix which you will configure on the the CallManager as message waiting parameter (e.g. 8000).
7. On CallManager click Advanced Features → Voice Mail → Message Waiting parameters. The MessageWaitingOnDN and MessageWaitingOffDN fields are required in order to switch on or off the MWI of the IP phones. As directory Number use the prefix you choose followed by *1 (on) and *2 (off). E.g 8000*1 and 8000*2. Use a calling search space suitable to reach the phones partition. Put the line in a partition which can be reached by the incoming CSS of the UC Suite h.323 gateway.

Message Waiting Numbers (1 - 2 of 2)

Find Message Waiting Numbers where Directory Number begins with and where Message Waiting Indicator is Both [Find](#)

		Directory Number ▲	Description	Partition	Calling
<input type="checkbox"/>		8000*1	MWI On	LabDevices	ALL
<input type="checkbox"/>		8000*2	MWI Off	LabDevices	ALL

[Add New](#) [Select All](#) [Clear All](#) [Delete Selected](#)

8. **For Imagicle UC Suite earlier than version 2011.11.2 only:** a CTI Port with EXACTLY this name: device name **MWI_CTIPort1** and an associated line with any extension number (the exact number does not matter). The associated line MUST be in a CSS able to call the MessageWaitingOn and MessageWaitingOff numbers (in our example 9898 and 9899).
Please remind you need to have Cisco TSP and Wave driver installed and configured on the UC Suite server.
If you have more VoiceMail installations managed by only one Cisco CallManager system/cluster, you need to define as many CTI ports as the number of VoiceMail installation servers (MWI_CTIPort1, MWI_CTIPort2, MWI_CTIPort3)

Association Information

- 1 [Line \[1\] - 9997 in LabDevices](#)
- 2 [Line \[2\] - Add a new DN](#)
- 3 [Intercom \[1\] - Add a new Intercom](#)

Phone Type

Product Type: CTI Port
Device Protocol: SCCP

Device Information

Registration	Unknown
IP Address	Unknown
<input checked="" type="checkbox"/> Device is Active	
<input checked="" type="checkbox"/> Device is trusted	
Device Name *	MWI_CTIPort1
Description	SSAM MWI
Device Pool *	Default View Details
Common Device Configuration	< None > View Details
Common Phone Profile *	Standard Common Phone Profile
Calling Search Space	ALL
AAR Calling Search Space	< None >
Media Resource Group List	< None >
User Hold MOH Audio Source	< None >
Network Hold MOH Audio Source	< None >
Location *	Hub_None
AAR Group	< None >
User Locale	< None >
Network Locale	< None >

Find the UC Suite user on Users->Global directory. You could use the ImagicleCTI you created during the general device association configuration. If not already available, please create a new user with the following parameters:

- Name, last name: ImagicleCTI
- Username, password: ImagicleCTI
- Pin: 12345
- Check 'Enable CTI application use' and click on Insert.



Associate all CTI ports created for MWI (ex: MWI_CTIPort1) to that user. This can be done through the 'Device association link'.

Warning: if you have Application Suite 2011.11.2 or later DO NOT associate the CTI port. The CTI port is not needed anymore.

Note: if you are configuring Imagicle VoiceMail with a CuCM cluster, please ensure all the nodes are included in the same Server Group. Failing to do so will prevent turning MWI on for IP phones registered on the subscribers.

Unified CallManager Express Configuration

Imagicle VoiceMail interacts with the Cisco UC Express through a H.323 trunk.

So only a dial-peer and few other commands are needed on the Voice gateway:

```
dial-peer voice 1 voip
description To_Imagicle_VoiceMail
destination-pattern 9..
dtmf-relay h245-alphanumeric
session target ipv4:10.10.10.10
no supplementary-service h450.2
no supplementary-service h450.3
codec g711ulaw
no vad
```

Note: VoiceMail supports both G711 and G729 codec for audio data when license is activated

In the "telephony-service" configuration enter the command:

```
voicemail 999
```

Then you need to configure the forwarding behaviour on each directory number for which you wish to enable voice mail. E.g.:

```
ephone-dn 1
  number 301
  call-forward noan 901 timeout 10
!
ephone-dn 2
  number 302
  call-forward noan 902 timeout 24
!
...
```

message waiting indicator

Effective Imagicle Summer 2013 release, the MWI configuration **must** be as follows:

```
ephone-dn 10
number 8000*1 secondary 8000*2
no huntstop
mwi on-off
```

This ephone-dn manages the message waiting on/off operation. You must set the same MWI prefix (8000 in our example) in the **Telephony system parameters** page of the Application Suite. The MWI address prefix is used to simulate a call to the extension you need to switch the MWI on and off.

Before Summer 2013:

```
ephone-dn 10
number 8000*...*1 secondary 8000*...*2
no huntstop
mwi on-off
```

Pay attention to use as many "." in the ephone-dn configuration as the digit length of phone extensions.



Warning: Make sure that the mwi prefix specified in the Imagicle VoiceMail and the CME configuration (8000 in this example) doesn't match the destination pattern in the dial-peer to the voice mail.

Troubleshooting MWI issues

Here is a way to test the MWI prefix:

If you have an IP phone with the extension 325, just dial

8000*325*1

to switch the mwi on,

8000*325*2

to switch the mwi off.

This works both on CallManager and on CallManager Express.

If the MWI turns on when you call it from the phone, but VoiceMail is not able to trigger it, check the following:

- IP Telephony Settings. The MWI number must match the MWI Profile
- Inbound CSS for VoiceMail H323 gateway. Must be able to trigger the MWI profile
- No firewall must block the h323 call
- Use Wireshark to detect negotiation problems for the h3232 call



License Activation

Imagicle VoiceMail is licensed per channels, that is the total number of concurrent connected calls, regardless the number of users of your system. Web access to voicemail does not consume any channel.

Evaluation

Imagicle VoiceMail runs for 30 days in evaluation mode. During evaluation, all the features are available.

How to activate the license

The license can be activated by purchasing the product from Imagicle. You can enable the license in the license page as described in the UC Suite common configuration section of this guide.

To activate the license, follow the standard procedure you can find in the General configuration section.