Configuration Note

AudioCodes One Voice for Microsoft® Skype for Business

CloudBond 365

Standard / Standard+ / Pro / Enterprise Box Editions

Office 365 Integration

Version 7.2

AudioCodes

CLOUDBOND 365

Tomorrow's UC Today

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Notice

This document describes the AudioCodes CloudBond™ 365 integration with Office 365.

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

Document Revision Record

LTRT	Description
26512	Initial document release for Version 7.0.
26514	Minor formatting issues.
26516	The following sub-sections were updated: Office 365 and Voice; What is Skype for Business Federation?; Skype for Business Hybrid Deployment; DirSync; Deploy Skype for Business Schema Attributes; Prepare CloudBond 365 for Skype for Business Hybrid and Exchange UM; Create a Hosting Provider for Skype for Business Online; Using Exchange Online for Voicemail.
26517	Removed hybrid deployment restrictions and an instruction to confirm certificates.

Documentation Feedback

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1 Introduction

This guide describes the deployment of the AudioCodes CloudBond Office 365 Connector in a multi-forest model and provides information for System technicians to perform on-site installation of the AudioCodes CloudBond Server.

This guide provides:

- Guidelines for preparing the customer enterprise network
- The AudioCodes CloudBond 365 Office 365 connector installation procedure
- Basic system and site configuration information

In build 5.5.1578.566 and later, AudioCodes CloudBond 365 has introduced a new method for Office 365 Integration. The new Office 365 connector simplifies some aspects of the Office 365 integration requirements.

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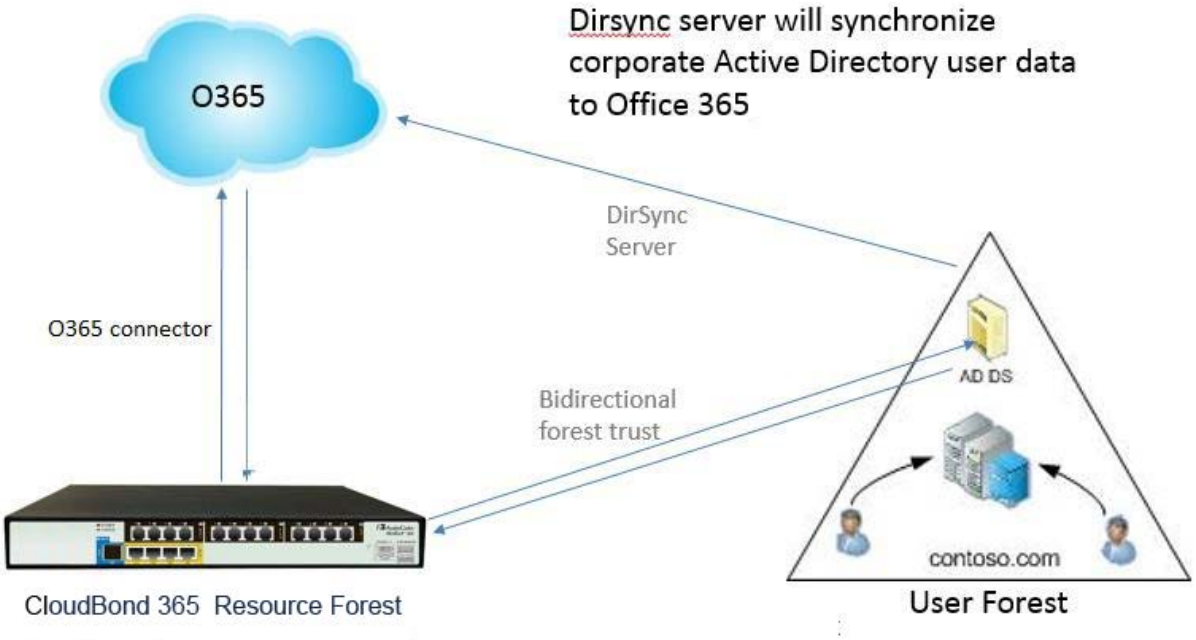
2 Overview

Figure 2-1: CloudBond 365 and Office 365



2.1 What is Office 365?

Office 365 is a Software as a Service (SaaS) offering from Microsoft.

A subscription to Office 365 gives users the ability to use traditional office applications over the internet through a web browser interface.

Besides access to Word, Excel and Outlook, Office 365 can also provide access to backend office services, such as Active Directory (AD), Exchange Online, Skype for Business Online, and SharePoint Online.

Office 365 also has many other features and facilities, including download of office products, and is tightly integrated with other Microsoft offerings, such as OneDrive for online storage.

Microsoft web sites have much information about Office 365: http://office.microsoft.com

A reasonable, non-Microsoft, overview of Office 365 can be found at http://en.wikipedia.org/wiki/Office_365.

2.2 Office 365 and Voice

Office 365 Skype for Business Online currently provides two ways for PSTN breakout / Enterprise Voice capabilities, being:

- Cloud PBX with PSTN Calling (only available in limited countries)
- Cloud PBX with on-premises PSTN connectivity.

In addition to a full hybrid deployment, which will be covered in Section 2.5.1 on page 12, CloudBond 365 can also be used in the Cloud PBX with on-premises PSTN connectivity scenario, by providing full administration capabilities for the Cloud PBX users homed in Office 365.

2.3 How does Skype for Business use Office 365?

A Skype for Business on-premises deployment, such as CloudBond 365, can take advantage of several features of Office 365.

- Office 365 can provide the Exchange Unified Messaging component to Skype for Business, allowing voicemail facilities, and some Automated Attendant facilities.
- Office 365 can provide the Outlook Client for Skype for Business, showing Skype for Business presence information for contacts, for calendar items, and allowing the scheduling of Conferences.
- Skype for Business Online and Skype for Business On-premises can share a SIP domain, allowing users who require limited Enterprise Voice features to be hosted entirely in the cloud, while still being part of your larger Skype for Business environment.

Note: You cannot have a spilt UM in cloud and Exchange mailbox on premise, or vice versa. If you do have Exchange On-premises, and also Office 365 Exchange Online, then a specific users Exchange mailbox must be wholly within the cloud, or wholly within the on-premises server.

For more information about Exchange Hybrid deployments, see: https://technet.microsoft.com/en-us/library/jj200581%28v=exchg.150%29.aspx. For more information about Skype for Business Hybrid deployments, see: http://technet.microsoft.com/en-us/library/jj204805.aspx.

2.4 What is Skype for Business Federation?

Skype for Business Federation is feature which allows Microsoft Skype for Business users to communicate with other Skype for Business users outside their organization. When enabled, federation allows you to add users from other organizations to your Contacts list, send instant messages to your federated contacts, invite contacts to audio calls, video calls, or conferences, and exchange presence information.

Skype for Business federation is performed over the internet through the Skype for Business Edge server of each organization. Skype for Business external connectivity requires the consent and correct configuration of both parties of the federation relationship. After the federation is set up by the administrators of both sides, Skype for Business users in each company can see presence and communicate with users in the other company.

Skype for Business on-premises deployments can also federate with Skype for Business Online deployments. For example, federation allows users in your on-premises deployment to communicate with Office 365 users in your organization.

Skype for Business federation has various security mechanisms included. Federation can be open (connect to anyone) or closed (connect to only allowed domains), and also includes block lists. User information can be limited to users buddy lists, or available to anyone, etc.

2.5 Domain Names and Shared Name Spaces

When you first subscribe to Office 365, you can create a Domain name in the format xxxxx.onmicrosoft.com. e.g. contoso.onmicrosoft.com

Whilst you can use this domain name for all further Office 365 activity, it is more common to add your own domain name to Office 365 i.e., contoso.com. These are referred to as vanity domain names in some documentation. Microsoft will verify you have the appropriate ownership of such a domain before adding it.

As these domain names can then be used for Office 365 sign-on, email addresses, and Skype for Business Online SIP domains, it is recommended you configure these before replicating users to Office 365.

See the following link for more details:

http://office.microsoft.com/en-au/Office 365-suite-help/work-with-domain-names-in-office-365-HA102818560.aspx

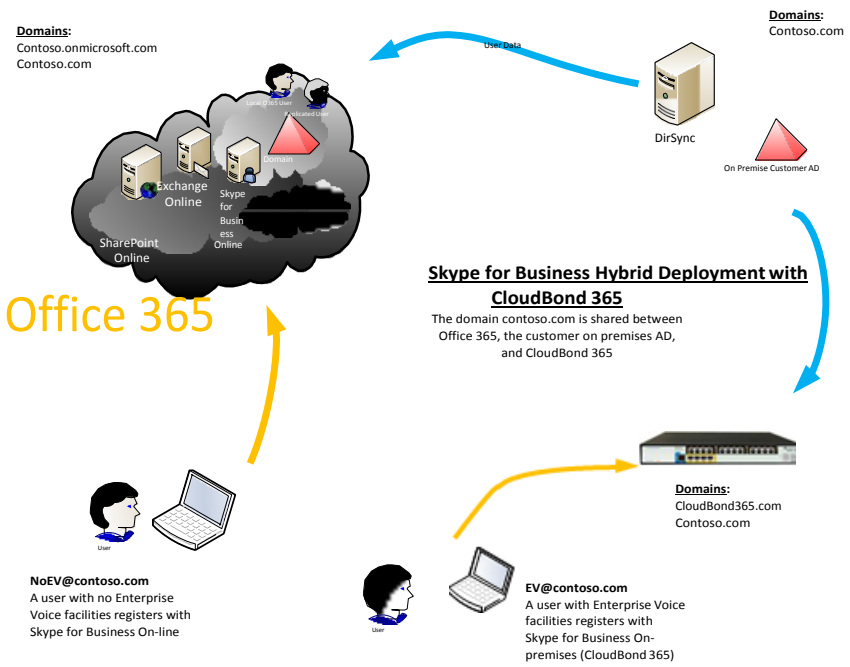
2.5.1 Skype for Business Hybrid Deployment

A Skype for Business Hybrid Deployment allows Skype for Business online and Skype for Business on-premises to co-exist. The two environments share the same SIP domain space in what is known as a split domain.

In a Skype for Business Hybrid deployment:

- Skype for Business Online users can use most Skype for Business features, such as presence, IM, and limited voice calls.
- Skype for Business On-premises users can enjoy all the same features as Skype for Business Online users, with the addition of full Enterprise Voice features. https://technet.microsoft.com/en-us/library/jj205403.aspx.

Figure 2-2: CloudBond 365 Skype for Business Hybrid Deployment



With CloudBond 365, a user can be switched from Skype for Business online to Skype for Business on premises simply by changing their assigned FE Registrar pool in the SysAdmin web pages.

2.6 Replicating Users

Whilst Office 365 and CloudBond 365 users can be administered completely independently, significant benefits can be achieved by replicating users from one directory system to the other.

Azure Active Directory Sync Services (a.k.a. DirSync) is a Microsoft tool that allows the replication of users from an on-premises Active Directory deployment to the Office 365 Azure Active Directory. This means that the process of user administration can be simplified by automatically replicating user data.

There are multiple deployment options now available within DirSync, including selective replication, and replication with password hashes. DirSync can also be deployed with Active Directory Federation Services (ADFS) to provide even more features.

Some good background information on DirSync is available at the following links: http://blogs.office.com/2014/04/15/synchronizing-your-directory-with-office-365-is-easy/

https://blogs.office.com/2013/07/26/password-hash-sync-simplifies-user-management-for-office-365/

2.6.1 DirSync

Deploying DirSync following Microsoft best practice requires a separate, Windows 2008 or 2012, domain member, and server. This server must either be located On-premises with the existing Active Directory (AD) server, or could be deployed in the cloud using Microsoft Azure.

DirSync server requirements: http://technet.microsoft.com/en-us/library/jj151831.aspx DirSync on Azure:

http://technet.microsoft.com/en-us/library/dn635310%28v=office.15%29.aspx

The DirSync server, once configured, will automatically replicate user information from the on-premises AD, to the Office 365 AD, making those user details available to Office 365.

Note: This replication is one-way. Changes or new accounts created in Office 365 are not replicated back to the on-premises AD by DirSync.

A recently added option within DirSync allows hashed passwords to also be synchronized from on-premises AD to Office 365 AD. This is the recommended configuration. With this option selected, a user may sign in to Office 365 and on-premises applications, such as Skype for Business, using the same user id and password. With the October 2015 release of DirSync, now named AADConnect, there is also full supportability for resource forest environments, bypassing the need to extend the enterprise user forest(s) with the Skype for Business schema extensions.

Note: This is not Single Sign on. A user logging in will still be prompted for User ID and password in Office 365, even if they are already signed in to the on-premises network.

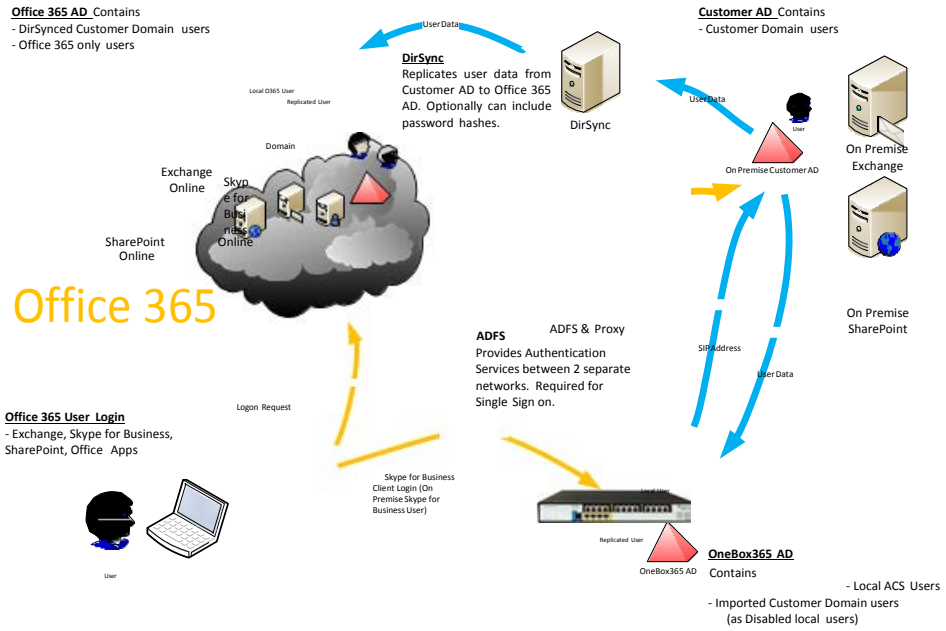
2.7 Active Directory Federation Services

Active Directory Federation Services (ADFS) provides, amongst other features, the capability of single sign on between two separate networks, including Office 365 and the on-premises AD. It essentially brings control of the sign on authentication process back to the on-premises environment.

A user signed on to the on-premises AD will be automatically signed in to the Office 365 environment.

ADFS is optional, and requires significant extra configuration.

Figure 2-3: ADFS Single Sign On



3 Pre-Requisites

3.1 Infrastructure Prerequisites

You must have the following available in your environment in order to implement and configure a Skype for Business Server 2013 hybrid deployment.

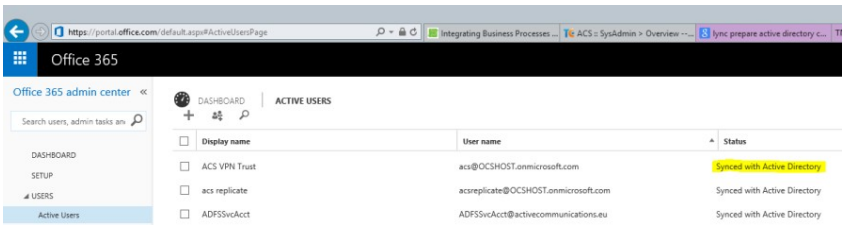
- An Office 365 tenant with Skype for Business Online enabled.
- Optionally, if you want to support Single Sign-on with Office 365, an Active Directory Federation Services (AD FS) Server either on-premises or using Microsoft Azure. For more information about AD FS, see Active Directory Federation Services (AD FS) 2.0, or Configure Active Directory Federation Services for Windows Azure Pack.
- An on-premises deployment of Skype for Business Server 2013 or Skype for Business Server 2010 with Cumulative Updates for Skype for Business Server 2010: March 2013 or later applied.
- Skype for Business Server 2013 administrative tools.
- Directory Synchronization. For details about Directory Synchronization, see Hybrid Identity Management.

Full details can be found at https://technet.microsoft.com/en-us/library/jj205386.aspx

3.2 Install DirSync

The Directory Synchronization tool will synchronize the customer's users from the local forest towards Office 365, where they can be licensed and enabled for Skype for Business Online using the Office 365 management portal. Only users "Synced with Active Directory" will work in a hybrid model.

Figure 3-1: Office 365 Users



"In Cloud" users (those users created directly in Office 365) do not support hybrid deployments and should be mapped to on premise Active Directory users first, by following the steps in the following blog article for example: http://blogs.4ward.it/how-to-map-onprem-active-directory-users-to-existing-office365-users/

Following Microsoft best practice, DirSync should be installed on a member server of the domain you wish to replicate users from. You will need to provide this server, as it is not included with CloudBond 365.

http://technet.microsoft.com/en-us/library/jj151800.aspx#BKMK_InstallDirSyncTool

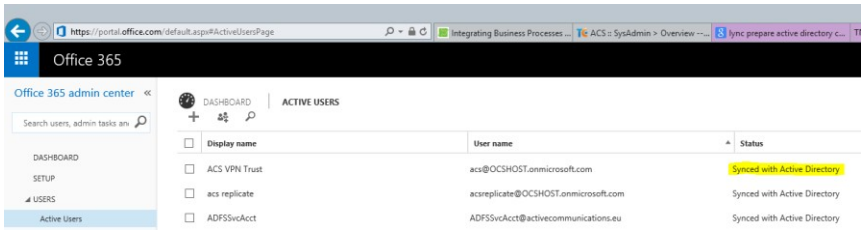
The Setup Wizard will offer you the chance to run the Configuration Wizard after install completes.

The configuration wizard will prompt you to "Synchronize your directories now".

3.3 Ensure DirSync is Functioning

Make sure DirSync is deployed and all users have been replicated through DirSync and are present in Office 365.

Figure 3-2: DirSync Working



3.4 Deploy Skype for Business Schema Attributes

As the hybrid model with Office 365 relies on directory synchronization with the users Active Directory forest, it is required to prepare the user forest with the Skype for Business Schema Attributes when older DirSync applications then AADConnect are installed. The Active Directory schema can be prepared either through the Skype for Business wizard or by using LDIF as described below:

Prepare the user forest with the Skype for Business Schema Attributes (through the Skype for Business wizard or LDIF as below) (http://technet.microsoft.com/en-us/library/gg398607.aspx) :

The **Prepare Schema** step in the Skype for Business Server Deployment Wizard and the **Install-CsAdServerSchema** cmdlet, extend the Active Directory schema on domain controllers running a 64-bit operating system. If you need to extend the Active Directory schema on a domain controller running a 32-bit operating system, you can run the **Install-CsAdServerSchema** cmdlet remotely from a member server (recommended approach). If you need to run schema preparation directly on the domain controller, however, you can use the Ldifde.exe tool to import the schema files. The Ldifde.exe tool comes with most versions of the Windows operating system.

3.4.1 Using LDIFDE

If you use Ldifde.exe to import the schema files, you must import all four files, regardless of whether you are migrating from a previous version or performing a clean installation. You must import them in the following sequence:

1. ExternalSchema.ldf
2. ServerSchema.ldf
3. BackCompatSchema.ldf
4. VersionSchema.ldf

Note: The four .ldf files are located in Skype RTM\Support\Schema directory of your installation media or download.

To use Ldifde.exe to import the four schema files on a domain controller that is the schema master, use the following format:

Copy

```
ldifde -i -v -k -s <DCName> -f <Schema filename> -c DC=X
<defaultNamingContext> -j logFilePath -b <administrator account>
<logon domain> <password>
```

For example:

Copy

```
ldifde -i -v -k -s DC1 -f ServerSchema.ldf -c DC=X
"DC=contoso,DC=com" -j C:\BatchImportLogFile -b Administrator
contoso password
```

Note: Use the *b* parameter only if you are logged in as a different user. For details about the required user rights, see the "Administrator Rights and Roles" section earlier in this topic.

To use Ldifde.exe to import the four schema files on a domain controller that is not the schema master, use the following format:

Copy

```
ldifde -i -v -k -s <SchemaMasterFQDN> -f <Schema filename> -c DC=X
<rootDomainNamingContext> -j logFilePath -b <administrator account>
<domain> <password>
```

For details about using Ldifde, see Microsoft Knowledge Base article 237677, "Using LDIFDE to import and export directory objects to Active Directory," at http://go.microsoft.com/fwlink/p/?linkId=132204.

3.5 Deploy CloudBond 365

If you have not already done so, you should now install and deploy the CloudBond 365 system. Connect CloudBond 365 and set up the trust by following the *LTRT-26320 AudioCodes CloudBond 365 Deployment Guide*.

Note: This document applies to CloudBond 365 v6.2 with SysAdmin version 646 and later. If you have an older CloudBond 365 unit, please discuss upgrading with your AudioCodes dealer.

3.6 Prepare the User Forest Active Directory for Write Access

Prepare the User Forest Active Directory for write access from the Resource forest (CloudBond) administrator account.

The easiest configuration is to use the cloudbond365\administrator account as the user-id to perform updates to the User forest. If you wish to use a different account, see Appendix E on page 47.

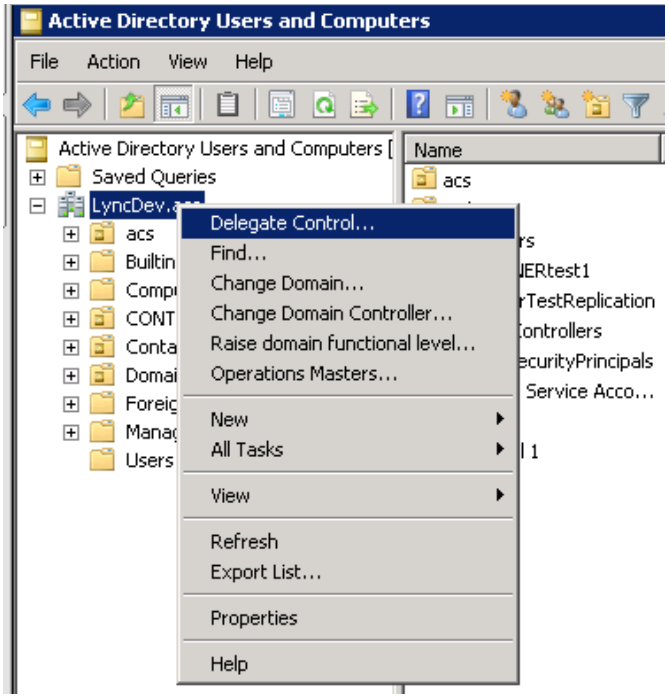
In the screenshots below:

- CloudBond 365 Administrator is OCSHOST\Administrator instead of AC-CloudBond\Administrator
- Customer corporate Domain is LyncDev.acs

➢ **To prepare the User Forest Active Directory for Write Access:**

1. On the Customer Corporate DC, open the Active Directory Users and Computers tool.
2. Right-click on the top level domain, and select **Delegate Control**.

Figure 3-3: Delegate Control

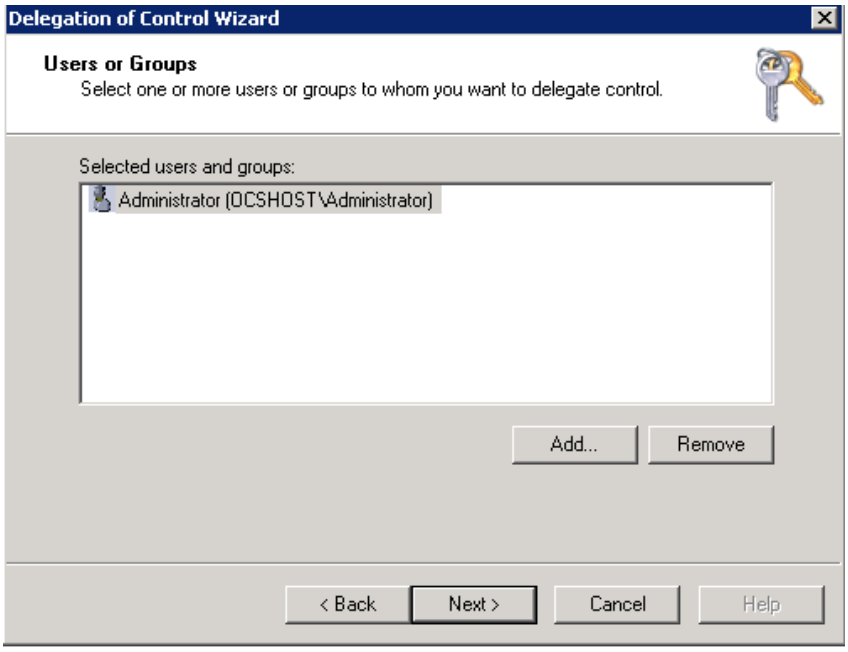


3. Click **Next**.

Figure 3-4: Delegate Control Wizard

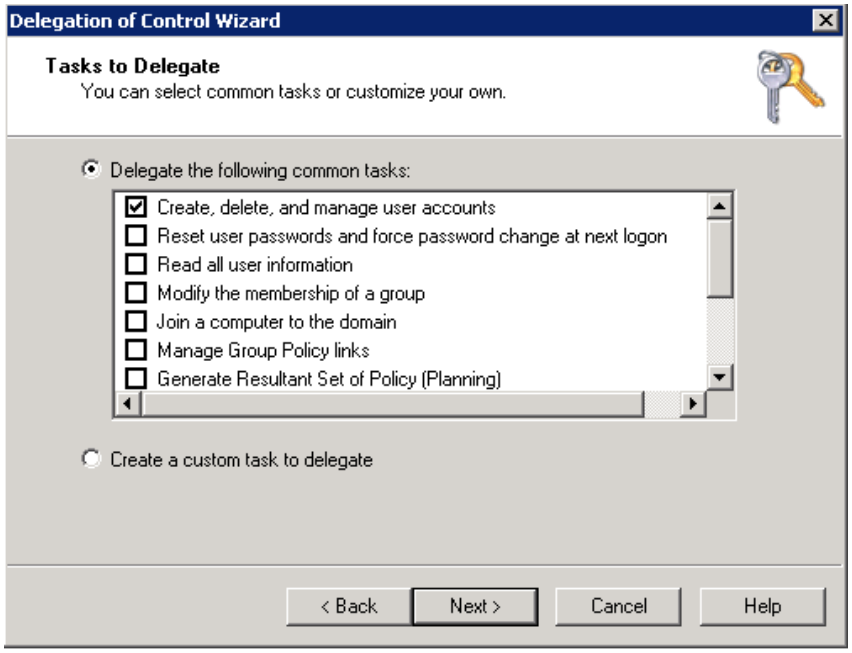
4. Click **Next**.

Figure 3-5: Delegate to CloudBond 365 Administrator



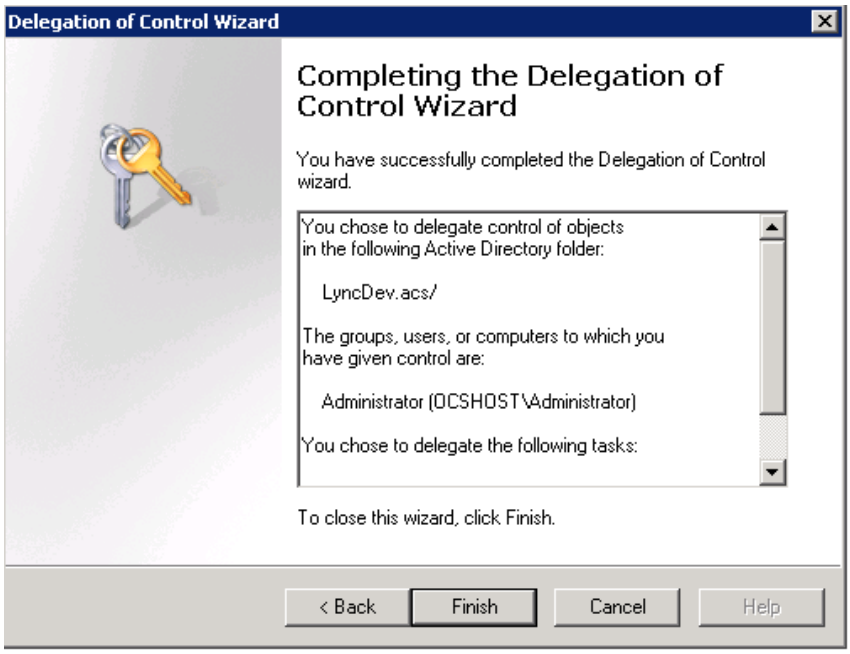
5. Select the 'Create, delete, and manage user accounts' check box, and then click **Next**.

Figure 3-6: Delegate Rights



6. Click **Finish**.

Figure 3-7: Complete the Wizard



4 Configure Office 365 Integration

4.1 Prepare CloudBond 365 for Skype for Business Hybrid and Exchange UM

To enable a Skype for Business hybrid deployment, you will need to follow the instructions below. You can also use the following TechNet article as a guide.

http://technet.microsoft.com/en-us/library/dn689117.aspx

These instructions will:

- Enable shared address space in Office 365
- Allow Federation in CloudBond 365
- Create a Hosting Provider for Office 365 in CloudBond 365
- Perform initial replication
- Change users in the corporate AD so they replicate to Office 365 correctly
- Update some DNS records to direct all SIP traffic to CloudBond 365

4.1.1 Start a Skype for Business Online PowerShell Session

On the CloudBond 365 Controller, open the Skype for Business Management Shell, then enter the following commands. (This assumes the Controller has internet access. If not, use PowerShell on a workstation that does have internet access.)

```
Import-Module SkypeOnlineConnector
$cred = Get-Credential
$CSSession = New-CsOnlineSession -Credential $cred
Import-PSSession $CSSession -AllowClobber
```

For more information about how to establish a remote PowerShell session with Skype for Business Online, see Connecting to Skype for Business Online by using Windows PowerShell.

For more information about using the Skype for Business Online PowerShell module, see Using Windows PowerShell to manage Skype for Business Online.

Note: You may need to update the Skype for Business Online PowerShell Module as Microsoft frequently updates Office 365. Check Microsoft for the latest version, or, you may also apply the latest Skype for Business Cumulative Update. See:
http://www.microsoft.com/en-us/download/details.aspx?id=39366
https://support.microsoft.com/en-us/kb/2809243

4.1.2 Configuring Shared SIP Address Space

Your Skype for Business Online must be configured for Shared SIP Address Space. To do this, first start a remote PowerShell session with Skype for Business Online. Then run the following cmdlet:

```
Set-CsTenantFederationConfiguration -SharedSipAddressSpace $True
```

4.1.3 Allow Federation

In your On-premises deployment, in Skype for Business Server Management Shell, type the following cmdlet to allow federation:

```
Set-CSAccessEdgeConfiguration -AllowOutsideUsers $true
-AllowFederatedUsers $true -UseDnsSrvRouting -
EnablePartnerDiscovery $true
```

4.1.4 Remove Existing Hosting Provider

On your On-premises deployment, in the Skype for Business Server Management Shell, type the following cmdlet to remove the existing Hosting Provider for Skype for Business Online:

```
Get-CsHostingProvider | where ProxyFqdn -eq
"sipfed.online.lync.com" | Remove-CsHostingProvider
```

4.1.5 Create a Hosting Provider for Skype for Business Online

On your on-premises deployment, in Skype for Business Server Management Shell, type the following cmdlet to create the hosting provider for Skype for Business Online:

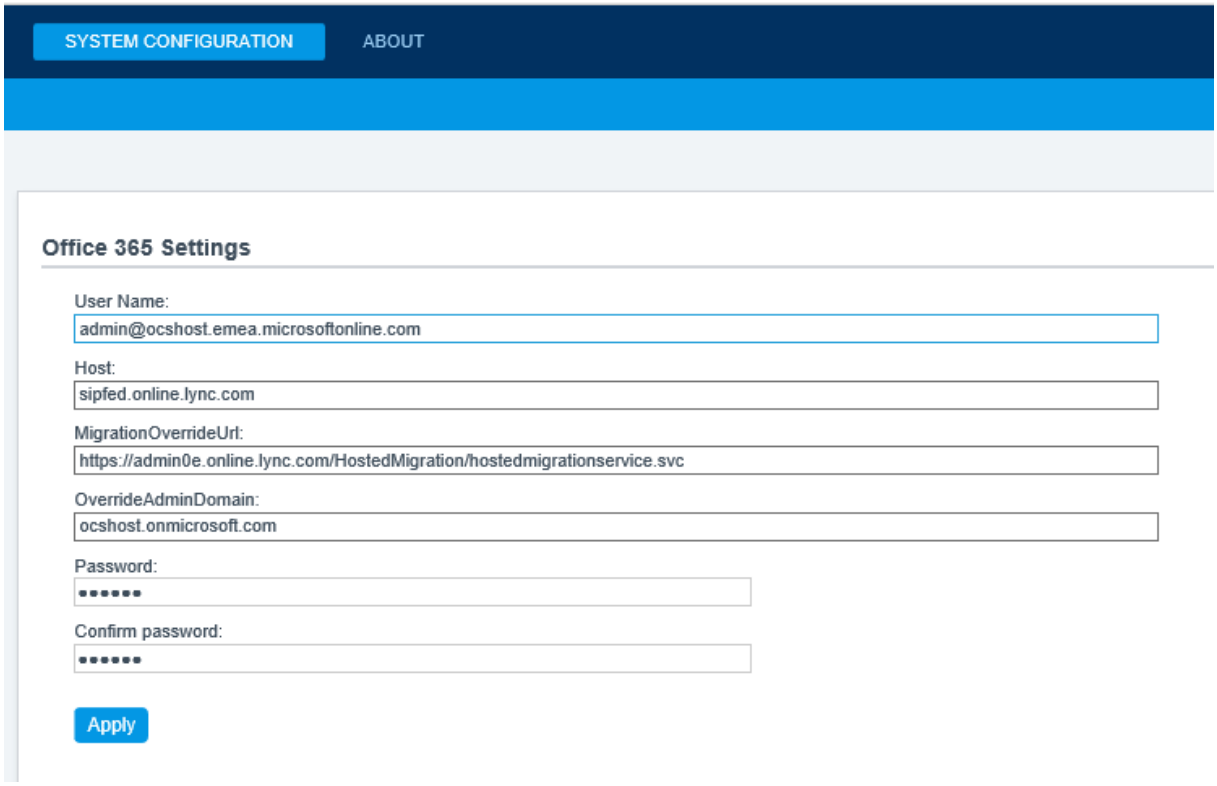
```
New-CSHostingProvider -Identity LyncOnline -ProxyFqdn
"sipfed.online.Lync.com" -Enabled $true -EnabledSharedAddressSpace
$true
-HostsOCSUsers $true -VerificationLevel UseSourceVerification -
IsLocal $false
-AutodiscoverUrl
https://webdir.online.Lync.com/Autodiscover/AutodiscoverService.svc/r
oot
```

4.2 Obtain the Customer Specific Office 365 Information

Obtain the customer specific Office 365 information, to be saved in Office 365 Configuration under System Configuration in the CloudBond management suite (SysAdmin web pages).
See AudioCodes CloudBond 365 Administrator Guide.

- User Name:
  - The login name of your Office 365 Administrator
- Host:
  - The location where your Office 365 environment is hosted
- Migration Override URL:
  - Explained further in this document
- Override Admin Domain:
  - Your original Office 365 domain prior to applying vanity domain names
- Password:
  - The Office 365 Administrator password

Figure 4-1: CloudBond - Office 365 Connector Information

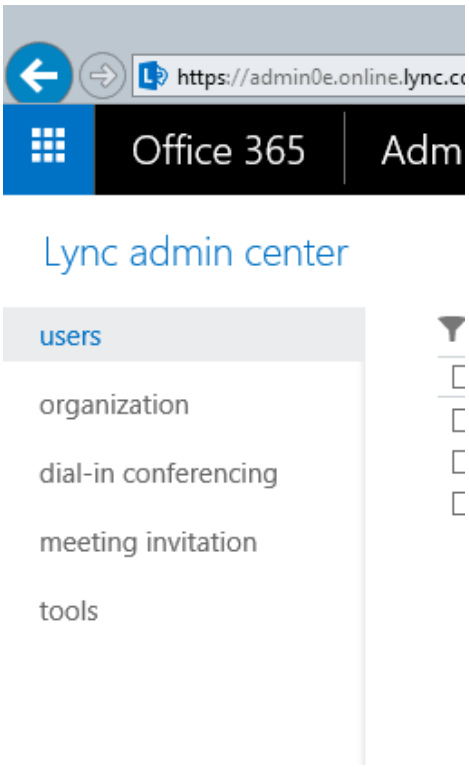


4.2.1 Determining Hosted Migration Service Override URL

➢ **To determine the Hosted Migration Service Override URL for your Office 365 tenant:**

1. Log in to your Office 365 tenant as an administrator.
2. Open the Skype for Business admin center..

Figure 4-2: Office 365 Skype for Business Admin Center



3. With the **Skype for Business admin center** displayed, select and copy the URL in the address bar up to **.com**. An example URL looks similar to the following: https://webdir0e.online.lync.com/lscp/?language=en-US&tenantID=

   Replace "webdir" in the URL with "admin", resulting in the following:
   `https://admin0e.online.Lync.com`
4. Append the following string to the URL:

   `/HostedMigration/hostedmigrationservice.svc`
5. The resulting URL, which is the value of the **HostedMigrationOverrideUrl**, should look like the following:

   https://admin0e.online.lync.com/HostedMigration/hostedmigrationservice.svc

4.2.2 Determining Override Admin Domain

The Override Admin Domain is usually the default signup domain "something.onmicrosoft.com". Your Office 365 Administrator can supply this value.

4.3 Using Exchange Online for Voicemail

4.3.1 Prepare Office 365 For Unified Messaging

To enable Office 365 Unified Messaging you need to first create a dial plan in Exchange Online to enable users to access their mailbox for configuration and message retrieval. Further information about Dial Plans can be found here:

http://technet.microsoft.com/en-us/library/bb125151%28v=exchg.150%29.aspx

Appendix A on page 33 shows an example of creating a UM Dial Plan for Exchange Online.

Once the dial plan is created, you can enable the Office 365 users for Unified Messaging. Detailed information can be found at https://technet.microsoft.com/en-us/library/jj673527(v=exchg.150).aspx

Next, you need to connect to Office 365 using Exchange Online PowerShell and run the following Cmdlet:

Set-UMmailboxpolicy -identity "Policy Name in O365" -SourceForestPolicy "ACS-O365UM"

Then finally on your on premise Exchange 2010 SP3 server (Note this is only if Unified Messaging is already configured on premise so that when you migrate a UM mailbox it doesn't fail otherwise if you don't run this step the remote move request will fail)

Set-UMmailboxpolicy -identity "On Premise UM Policy" -SourceForestPolicy "Policy Name in O365"

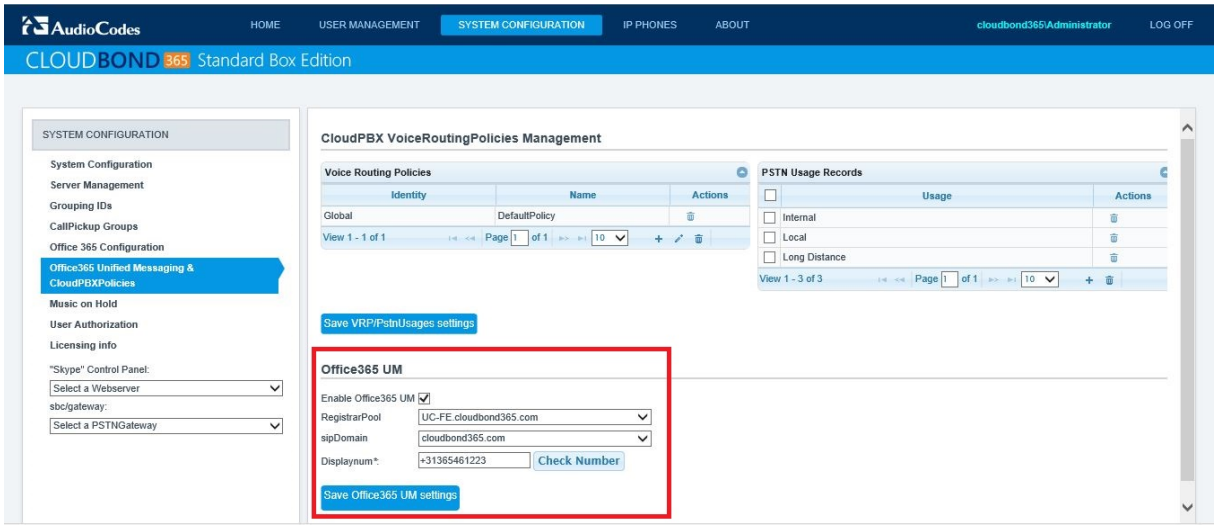
4.3.2 Allow Users to Dial-in to Access Exchange Online Voicemail

CloudBond 365 provides native integration to Office 365 Unified Messaging by means of an intuitive interface. Once the pre-requisites as outlined in the earlier chapters 4.1 till 4.3.1 are configured, there is no further need for PowerShell cmdlets and administration can be performed using the System Configuration pages.

➢ **To enable the Office 365 UM feature:**

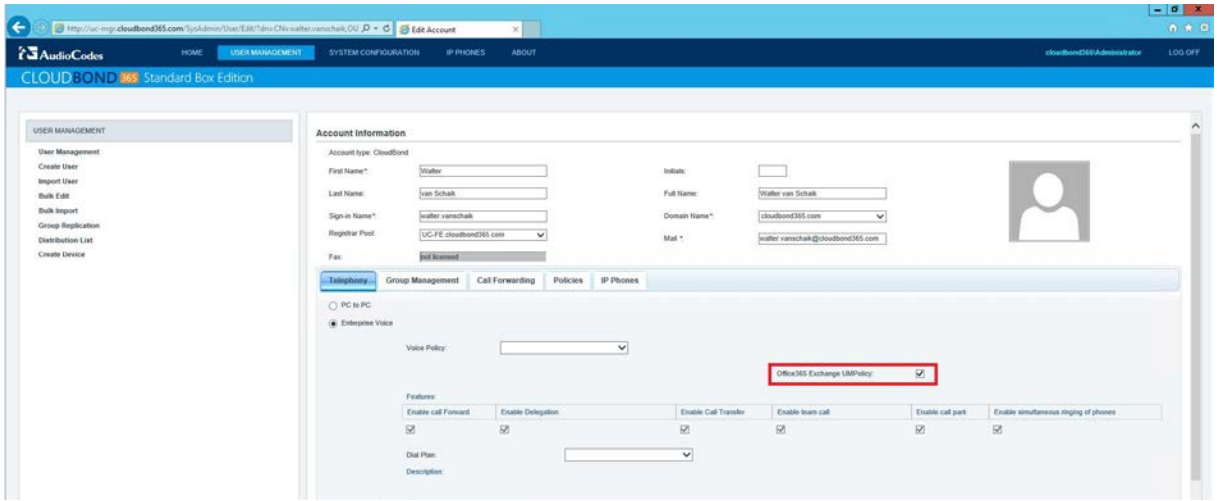
1. Under the **System Configuration** group, select the **Office 365 Unified Messaging & Cloud PBX Policies** option.
2. Select the **Enable Office 365 UM** checkbox.
3. Select a registrar pool and SIP domain and specify the telephone number to be used.

Figure 4-3: Office 365 UM



4. Once enabled, users can be assigned Office 365 UM on the user edit page by enabling the Office 365 Exchange UM policy checkbox.

Figure 4-4: Office 365 Exchange UM Policy



5 Initial Replication

An initial replication cycle needs to be started to have the CloudBond 365 resource forest learn all Skype for Business enabled users from the Office 365 environment.

Once the Office 365 Skype for Business enabled users are replicated over to the CloudBond 365 resource forest, they will be mapped to the original User accounts homed in one of the customer forests that CloudBond 365 has a trust with by the objectGUID attribute, which is a standard unique object identifier in Office 365 directory synchronization. If mapping to the standard objectGUID fails, the CloudBond 365 Office 365 connector will try to map the Office 365 Skype for Business user against the user's mS-DS-ConsistencyGuid attribute, as described in Paul Williams' blog article: http://blog.msresource.net/2014/03/10/windows-azure-active-directory-connector- part-3-immutable-id/, to support more complex and custom build environments as well.

When replication and user mapping has finished (those two tasks are run as a single process), the users Active Directory forest needs to be updated with the Skype for Business Online attributes.

On completion, check one of the user objects in the customer Active Directory forest that is enabled for Skype for Business Online for the presence of values in the user attributes. If the AcsUserReplication task succeeded in writing the values back into the user forest, you can continue with the final step in the replication cycle, being a manual directory synchronization cycle with Office 365.

There are several components to the user replication process.

- On the CloudBond 365 Controller, there is a scheduled task which runs o365sync –s O365. This will take account information from Skype for Business Online to CloudBond 365, and perform the mapping to original user accounts.
- There is another scheduled task on the CloudBond 365 Controller which runs ACSUserReplication. This will replicate the msRTCSIP attributes from CloudBond 365 to the customer AD.
- Finally, DirSync will replicate information from the customer AD to Skype for Business Online.

Before users can be moved between Skype for Business Online and CloudBond 365, all three replication steps must be completed.

1. Start the initial replication for all Office 365 users through:

```
C:\acs\OFFICE365Sync\SysAdmin.O365.Sync.exe –S O365
```

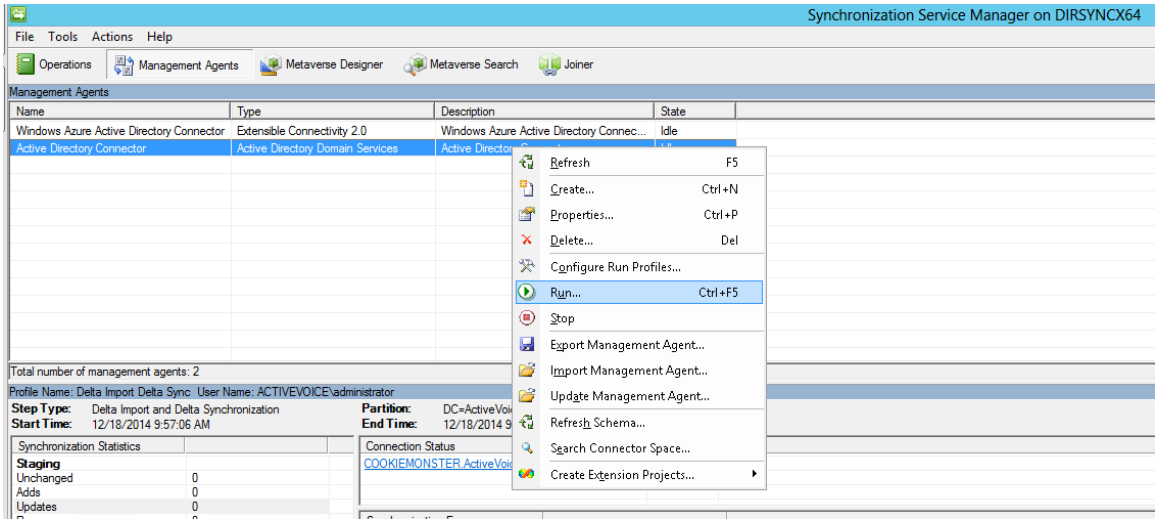
2. Match the objects with the user forest through:

```
C:\acs\AcsUserReplication\AcsUserReplication.exe
```

3. Perform a manual DirSync replication cycle on the DirSync server through:

```
C:\Program Files\Windows Azure Active Directory
Sync\SYNCBUS\Synchronization Service\UIShell\miisclient.exe
```

Figure 5-1: DirSync



The manual DirSync operation should be completed in the following order:

1. Active Directory Connector Delta Import Delta Sync
2. Windows Azure Active Directory Connector Delta Import Delta Sync
3. Windows Azure Active Directory Connector Export

5.1 After Initial Replication

Now the initial replication cycle has been performed, the environment is ready to be brought into production. This step requires the public DNS records to be changed, where the specific Skype for Business SRV and A records need to be pointed to the on premise Edge server instead of to the Office 365 environment. From now on all users will register against the local Edge environment and eventually be redirected to Office 365 if their Skype for Business account is still homed there.

5.1.1 Update DNS Records

Update appropriate DNS records to direct all SIP traffic to Skype for Business on-premises:

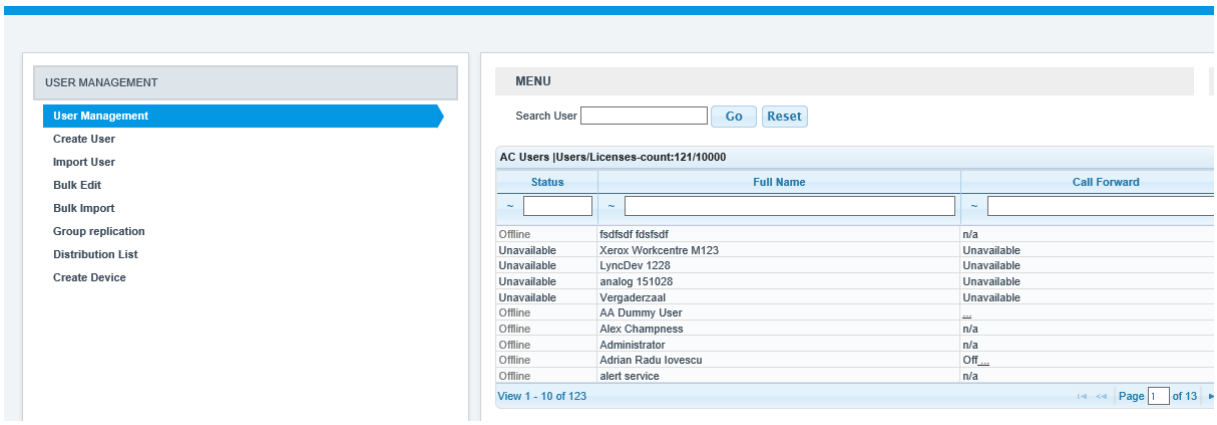
- Update the **lyncdiscover.contoso.com** A record to point to the FQDN of the on-premises reverse proxy server.
- Update the ***_sip.*_tls.contoso.com** SRV record to resolve to the public IP or VIP address of the Access Edge service of Skype for Business on-premises.
- Update the ***_sipfederationtls.*_tcp.contoso.com** SRV record to resolve to the public IP or VIP address of the Access Edge service of Skype for Business on-premises.
- If your organization uses split DNS (sometimes called “split-brain DNS”), make sure that users resolving names through the internal DNS zone are directed to the Front End Pool.

5.1.2 Assigning User Registrar Pool

After initial replication, all systems will be synchronized, including the correct Skype for Business Registrar (home system). Users can now be moved back and forth from Office 365 to CloudBond 365 by using the User Management Edit page.

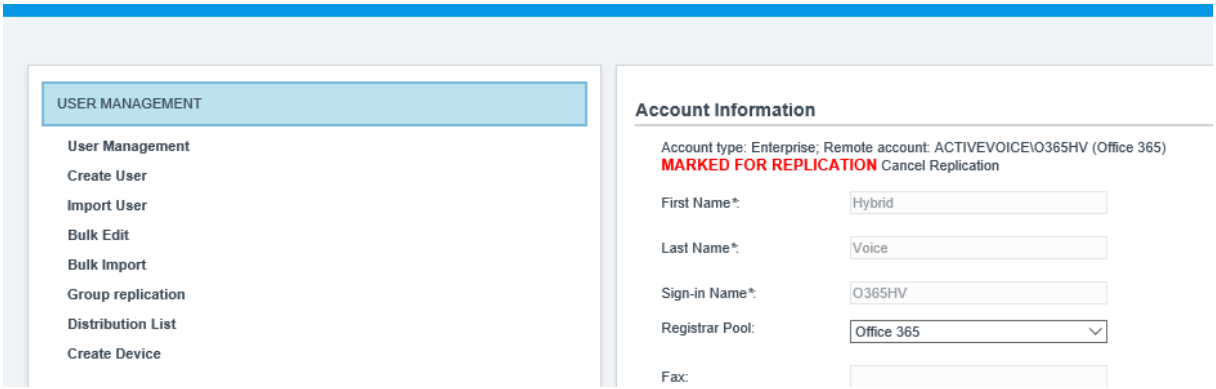
Assigning the Registrar Pool in the Edit User page assigns a user to that Front-End pool as their home system.

Figure 5-2: User List



Assign a destination Frontend pool:

Figure 5-3: Editing a User Registrar Pool



Note that the change to a user's Registrar Pool will be cached, and performed later by several back round scheduled tasks. It may take some time for all tasks to complete.

Though the screenshots show a move from Skype for Business online to Skype for Business on premise, the opposite direction is obviously also possible. For this to happen, Office 365 should be selected as the destination Registrar Pool.

After the move is performed, the Skype for Business online address book environment needs to be updated for which a full replication cycle is needed again.

As both the ACSUserReplication and Office 365 Directory Synchronization tasks run in a scheduled interval though, there is no need to perform a manual action, unless you would like to force replication to happen.

6 Ongoing Replication

There are a series of scheduled tasks which will keep all servers synchronized with each other on an ongoing basis.

You may need to adjust the frequency of such tasks to meet your requirements.

- A Scheduled task occurs at a regular interval (once every 24 hours) The task will retrieve all information from Office 365 to CloudBond 365.

  ```
  C:\acs\O365Sync\SysAdmin.O365.Sync.exe –S O365
  ```

- A Scheduled task occurs at a regular interval (once every 15 minutes) The task will update all user Registrar information.

  ```
  C:\acs\O365Sync\SysAdmin.O365.Sync.exe
  ```

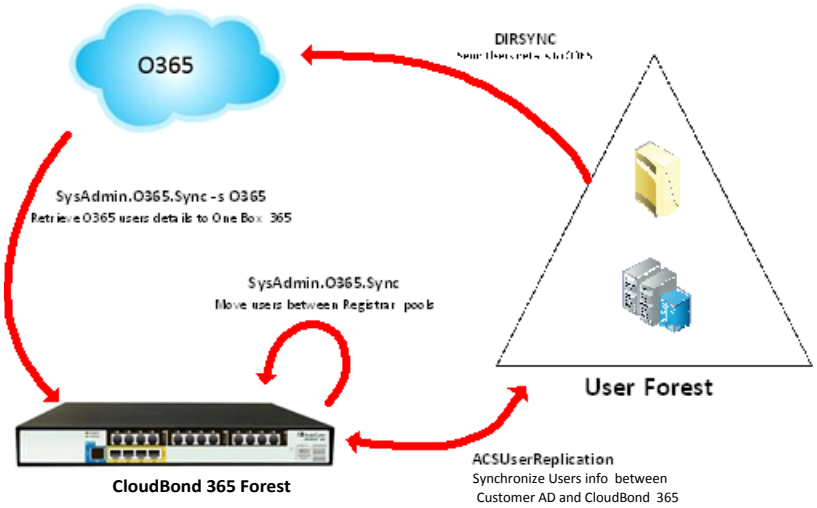
- A Scheduled task occurs at a regular interval (daily)

  The task will synchronize all Skype for Business and Active Directory information between CloudBond 365, and the customer Active Directory.

  ```
  C:\acs\O365Sync\ACSUserReplication.exe
  ```

- Scheduled tasks (DirSync) occurs at a regular intervals to replicate all Active Directory information from the customer Active Directory to Office 365

Figure 6-1: Synchronization Tasks



Warning: If multiple management servers are installed for redundancy, the scheduled tasks on the redundant servers should be disabled and enabled only if the primary server goes down, thereby preventing stale objects from being created in the Active Directory.

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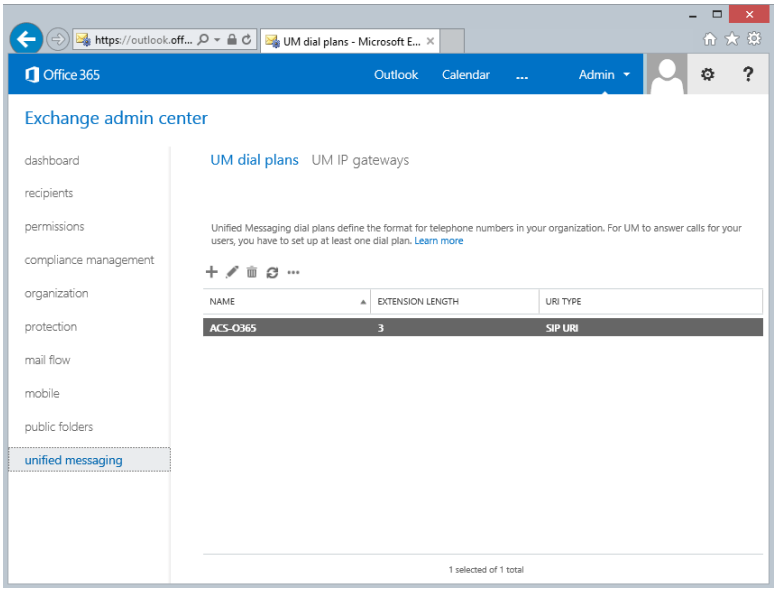
A Adding a Dial Plan to Exchange Online

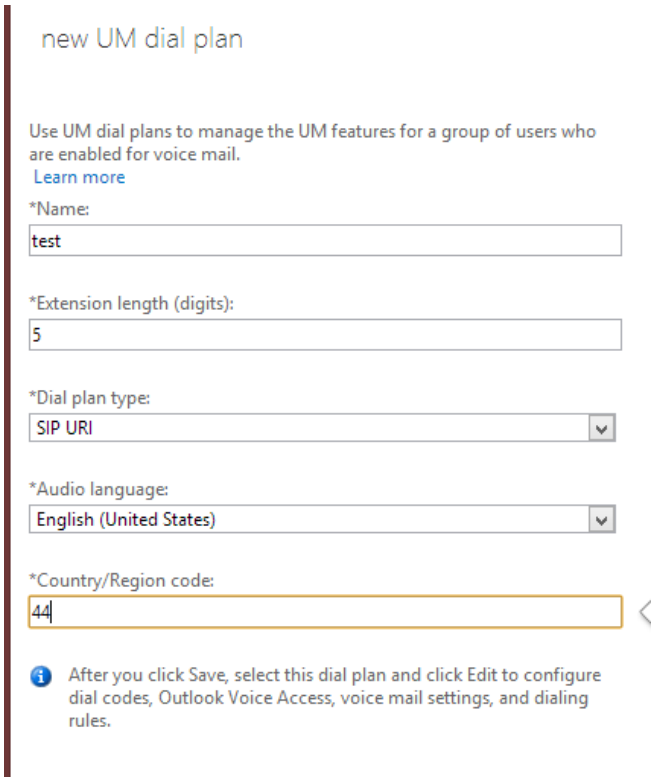
1. Log onto the Office 365 Wave 15 tenant using a Web browser and your Office 365 Administrator account.
2. In the Exchange admin center, under Unified Messaging, you can view and edit any existing UM dial plans, or create new dial plans as needed.

Figure A-1: Exchange Online - UM Dial Plans



3. Navigate to **Unified Messaging** > **UM Dial Plans** > **New**.

Figure A-2: New Dial Plan



4. After saving the dial plan, select the **Dial Plan** > **Configure**. For this you should try and match the company's on premise configuration. Below is an example:

Figure A-3: Edit the Dial Plan

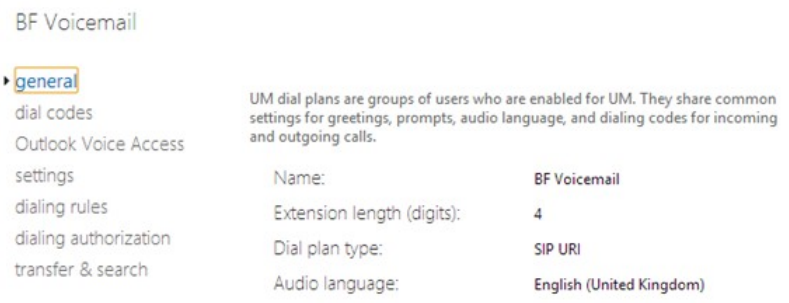


Figure A-4: Dial Codes

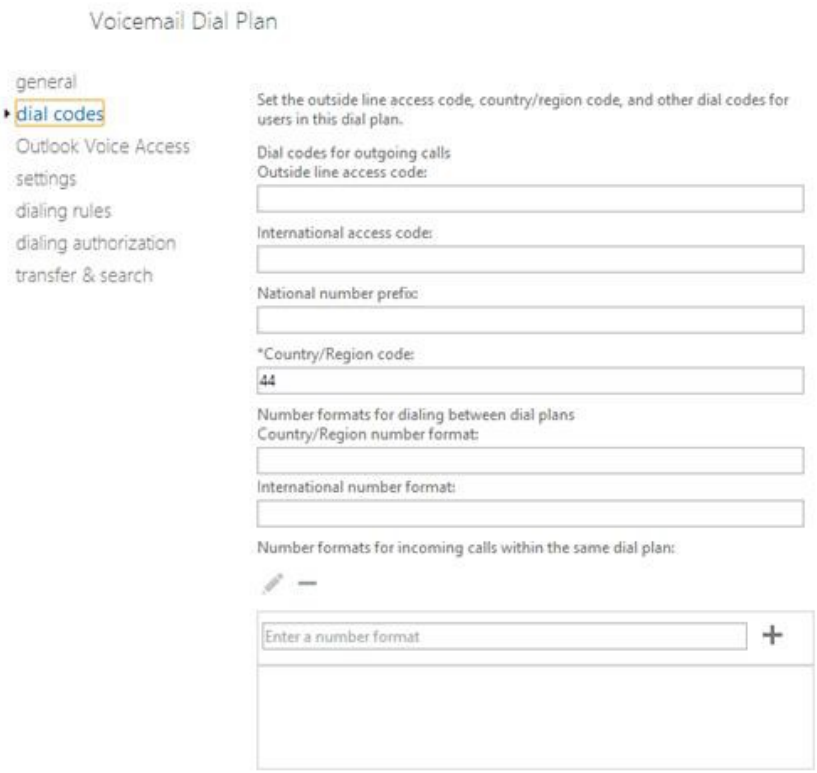


Figure A-5: Voice Access

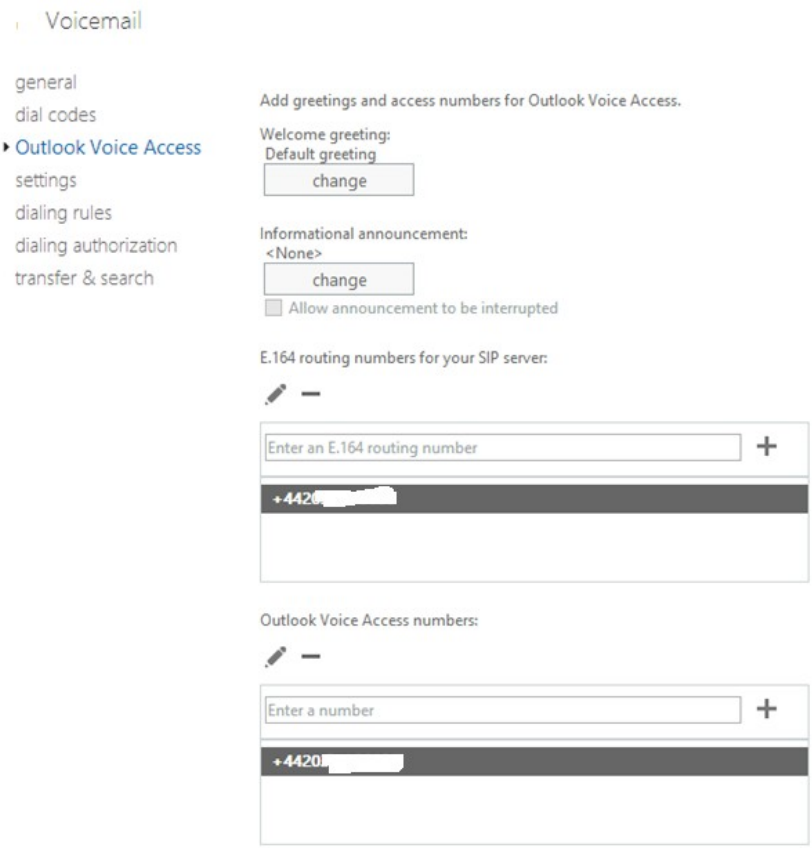


Figure A-6: Settings

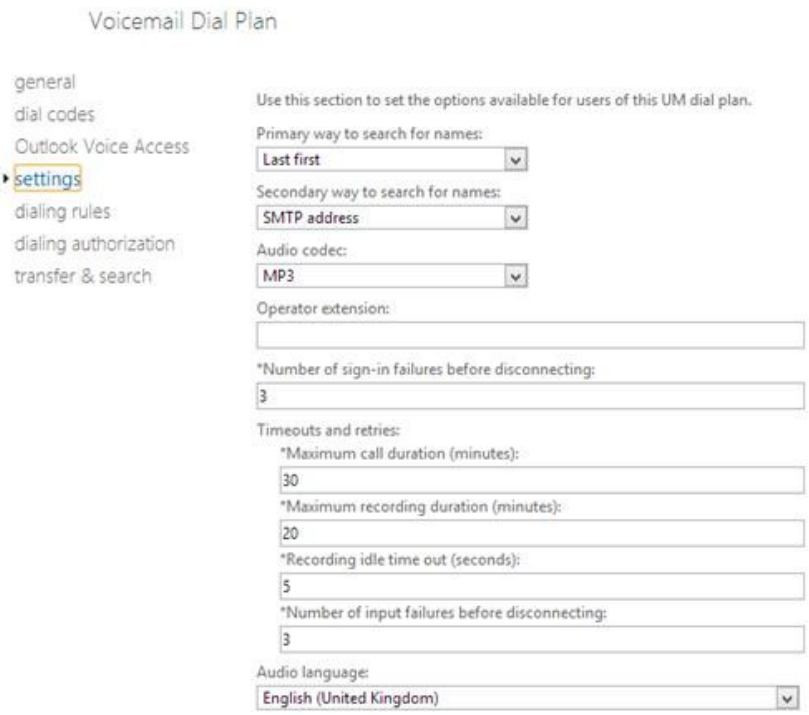


Figure A-7: - Dialing Rules

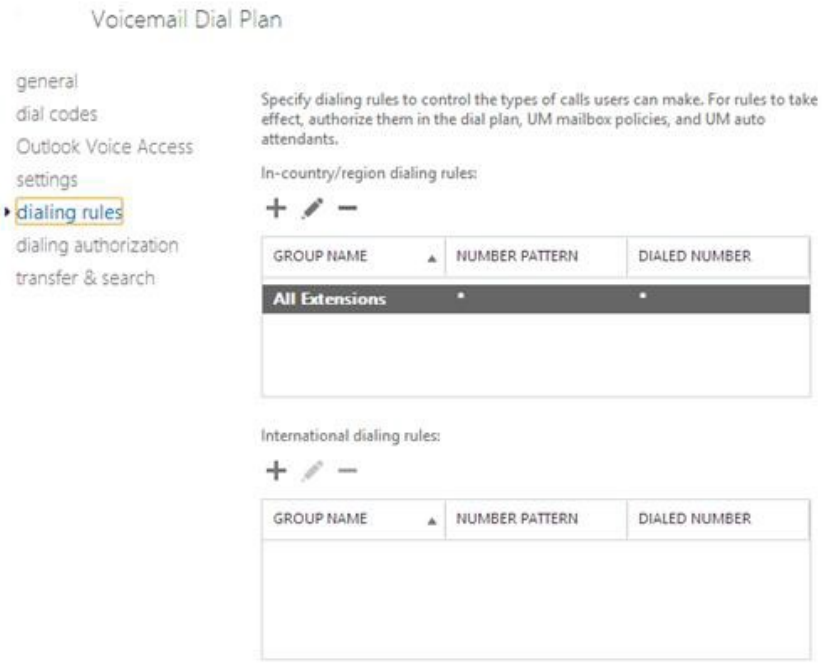


Figure A-8: Dialing Authorizations

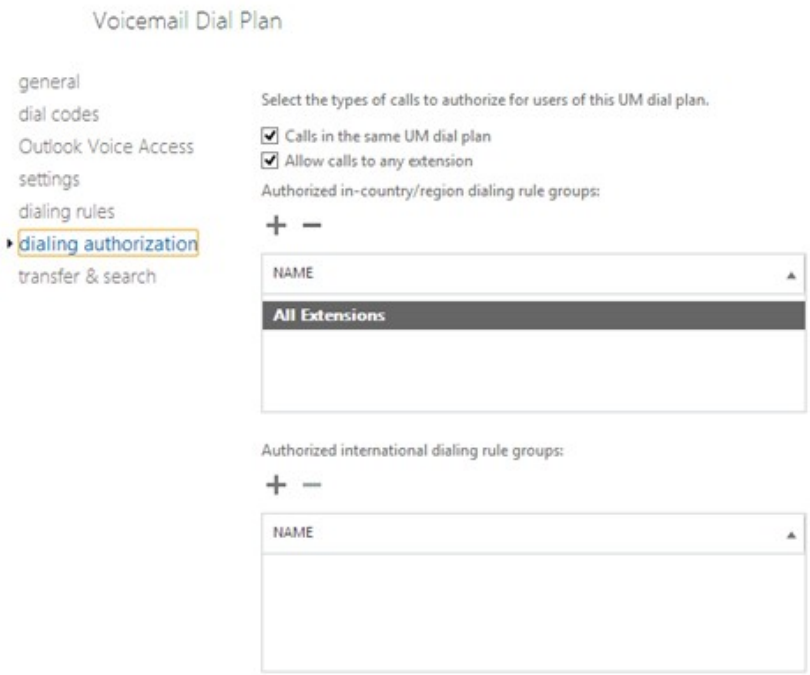
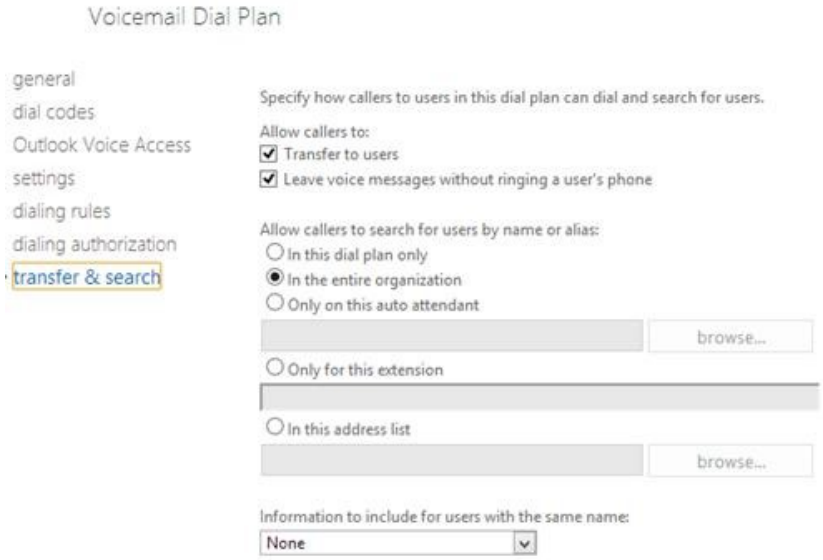


Figure A-9: Transfer and Search



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B Skype for Business PowerShell

PowerShell is a command line interface for managing a Windows 2008 or 2012 server. It is a similar, but much more powerful, environment than the DOS prompts included in previous Windows releases.

The Skype for Business Server Management Shell is a PowerShell environment with a Skype for Business specific command extension module added, which enables you to manage the Skype for Business environment from the command line. Similar modules are available for other products, such as Exchange.

There are numerous ways to access the PowerShell and Skype for Business PowerShell environments, either remotely or via a locally attached console and keyboard.

The easiest method is as follows:

1. Use Remote Desktop to access the CloudBond 365 Controller (UC-DC).
2. Open the charms bar on the Windows desktop.
3. Use the search facility to look for 'Skype for Business'.
4. Select 'Skype for Business Server Management Shell'.

Figure B-1: Windows Server 2012 R2

5. Open the charms bar.

6. Use the Windows + C key combination, or hover the mouse in the top or bottom right corners of the desktop.

Figure B-2: Searching for Skype for Business

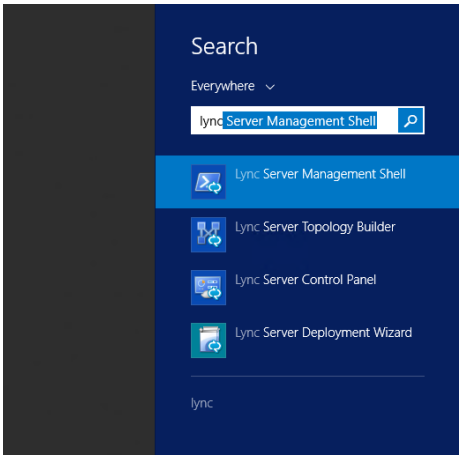
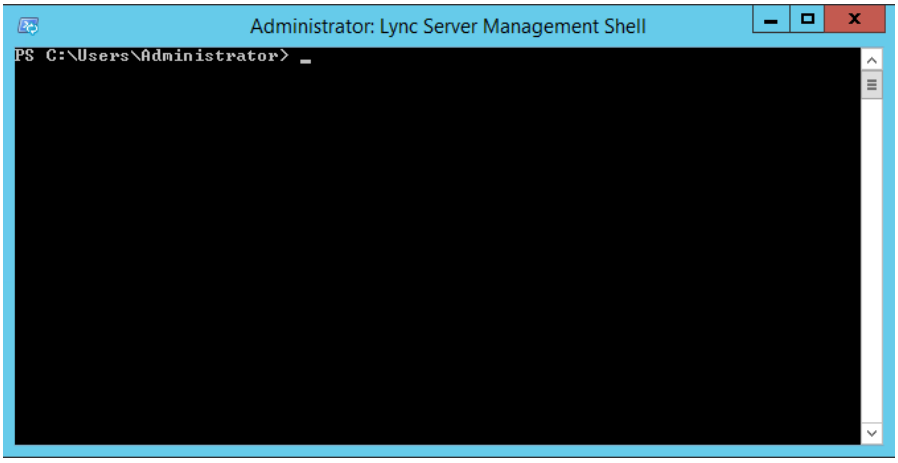


Figure B-3: The Skype for Business Server Management Shell



C PowerShell for Skype for Business Online

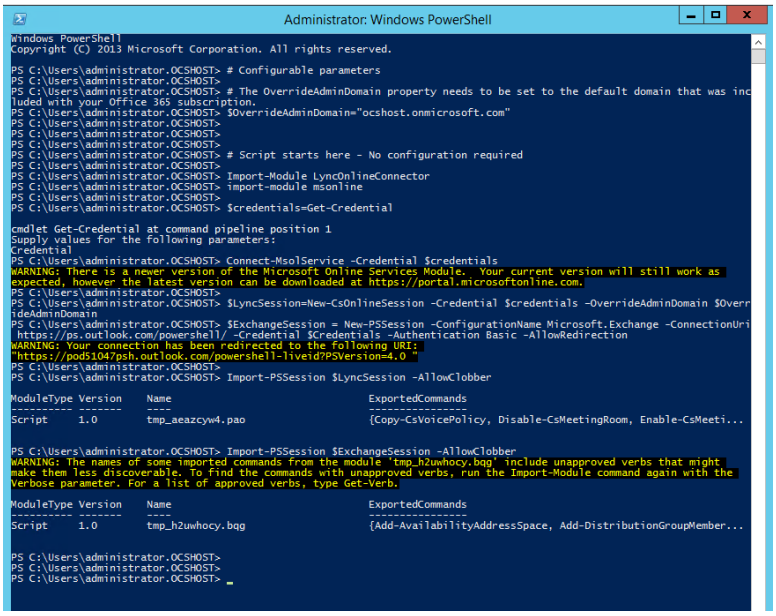
This appendix provides a sample PowerShell script which connects to Skype for Business On-Line to allow entering PowerShell command line configuration items. You will need to satisfy the pre-requisites detailed in the following links, prior to using PowerShell for online components:

- for Azure AD http://aka.ms/aadposh
- for Skype for Business Online http://www.microsoft.com/en-us/download/details.aspx?id=39366

C.1 Connecting to Office 365 using PowerShell:

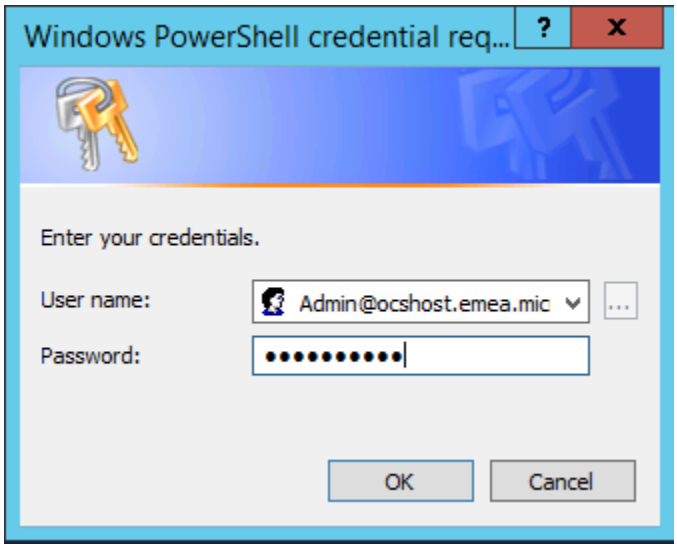
```
# Configurable parameters
# The OverrideAdminDomain property needs to be set to the default
domain that was included with your Office 365 subscription.
$OverrideAdminDomain="ocshost.onmicrosoft.com"
# Script starts here - No configuration required Import-Module
Skype for BusinessOnlineConnector
import-module msonline
$credentials=Get-Credential
Connect-MsolService -Credential $credentials
$OnlineSession=New-CsOnlineSession   -Credential   $credentials
–OverrideAdminDomain
$OverrideAdminDomain
$ExchangeSession = New-PSSession -ConfigurationName
Microsoft.Exchange - ConnectionUri
https://ps.outlook.com/powershell/ -Credential $Credentials -
Authentication Basic -AllowRedirection
Import-PSSession $OnlineSession -AllowClobber Import-PSSession
$ExchangeSession -AllowClobber

Sample execution of the PowerShell script.
(Note that the Microsoft Online Service Module is out of date, and
a newer version should be downloaded.)
```

Figure C-1: Windows PowerShell



The script will prompt you for login credentials. Use your Office 365 administrator account.

Figure C-2: Login Credentials



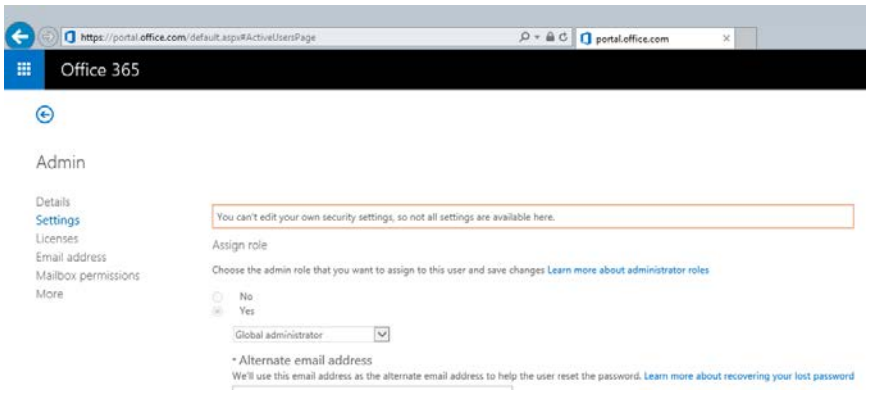
When the script completes, you can enter Skype for Business Online PowerShell commands to configure your Skype for Business Online environment.

D Troubleshooting

As the multi-forest environment relies on multiple replication processes here are some general guidelines for troubleshooting the environment.

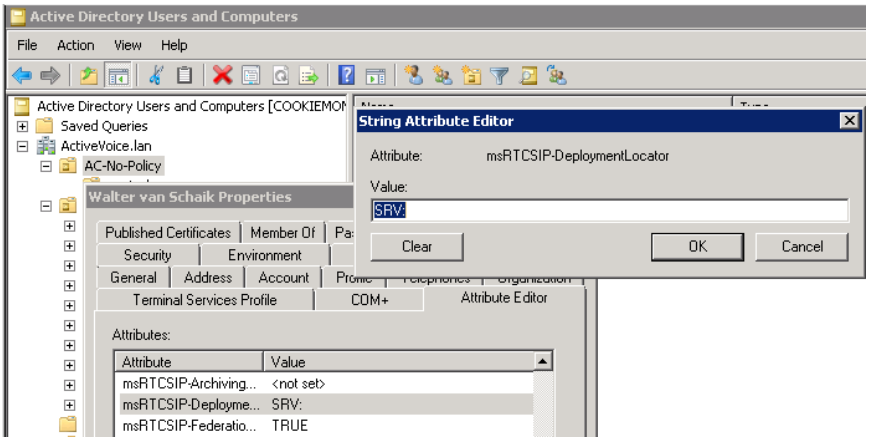
1. Verify the administrator account in the Office 365 configuration settings is a global administrator in Office 365 by signing in to the portal: https://portal.microsoftonline.com/ with those credentials and verifying the settings under the users section for the particular account.

Figure D-1: Admin Settings



2. Verify the ACSUserReplication scheduled task can write back the Skype for Business specific attributes into the customer forest by opening Active Directory Users and Computers for the user forest, with the credentials used in the scheduled task (default: resource forest\administrator). Navigate to a user and try to manually set one of the attributes:

Figure D-2: String Attribute Editor



3. On the CloudBond 365 controller (or any other customer server or workstation that has the Office 365 PowerShell prerequisites installed), start a PowerShell session and use the following cmdlets to verify that Office 365 directory synchronization has populated the on premise data to the cloud:

```
$OverrideAdminDomain="<the OverRideAdminDomain as in the O365 settings page>"
$WarningPreference='silentlycontinue' $credential = Get-Credential
$CSSession=New-CsOnlineSession -Credential $credential –OverrideAdminDomain $OverrideAdminDomain
Import-Module SkypeOnlineConnector
Import-PSSession $CSSession -AllowClobber| Out-Null
Get-CsOnlineUser | Where-Object {$_.sipaddress -match "<a sip address to    check>"}
```

An example output for the Get-CsOnlineUser cmdlet looks like the following:

Figure D-3: Get-csOnlineUser Attributes

```
Windows PowerShell
PS C:\Users\wsc> Get-CsOnlineUser | Where-Object {$_.sipaddress -match "corp"}


RunspaceId                        : 0aa16efa-b5f1-4e00-95f5-5d281db2cceb
UserAccountControl                : PasswordNotRequired, NormalAccount
Id                                : CN=49290bf3-d625-4df2-9612-a02c93f710ed,OU=c524b5f5-fd18-43c0-964c-bc5d35525eaa,OU=
                                    OCS Tenants,DC=lync0e001,DC=local

CountryAbbreviation               :
CountryOrRegionDisplayName        :
Company                           :
Department                        :
Description                       : {}
Fax                               :
HomePhone                         :
IPPhone                           :
City                              :
Manager                           :
MobilePhone                       :
OriginatorSid                     :
OtherTelephone                    : {}
Office                            :
PostalCode                        :
PreferredLanguage                 :
Puid                              : 1003BFFD8C12084C
StateOrProvince                   :
Street                            :
StreetAddress                     :
ThumbnailPhoto                    :
Title                             :
Phone                             :
WebPage                           :
AdminDescription                  :
AssignedPlan                      : {<XmlValueAssignedPlan xmlns:xsd="http://www.w3.org/2001/XMLSchema"
                                    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
                                      <Plan AssignedTimestamp="2014-10-14T08:20:33Z"
                                    ServicePlanId="0feaeb32-d00e-4d66-bd5a-43b5b83db82c" CapabilityStatus="Enabled"
                                    SubscribedPlanId="c4b86aed-a92a-42ea-a84a-d21487ed014f"
                                    ServiceInstance="MicrosoftCommunicationsOnline/Instance03-S"
                                    xmlns="http://schemas.microsoft.com/online/directoryservices/change/2008/11">
                                        <Capability>
                                          <Capability Plan="MCOProfessional"
                                    xmlns="http://schemas.microsoft.com/online/MCO/2009/01" />
                                        </Capability>
                                      </Plan>
                                    </XmlValueAssignedPlan>}
Alias                             : corporatead
BaseSimpleUrl                     : https://meet.lync.com/ocshost
DirSyncEnabled                    : True
ObjectId                          : 49290bf3-d625-4df2-9612-a02c93f710ed
UsageLocation                     : NL
HideFromAddressLists              : False
OnPremHideFromAddressLists        : False
ProvisionedPlan                   : {}
ProvisioningStamp                 :
UpgradeRetryCounter               : 0
SyncingCounter                    :
ProvisioningCounter               : 0
PublishingStamp                   :
PublishingCounter                 : 0
OnPremHostingProvider             : SRV:
OnPremOptionFlags                 : 257
OnPremSIPEnabled                  : True
OnPremSipAddress                  : sip:corporatead@activecommunications.eu
OnPremLineURI                     :
MCOValidationError                : {}
```

We are specifically interested in the following attributes:

- OnPremHostingProvider: SRV:
- OnPremOptionFlags 257
- OnPremSIPEnabled : True
- OnPremSipAddress : sip:corporatead@activecommunications.eu

This tells us that directory synchronization with Office 365 was successfully completed and that the msRTCSIP attributes from the CloudBond 365 resource forest where brought to Office 365.

When a user is homed in Skype for Business Online, the OnPremHostingProvider attribute will hold the value of the Host entry on the Office 365 settings page in the CloudBond 365 Management suite, defaulting to sipfed.online.lync.com.

If those attributes are showing up empty, perform the manual steps as described in Initial Replication chapter for the particular user and make sure that the Office 365 Directory Synchronization agents replicate those values by right-clicking those properties and verifying the Properties.z.

Figure D-4: Windows Azure AD Properties

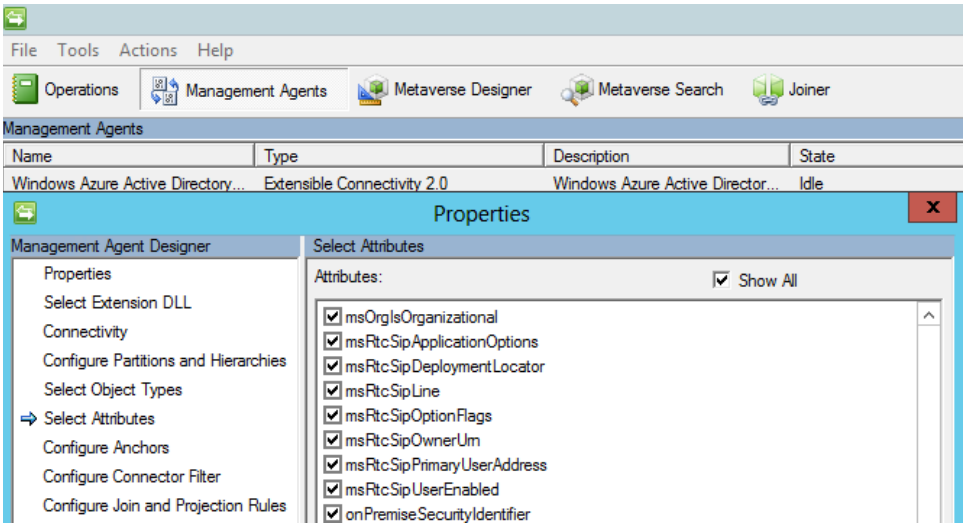
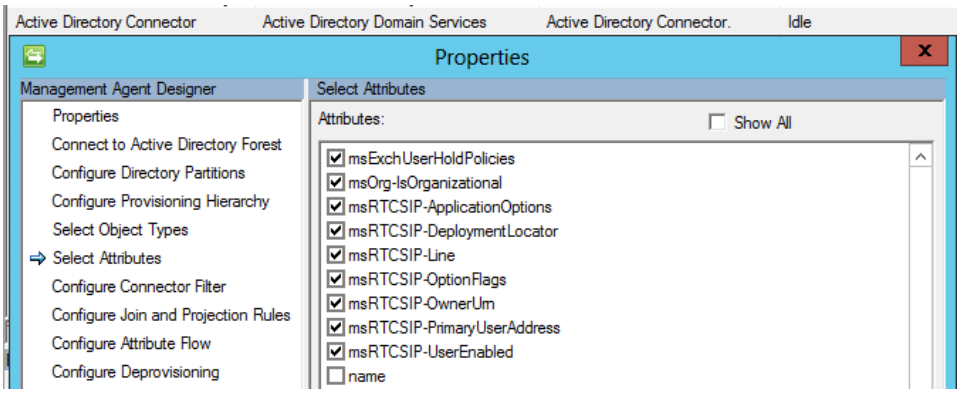


Figure D-5: DirSync AD Connector properties



A default installation of the Office 365 Directory Synchronization environment will have those attributes checked by default.

E Custom User IDs for Cross Domain Updates

E.1 Updating the User Forest AD

It is possible to use a different account to perform updates to the User forest if there is a reason to avoid using cloudbond365\administrator.

You will first need to manually create a new account within the cloudbond365 AD. This account should be made an administrator as a member of the

- cloudbond365\Administrators

  or

- cloudbond365\Domain Admins

This account will also need to be a member of the Skype for Business administrators groups:

- csAdministrator
- acs-Admin
- rtcComponentUniversalServices
- rtcUniversalServerAdmins
- rtcUniversalUserAdmins

The updates to the User forest are performed by a scheduled task. The scheduled task runs C:\acs\AcsUserReplication\AcsUserReplication.exe. This task will need to be modified to execute as the new user you have created.

The AcsUserReplication.exe process updates the following attributes within the User forest:

- SIP entry in proxyAddresses
- msRTCSIP-DeploymentLocator
- msRTCSIP-OptionFlags
- msRTCSIP-PrimaryUserAddress
- msRTCSIP-UserEnabled

If you wish to tighten security, you may restrict the newly created admin user to only have write access to the above fields within the User forest AD.

E.2 Retrieving User Data from Office 365

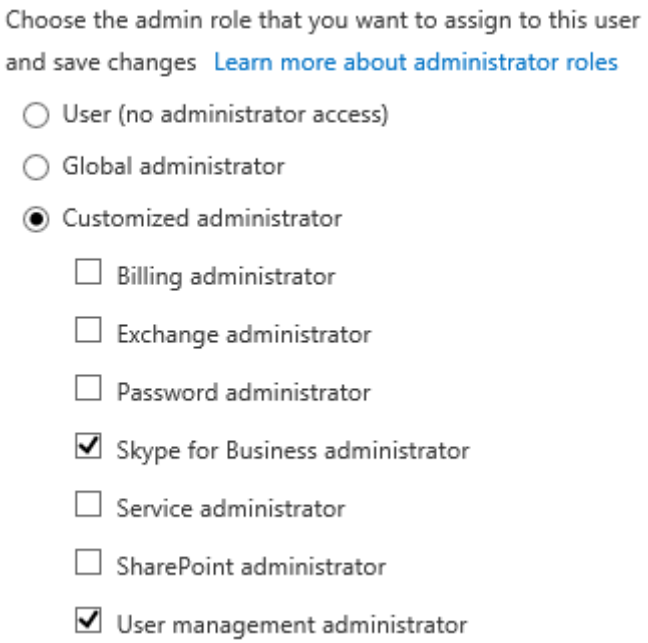
The updates to the cloudbond365 directory from Office 365 are performed by a scheduled task. The scheduled task runs the following:

```
C:\acs\OFFICE365Sync\SysAdmin.O365.Sync.exe –S O365
```

This task will use the User ID you have created within Office 365. The user will need to be granted rights within Office 365.

With regards to the "Global Administrator Rights" in Microsoft Online, Microsoft has made changes in its latest release, where now the Skype for Business administrator role will be sufficient (see screenshot below):

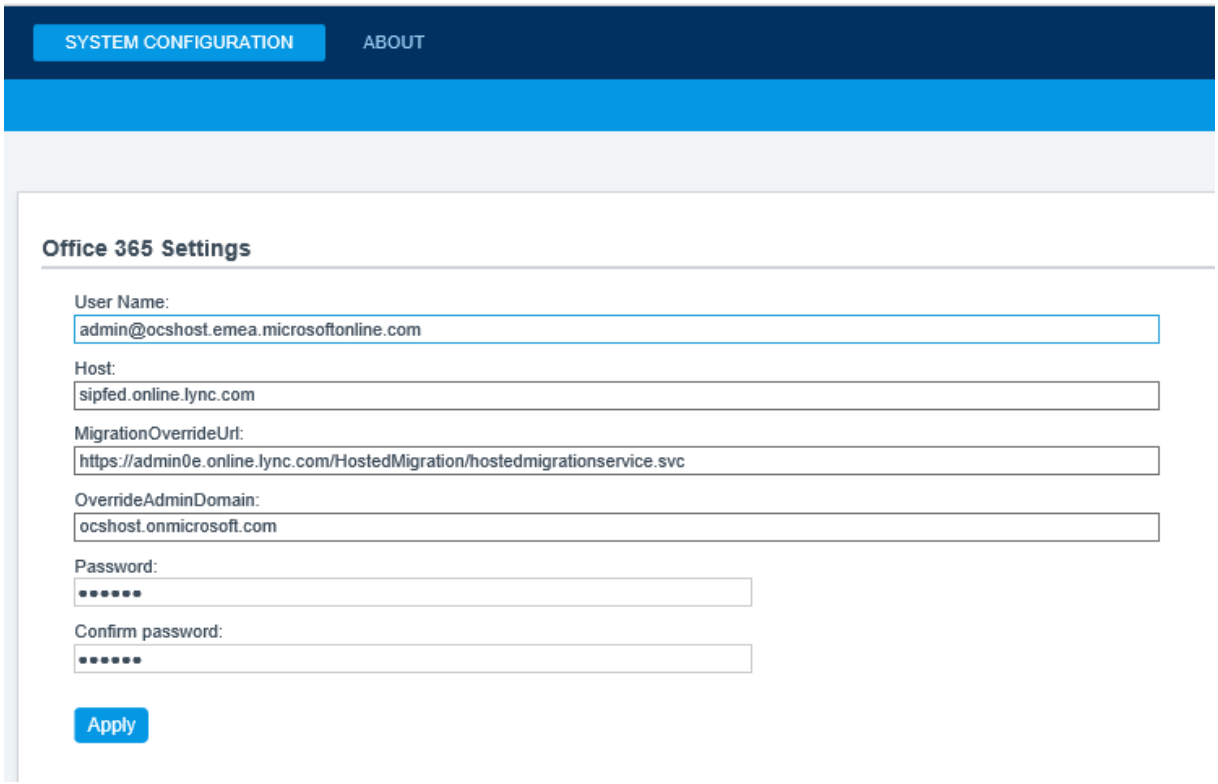
Figure E-1: Administrator Roles



This role is required when moving users from Office 365 to on premise and vice versa, which move is performed by the O365 connector.

The newly created Office 365 User ID and password needs to be specified within the SysAdmin web pages, on the O365 Connector settings.

Figure E-2: Office 365 Settings



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