

# Preinstallation Requirements Guide

Synergy Manage v4.14

September 2018

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# 1: Introduction

## Synergy Manage install procedure - your responsibilities

The Synergy Manage install procedure is complex, and most of the install steps will be carried out by one of our engineers.

Before our engineer begins the installation, you must complete all the tasks described in this document as follows:

1. Configure the SKY WinNode Server, SKY SQL Database Server, Com Nodes, and Remote Agent Server (optional), each on a dedicated server or virtual machine as described in Sections 3 - 6.
2. Configure your network for Synergy Manage so that the servers and infrastructure components can communicate freely through the firewall as described in Section 7.
3. Ensure any infrastructure components you want to integrate with Synergy Manage are running a supported software version as described in Section 8.
4. Optionally, configure Skype for Business to work with Synergy Manage as described in Section 9.
5. Provide our engineer with access, server addresses, and credentials as described in Section 10.

If you have any problems with any of the steps described in this document, or are unable to provide any of the essential information or access required, contact your Synergy SKY representative well before the installation date so we can resolve the issues and ensure your installation goes smoothly.

## Further information about Synergy Manage

For detailed information about the Synergy Manage platform see: [Synergy Manage Administrator Guide](#).

## 2: Server requirements

**Note:** This section is for information only. Installation and configuration are described in the sections later in this document.

The Synergy Manage platform is made up of the following:

- SKY WinNode Server
- SKY SQL Database Server
- Linux Com Node Server (multiple nodes)
- Linux and/or Windows Remote Agent Server (Optional)

We strongly recommend that each server is used only for Synergy Manage (with the exception of the SKY SQL Database Server).

### Deployment scenarios

The server requirements for the Synergy Manage platform have changed in version 4.x, to accommodate the new real-time architectural model.

Although the Synergy Manage platform can run with one Com Node in very small environments, there are now two recommended deployment scenarios, requiring either 2 or 4 Com Nodes, depending on the size of your environment:

Deployment type	Size	Hardware
Regular	<ul style="list-style-type: none"> <li>• &lt; 2000 provisioned users</li> <li>• &lt; 100 concurrent calls</li> </ul>	<ul style="list-style-type: none"> <li>• 1 x Windows Application Server (Win Node)</li> <li>• 1 x SQL Server</li> <li>• 1 x Core Linux Com Node (Core Node)</li> <li>• 1 x Application Linux Com Node (App Node)</li> </ul>
Large	<ul style="list-style-type: none"> <li>• &gt; 2000 provisioned users</li> <li>• &gt; 100 concurrent calls</li> </ul>	<ul style="list-style-type: none"> <li>• 1 x Windows Application Server (Win Node)</li> <li>• 1 x SQL Server</li> <li>• 1 x Database Linux Com Node (DB Node)</li> <li>• 1 x XMPP Linux Com Node (XMPP Node)</li> <li>• 1 x Memory Linux Com Node (Memory Node)</li> <li>• 1 x Application Linux Com Node (App Node)</li> </ul>

Our professional services representative will help you identify the most appropriate deployment for your environment.

### Regular deployment

Minimum server resources:

Server	Operating system	Purpose	CPU	RAM	HDD	Comments
SKY WinNode Server	<ul style="list-style-type: none"> <li>• Windows Server 2008 r2</li> <li>• Windows Server 2012</li> <li>• Windows Server 2012 r2</li> </ul>	Runs: <ul style="list-style-type: none"> <li>• IIS web applications</li> <li>• SKY-specific windows services</li> </ul>	<ul style="list-style-type: none"> <li>• 2 GHz</li> <li>• 4 Cores</li> </ul>	8 GB	50 GB	
SKY SQL Database Server	<ul style="list-style-type: none"> <li>• Windows Server 2008 r2</li> <li>• Windows Server 2012</li> <li>• Windows Server 2012 r2</li> </ul>	Synergy ManageSQL database	<ul style="list-style-type: none"> <li>• 2 Ghz</li> <li>• 2 Cores</li> </ul>	8 GB	50 GB	Requires SQL Server 2012 or 2014.
SKY Core ComNode	Linux	Synergy Manage Mongo and LDAP databases, and communication hub: <ul style="list-style-type: none"> <li>• DBNode</li> <li>• XMPPNode</li> <li>• MemNode</li> </ul>	<ul style="list-style-type: none"> <li>• 2 GHz</li> <li>• 6 cores</li> </ul>	16 GB	170 GB	High performance disk recommended (SSD/SAS)
SKY Application ComNode	Linux	<ul style="list-style-type: none"> <li>• Third party infrastructure communication (Pexip and Cisco CMS):                             <ul style="list-style-type: none"> <li>◦ Data harvesting</li> <li>◦ Provisioning</li> </ul> </li> <li>• Internal SKY applications</li> </ul>	<ul style="list-style-type: none"> <li>• 2 GHz</li> <li>• 4 cores</li> </ul>	8 GB	170 GB	

Server	Operating system	Purpose	CPU	RAM	HDD	Comments
SKY Remote Agent Windows Server (optional)	<ul style="list-style-type: none"> <li>Windows Server 2008 r2</li> <li>Windows Server 2012</li> <li>Windows Server 2012 r2</li> </ul>	<ul style="list-style-type: none"> <li>Gathers status information and call data records from Cisco, Microsoft Skype for Business, and Polycom infrastructure components deployed at remote sites</li> <li>Gathers status information from Cisco CMS and Pexip infrastructure components deployed at remote sites</li> </ul>	<ul style="list-style-type: none"> <li>2 Ghz</li> <li>2 Cores</li> </ul>	8 GB	50 GB	
SKY Remote Agent ComNode (optional)	Linux	Gathers call data records from Pexip and Cisco CMS infrastructure components deployed at remote sites	<ul style="list-style-type: none"> <li>2 GHz</li> <li>4 cores</li> </ul>	8 GB	170 GB	

## Large deployment

Minimum server resources:

Server	Operating system	Purpose	CPU	RAM	HDD	Comments
SKY WinNode Server	<ul style="list-style-type: none"> <li>Windows Server 2008 r2</li> <li>Windows Server 2012</li> <li>Windows Server 2012 r2</li> </ul>	Runs: <ul style="list-style-type: none"> <li>IIS web applications</li> <li>SKY-specific windows services</li> </ul>	<ul style="list-style-type: none"> <li>2 GHz</li> <li>4 Cores</li> </ul>	8 GB	50 GB	
SKY SQL Database Server	<ul style="list-style-type: none"> <li>Windows Server 2008 r2</li> <li>Windows Server 2012</li> <li>Windows Server 2012 r2</li> </ul>	Synergy Manage SQL database	<ul style="list-style-type: none"> <li>2 Ghz</li> <li>2 Cores</li> </ul>	8 GB	50 GB	Requires SQL Server 2012 or 2014.
SKY Database ComNode	Linux	Synergy Manage Mongo and LDAP Databases	<ul style="list-style-type: none"> <li>2 GHz</li> <li>4 Cores</li> </ul>	8 GB	170 GB	High performance disk recommended (SSD/SAS)
SKY XMPP ComNode	Linux	XMPP communications hub	<ul style="list-style-type: none"> <li>2 GHz</li> <li>2 Cores</li> </ul>	8 GB	170 GB	
SKY Memory ComNode	Linux	Data caching	<ul style="list-style-type: none"> <li>2 GHz</li> <li>4 Cores</li> </ul>	8 GB	170 GB	
SKY Application ComNode	Linux	<ul style="list-style-type: none"> <li>Third party infrastructure communication (Pexip and Cisco CMS):                             <ul style="list-style-type: none"> <li>Data harvesting</li> <li>Provisioning</li> </ul> </li> <li>Internal SKY applications</li> </ul>	<ul style="list-style-type: none"> <li>2 GHz</li> <li>4 Cores</li> </ul>	8 GB	170 GB	
SKY Remote Agent Windows Server (optional)	<ul style="list-style-type: none"> <li>Windows Server 2008 r2</li> <li>Windows Server 2012</li> <li>Windows Server 2012 r2</li> </ul>	<ul style="list-style-type: none"> <li>Gathers status information and call data records from Cisco, Microsoft Skype for Business, and Polycom infrastructure components deployed at remote sites</li> <li>Gathers status information from Cisco CMS and Pexip infrastructure components deployed at remote sites</li> </ul>	<ul style="list-style-type: none"> <li>2 Ghz</li> <li>2 Cores</li> </ul>	8 GB	50 GB	
SKY Remote Agent ComNode (optional)	Linux	Gathers call data records from Pexip and Cisco CMS infrastructure components deployed at remote sites	<ul style="list-style-type: none"> <li>2 GHz</li> <li>4 cores</li> </ul>	8 GB	170 GB	

## 3: Configuring the SKY WinNode Server

Both the Synergy Manage Windows Admin Portal and the Provisioning Portal run on this server. In addition, the following services are hosted on the Win Node:

- Harvest service
- Alert service
- Processing service
- All of the API services

### Task 1: Installing the Win Node operating system

Install one of these supported Microsoft Windows versions on the server:

- Windows Server 2008 r2
- Windows Server 2012
- Windows Server 2012 r2

### Task 2: Installing Web Server (IIS), .NET and Visual C++

Once you have installed Windows on the Win Node:

1. In Server Manager, go to **Add roles and features**.
2. Under **Server Roles**, install Web Server (IIS) with:
  - *Basic Authentication*
  - *Digest Authentication*
  - *Forms Authentication (2008 Only)*
3. Under **Features**, install:
  - *.NET Framework 4.5*
  - *ASP.NET 4.5*
4. Download and install *Windows Powershell 4.0* using the instructions here: [How to install Windows Powershell 4.0](#).
5. Download and install both the following on the server:
  - Microsoft Visual C++ 2010 x64 Redistributable
  - Microsoft Visual C++ 2010 x86 Redistributable

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**Note:** Do not make any changes to the default settings in IIS.

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**Note:** If you enable request filtering, do not create any filtering rules that use “deny strings” as this can cause problems in the Synergy Manage application.

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### Task 3: Downloading install files to the server

Download the Synergy Manage installation files and save them in a folder on the desktop of the Win Node as follows:

1. In a browser window, enter: <http://ftp.synergysky.com/software>.
2. Log in using these credentials:
  - Username: **synergyftp**
  - Password: **getapps**
3. Click on the **4.6.1** folder, and download:
  - [Comnode\\_AutoUpgrade\\_4.6.1\\_0b45fdccd9da](#)
4. Click on the **4.7.0** folder, and download:
  - [Comnode\\_AutoUpgrade\\_4.7.0\\_72876ad57c4c.zip](#)
5. Click on the **4.8.0** folder, and download:
  - [Comnode\\_AutoUpgrade\\_4.8.0\\_02c4de1bdeea.zip](#)
6. Click on the **4.9.0** folder, and download:
  - [Comnode\\_AutoUpgrade\\_4.9.0\\_6fc3bc7aa90e.zip](#)
7. Click on the **4.10.0** folder, and download:
  - [Comnode\\_AutoUpgrade\\_4.10.0\\_9567e6d3cff7.zip](#)
  - [WinNode\\_4.10.0\\_43fc3d70c1.zip](#)
8. Click on the **4.11.0** folder, and download:
  - [Comnode\\_AutoUpgrade\\_4.11.0\\_981c64e4af15.zip](#)
  - [WinNode\\_4.11.0\\_4518599b3d.zip](#)

9. Click on the *4.12.0* folder, and download:
  - o [Comnode\\_AutoUpgrade\\_4.12.0\\_3ee365b04fc4.zip](#)
  - o [WinNode\\_4.12.0\\_67cfbffdff.zip](#)
10. Click on the *4.14.0* folder, and download:
  - o [Comnode\\_AutoUpgrade\\_4.14.0\\_e4ec19815565.zip](#)
  - o [WinNode\\_4.14.0\\_f902dbbeb9.zip](#)
11. Create a folder on the desktop of the Win Node and save the files there.

## 4: Configuring the SKY SQL Database Server

The SKY SQL Database Server (SKY SQL Server) runs on Microsoft SQL Server 2012, 2012 R2 or 2014.

This database stores the following data:

- System configuration
- System data
- CDRs
- System and event logs

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**Note:** All other data is stored in the MongoDB and LDAP databases which run on either the SKY Core ComNode or the SKY Database ComNode (depending on your deployment scenario).

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### Task 4: Installing the SKY SQL Server operating system

Install one of the following supported Microsoft Windows versions on the server:

- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

### Task 5: Installing Microsoft SQL Server on the SKY SQL Server

Install one of the following supported Microsoft SQL versions on the server:

- Microsoft MSSQL Server 2012 Standard/Enterprise
- Microsoft MSSQL Server 2012 R2 Standard/Enterprise
- Microsoft MSSQL Server 2014 Standard/Enterprise

### Task 6: Enabling mixed-mode authentication

Enable Mixed-Mode authentication on the SQL server:

1. In SQL Server Management Studio, right-click on the server in the Object Explorer and select **Properties**.
2. In **Security**, change **Server authentication** to *SQL Server and Windows Authentication mode*.
3. Click **OK**.
4. Restart SQL server when prompted.



## 5: Configuring the Com Nodes

The Com Nodes are installed as a Linux VMWare application server package.

The Com Node servers host the following services:

- XMPP server
- LDAP server
- MongoDB
- Low level drivers

## Task 7: Preparing the servers

Install VMWare ESX (vSphere) version 5.0 or later on each Com Node server.

## Task 8: Downloading the .ovf template

Download the Com Node .ovf image to a desktop or laptop computer that you can use to deploy the .ovf template on the virtual machines as follows:

1. In a browser window, enter: <http://ftp.synergysky.com/software>.
2. Log in using these credentials:
  - Username: **synergyftp**
  - Password: **getapps**
3. Click on the **4.6.0** folder, and download:
  - [SynergySKYcomnode\\_4.6.0\\_001.zip](#)

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**Note:** The ovf file installs 4.6; our engineer will upgrade each Com Node to v4.14.

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## Task 9: Deploying the .ovf template

Carry out the following tasks on each Com Node:

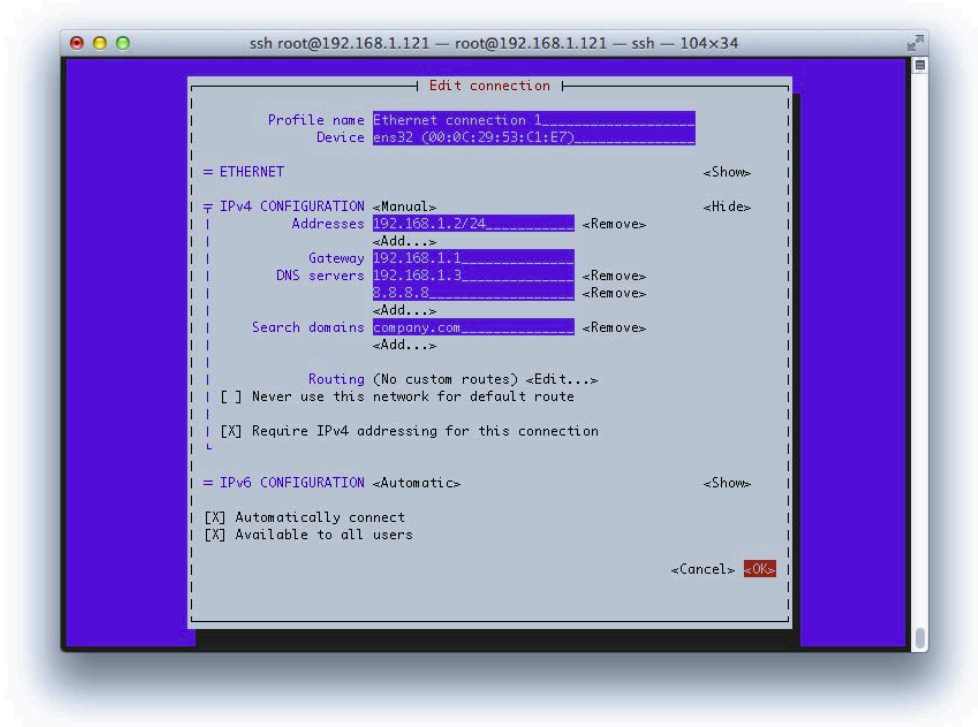
1. On the Com Node server, open the VMware vSphere client.
2. Deploy the OVF template you downloaded in Step 3 above, increasing the RAM to 16Gb if necessary, depending on which Com Node this is (see "[Server requirements](#)" on page 4).  
Configure the other server resources to your own company's internal requirements.
3. Start the server.

## Task 10: Using the Com Node console to configure the Com Node server settings

Carry out the following tasks on each Com Node:

1. SSH to the IP address of the Com Node Server to access the SkyShell Command Line Interface using the following credentials:
  - Username: **root**
  - Password: **SynergySkyWord**
2. At the prompt type **network edit**.
3. Select **Edit a connection**.

- Configure the network settings for the server to your own company's network requirements:



- Go back and select **Set system hostname** to enter a hostname for the server.
- Restart the Virtual Machine.

## Task 11: Testing the Com Node

Carry out the following tasks on each Com Node to test that the Com Node setup and configuration was successful:

- Using Putty, SSH to the Com Node server IP address or FQDN.
- Log in with the default admin user:
  - User name: `root`
  - Password: `SynergySkyWord`

You should see the Com Node SkyShell prompt:

```
Starting up Synergy SKY ComNode Shell 4.6.0#50
```

```
Date/Time: 19:19:20.531533
```

```
[your_comnode_hostname] (OK) - 1: >
```

## 6: Configuring the Remote Agent server (optional)

The main purpose of a Remote Agent server is to fetch status information and call data records from infrastructure devices deployed at remote sites. This server is not mandatory in all types of installations, but is recommended for deployments where infrastructure devices are installed remotely.

If you are using the Remote Agent server to communicate with remotely located Cisco CMS or Pexip infrastructure components, you will require both a Windows Remote Agent (RA WinNode) and a Linux Com Node Remote Agent (RA ComNode).

If your Remote Agent server communicates with remotely located Cisco, Polycom or Skype for Business infrastructure components, then you only require a Windows Remote Agent (RA WinNode).

To create a Linux Com Node that will become your SKY Remote Agent ComNode (RA ComNode) follow the instructions here: ["Configuring the Com Nodes" on page 9](#).

To create a Windows Remote Agent server, follow the instructions below to create the SKY Remote Agent Windows Server (RA WinNode).

### Task 12: Installing Windows on the RA WinNode

Install one of the following supported Microsoft Windows versions on the server:

- Windows Server 2008 r2
- Windows Server 2012
- Windows Server 2012 r2

### Task 13: Configuring Windows on the RA WinNode

Once you have installed Windows on the RA WinNode:

1. In **Server Manager**, go to **Add roles and features**.
2. Under **Features**, install:
  - *.NET Framework 4.5*
3. In a browser window, download and install both the following on the server:
  - Microsoft Visual C++ 2010 x64 Redistributable
  - Microsoft Visual C++ 2010 x86 Redistributable

## 7: Configuring your network

You need to configure your network as detailed below so that all the servers and infrastructure components can communicate successfully.

### Task 14: Configuring NTP, infrastructure and API access, and network communication

1. Configure all servers and infrastructure components in your deployment to point to the same NTP server, either directly or indirectly.
2. Ensure that the Synergy Manage platform has access to all infrastructure components and APIs.
3. Configure your network to allow the following communication(<-> = bidirectional):

Win Node:

Source	Destination	Protocol	Port (TCP unless otherwise stated)	Description
Win Node	Cisco CMS MCU	HTTPS	443	Read status
Win Node	<ul style="list-style-type: none"> <li>• Pexip Infinity Management node</li> <li>• Pexip Infinity Conference node</li> </ul>	SSH	22	Read status
Win Node	<ul style="list-style-type: none"> <li>• Cisco Codian MCU</li> <li>• Cisco Codian ISDN Gateway</li> </ul>	XML over RPC	<ul style="list-style-type: none"> <li>• 80 (if HTTPS is not enabled on the gateway)</li> <li>• 443</li> </ul>	Read status and data harvesting from MCU and/or ISDN RPC API
Win Node	Cisco TCS	HTTP/HTTPS	80/443	Read status and data harvesting from TCS API
Win Node	Cisco TMS	<ul style="list-style-type: none"> <li>• HTTP/HTTPS</li> <li>• SQL</li> </ul>	<ul style="list-style-type: none"> <li>• 80/443</li> <li>• 1443 (or whichever port you have configured, if not default)</li> </ul>	Read status, data harvesting
Win Node	Cisco VCS	HTTP/HTTPS	80/443	Read status and data harvesting from VCS API
Win Node	Polycom RMX	HTTP/HTTPS	80/443	Read status
Win Node	Polycom DMA	<ul style="list-style-type: none"> <li>• HTTP/HTTPS</li> <li>• SNMP</li> </ul>	<ul style="list-style-type: none"> <li>• 80/443</li> <li>• 8443</li> <li>UDP:                             <ul style="list-style-type: none"> <li>• 161</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Read status</li> <li>• DMA API port</li> <li>• Real time status</li> </ul>
Win Node	Skype for Business front-end server	SQL	1433 (or whichever port you have configured, if not default)	Read status
Win Node	Skype for Business CDR server	SQL	1433 (or whichever port you have configured, if not default)	Data harvesting
Win Node	SMTP server(s)	<ul style="list-style-type: none"> <li>• HTTP/HTTPS</li> <li>• SMTP</li> </ul>	<ul style="list-style-type: none"> <li>• 80/443</li> <li>• 25 (or any port configured for SMTP)</li> </ul>	Send password reset email(s) and scheduled reports
Win Node	SNMP Receiver	SNMP	161	SNMP Traps/Alarms
Win Node	SKY SQL Server	SQL	1433	Read/write to/from SQL database
Win Node	External AD/LDAP server	LDAP	389	AD/LDAP user sync.
Win Node	Exchange	HTTP/HTTPS	80/443	Exchange web services and API for Scheduling.
Win Node	Core Node Com Node	<ul style="list-style-type: none"> <li>• HTTP</li> <li>• LDAP</li> <li>• LDAPS</li> <li>• XMPP</li> </ul>	<ul style="list-style-type: none"> <li>• 80 &lt;-&gt;</li> <li>• 389</li> <li>• 636</li> <li>• 5222 &lt;-&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• Com Node API</li> <li>• LDAP directory</li> <li>• LDAPS directory</li> <li>• XMPP communications</li> </ul>

Com Nodes:

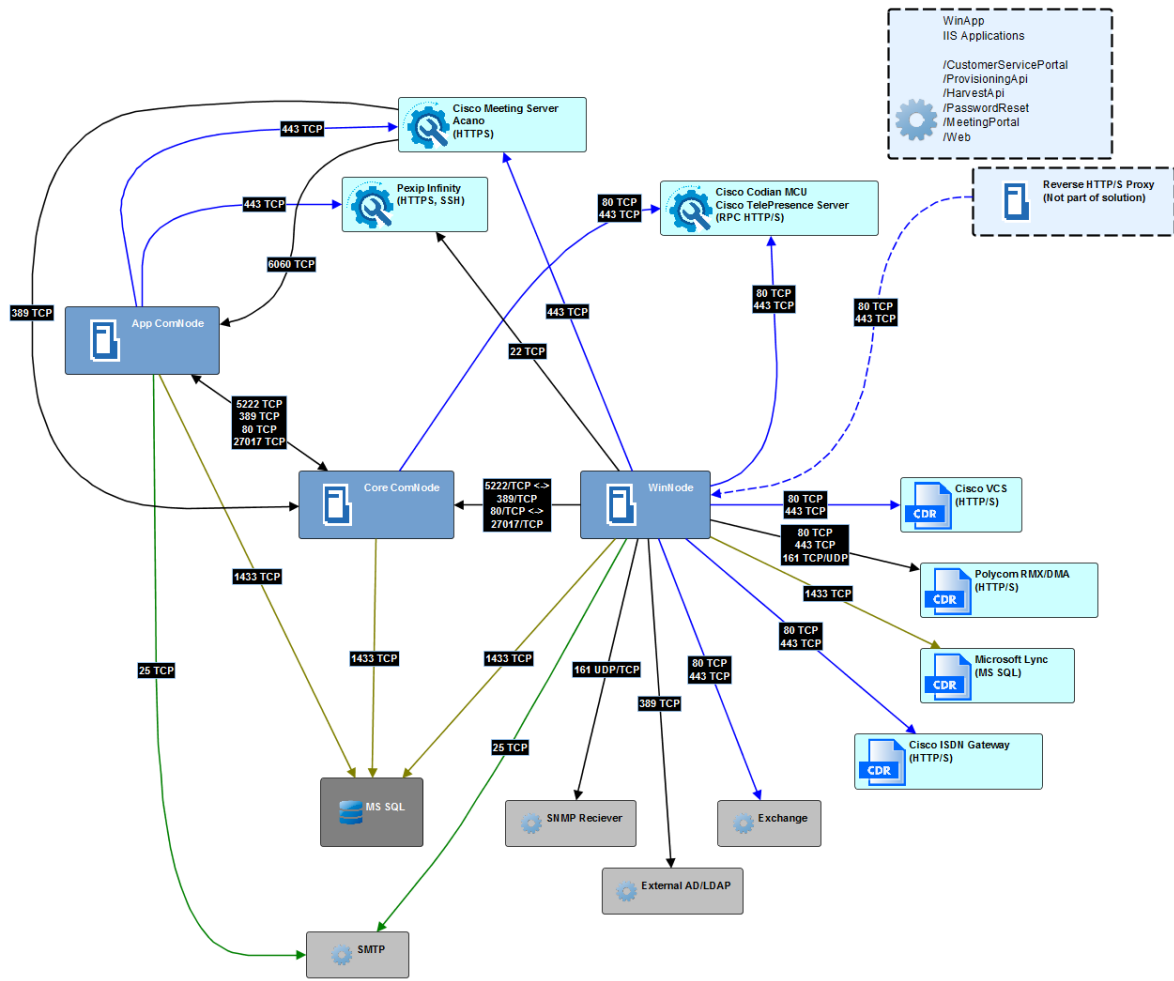
Source	Destination	Protocol	Port (TCP unless otherwise stated)	Description
App Node	Pexip Infinity Management node	HTTPS	443	Provision VMRs.
App Node	Cisco CMS MCU	HTTPS	443	<ul style="list-style-type: none"> <li>• Provision Spaces</li> <li>• Initiate user synchronization</li> </ul>
App Node	SMTP server(s)	SMTP	25 (or any port configured for SMTP)	Send alert and scheduling email(s).

Source	Destination	Protocol	Port (TCP unless otherwise stated)	Description
Core Node	Cisco Codian MCU	XML over RPC	<ul style="list-style-type: none"> <li>80 (if HTTPS is not enabled on the gateway)</li> <li>443</li> </ul>	Provision VMRs.
All Com Nodes	All Com Nodes	<ul style="list-style-type: none"> <li>XMPP</li> <li>LDAP</li> <li>MongoDB</li> </ul>	<ul style="list-style-type: none"> <li>5222</li> <li>389</li> <li>27017</li> </ul>	<ul style="list-style-type: none"> <li>Communication with XMPP server</li> <li>Communication with LDAP Server</li> <li>Communication with Mongo Database</li> </ul>
All Com Nodes	SKY SQL Server	SQL	1433	<ul style="list-style-type: none"> <li>Create/update SQL database</li> <li>Legacy sync service</li> </ul>
Cisco CMS MCU	Win Node	HTTP/HTTPS	<ul style="list-style-type: none"> <li>80</li> <li>443</li> </ul>	CDR Receiver for data harvesting
Cisco CMS MCU	Core Node	<ul style="list-style-type: none"> <li>LDAP</li> <li>LDAPS</li> </ul>	<ul style="list-style-type: none"> <li>389</li> <li>636</li> </ul>	Synchronization of users

Remote Agent Servers (if implemented):

Source	Destination	Protocol	Port (TCP unless otherwise stated)	Description
RA WinNode	Cisco CMS MCU	HTTP/HTTPS	80/443	Read status
RA WinNode	<ul style="list-style-type: none"> <li>Pexip Infinity Management node</li> <li>Pexip Infinity Conference node</li> </ul>	<ul style="list-style-type: none"> <li>HTTP/HTTPS</li> <li>SSH</li> </ul>	<ul style="list-style-type: none"> <li>80/443</li> <li>22</li> </ul>	Read status
RA WinNode	<ul style="list-style-type: none"> <li>Cisco Codian MCU</li> <li>Cisco Codian ISDN Gateway</li> </ul>	XML over RPC	<ul style="list-style-type: none"> <li>80 (if HTTPS is not enabled on the gateway)</li> <li>443</li> </ul>	Read status and data harvesting from MCU and/or ISDN RPC API
RA WinNode	Cisco VCS	HTTP/HTTPS	80/443	Read status and data harvesting from VCS API
RA WinNode	Polycm RMX	HTTP/HTTPS	80/443	Read status
RA WinNode	Polycm DMA	<ul style="list-style-type: none"> <li>HTTP/HTTPS</li> <li>SNMP</li> </ul>	<ul style="list-style-type: none"> <li>80/443</li> <li>8443</li> </ul> UDP: <ul style="list-style-type: none"> <li>161</li> </ul>	<ul style="list-style-type: none"> <li>Read status</li> <li>DMA API port</li> <li>Real time status</li> </ul>
RA WinNode	Skype for Business front-end server	SQL	1433 (or whichever port you have configured, if not default)	Read status
RA WinNode	Skype for Business CDR server	SQL	1433 (or whichever port you have configured, if not default)	Data harvesting
RA WinNode	SQL Server	SQL	1433 (or whichever port you have configured, if not default)	Data harvesting
RA WinNode	Win Node	HTTP	80	Harvest API
RA ComNode	App Node	HTTP/HTTPS	Configurable (default is 8181/8282)	CDR Receiver
RA ComNode	RA WinNode	HTTP	80	Reporting
Cisco CMS MCU	Win Node	HTTP/HTTPS	<ul style="list-style-type: none"> <li>80</li> <li>443</li> </ul>	CDR Receiver for data harvesting
Cisco CMS MCU	RA ComNode	<ul style="list-style-type: none"> <li>LDAP</li> <li>LDAPS</li> </ul>	<ul style="list-style-type: none"> <li>Configurable (default is 6060)</li> <li>389</li> <li>636</li> </ul>	<ul style="list-style-type: none"> <li>Synchronization of users</li> </ul>
RA ComNode	Core Node	LDAP	389	Cisco CMS client authentication (optional)

## Network diagram



## 8: Configuring the infrastructure components

### Task 15: Ensuring infrastructure components are running a supported software version

The following infrastructure software versions are supported for use with Synergy Manage. It is your responsibility to ensure that any infrastructure you want to integrate with Synergy Manage is running a supported software version:

Infrastructure	Version	Comments
Cisco VCS	All versions from X4.3 - X8.10.2	
Polycom DMA	v6.1	<ul style="list-style-type: none"> <li>H.323 call matching is supported on a best-effort basis for Polycom DMA registrations, which can lead to incomplete reports and invoices. SIP registrations are fully supported for Polycom DMA.</li> <li>Provisioning is not supported for Polycom DMA.</li> <li>The RealPresence Platform API license is required to integrate the Polycom DMA with Synergy Manage (at additional cost from Polycom).</li> </ul>
Skype for Business	2013	Billing and Provisioning are not supported for Skype for Business.
Skype for Business	2015	Billing and Provisioning are not supported for Skype for Business.
Codian MCU	All versions from 4.2 - 4.5	UTC offset must be set to 0 due to the lack of support for automatic DST change.
Cisco TelePresence Server	v3.0 and v3.1	Provisioning is not supported for Cisco TelePresence Server.
Pexip Infinity MCU	All versions from v11.x - v17	<ul style="list-style-type: none"> <li>FQDN host addresses are not supported for Pexip Infinity nodes.</li> <li>A cluster must be created for any Pexip management and conference node (s). <ul style="list-style-type: none"> <li>The management node must be set as the conference master.</li> <li>Any conference nodes must be added to their intended cluster.</li> </ul> </li> </ul>
Cisco CMS Server	v1.8.x - v2.2.8	Profile parameters recently added in Cisco CMS have not yet been implemented in Synergy Manage.
Polycom RMX	v8.5.1	<ul style="list-style-type: none"> <li>H.323 call matching is supported on a best-effort basis for Polycom RMX calls, which can lead to incomplete reports and invoices. SIP calls are fully supported for Polycom RMX.</li> <li>Provisioning is not supported for Polycom RMX.</li> </ul>
Cisco Codian ISDN Gateway	API v2.7 (sw v2.1 or later)	<ul style="list-style-type: none"> <li>UTC offset must be set to 0 due to the lack of support for automatic DST change.</li> <li>Provisioning is not supported for Cisco Codian ISDN Gateway.</li> </ul>
Cisco TelePresence Management Suite (TMS)	all versions from v13.2 - v15.4	
Cisco TelePresence Content Server (TCS)	v5.0 - v6.1	<ul style="list-style-type: none"> <li>Reporting and Billing are only supported if the call is routed through a Cisco VCS.</li> <li>CDR harvest is not supported for Cisco TCS.</li> <li>Provisioning is not supported for Cisco TCS.</li> </ul>

For more information on integrating infrastructure with Synergy Manage, see: [Synergy Manage Administrator Guide](#).

## 9: Configuring the Microsoft Skype for Business server (if applicable)

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**Note:** This section only applies if you want to integrate Microsoft Skype for Business with Synergy Manage.

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To integrate with Skype for Business, the Synergy Manage platform requires read access to two of the Skype for Business databases.

### Task 16: Configuring the Skype for Business SQL server for real-time monitoring of the Skype for Business front-end server(s)

For real-time monitoring, Synergy Manage needs access to the *rtcdyn* database, under the SQL instance *RTCLocal*.

In a typical Skype for Business deployment with multiple front-end servers configured, Synergy Manage needs access to all the front-end servers to gather real-time monitoring information.

To configure the Skype for Business SQL server for real-time monitoring of the front-end servers:

1. Enable Mixed-Mode authentication on the SQL server:
  - a. In SQL Server Management Studio, right-click on the server in the Object Explorer and select **Properties**.
  - b. In **Security**, change **Server authentication** to *SQL Server and Windows Authentication mode*.
  - c. Click **OK**.
  - d. Restart SQL server when prompted.
2. Create an SQL user with Read-Only access to each 'rtcdyn' database.

### Task 17: Configuring the Skype for Business SQL server for CDR reporting

To retrieve the data for CDR reports, Synergy Manage needs access to the Skype for Business CDR database.

The default Skype for Business CDR database name is *lcscdr*, and Synergy Manage does not currently support using any other name. You can choose where to locate this database, so the SQL Server instance name will vary.

CDR reporting is not configured by default in a Skype for Business deployment.

To configure the Skype for Business SQL server for CDR reporting:

1. Enable Skype for Business CDR reporting following these instructions: [Deploying monitoring in Lync Server 2013](#).
2. Enable Mixed-Mode authentication on the SQL server:
  - a. In SQL Server Management Studio, right-click on the server in the Object Explorer and select **Properties**.
  - b. In **Security**, change **Server authentication** to *SQL Server and Windows Authentication mode*.
  - c. Click **OK**.
  - d. Restart SQL server when prompted.
3. Create an SQL user with Read-Only access to the *lcscdr* database.

### Task 18: Providing our engineer with Skype for Business access and information

Provide us with:

- Hostname or IP address for all Skype for Business front-end servers.
- Username and password for the *rtcdyn* database for all front-end servers.
- Hostname or IP address and SQL instance name for the CDR database.
- Username and password for the *lcscdr* database.
- The port number used to connect to all the SQL server instances described above (if not 1433).

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**Note:** Always restart the SQL server after changing to 'SQL Server and Windows' (Mixed-Mode) authentication.

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**Note:** If you are not using the default SQL port (1433), ensure that you have configured your firewall to allow traffic on the port you are using instead.

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## 10: Providing our engineer with access and information

You must configure and document everything listed below, and provide the information to the Synergy SKY representative responsible for your installation before the installation date. Failure to do so will cause your installation to be delayed.

### Task 19: Enabling remote access

Provide our engineer with remote access to:

- The Win Node.
- The Com Nodes.
- The SKY Remote Agent Windows Server (if applicable).

### Task 20: Configuring and providing DNS hostnames

Provide our engineer with the DNS FQDN for:

- The Win Node.
- The Com Nodes.
- The SKY Remote Agent Windows Server (if applicable).

### Task 21: Providing SKY SQL Server details

1. Provide our engineer with:
  - SQL Server IP/FQDN address.
  - SQL Server port.
2. Do one of the following:
  - Provide our engineer with an SQL user with *sysadmin* rights to the SQL server.
  - Create a database and provide an SQL user with *db\_owner* rights to that database, and the name of the database if not the default (*synergysky*).

### Task 22: Providing SMTP details

Provide our engineer with the following SMTP information:

- Server address
- Port number
- SMTP Credentials (username and password)
- Sender name
- Sender address

### Task 23: Providing resources on the day of the install

At the time of the install, ensure you have arranged for the following resources to be available, and provide their contact details to our engineer:

- A technician with administrative rights to restart servers, address any network problems, make changes to the SQL server, or resolve any other IT issues.
- An end user to perform sanity checking once the install is complete.

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**Note:** If you want to integrate Skype for Business with Synergy Manage, see "[Configuring the Microsoft Skype for Business server \(if applicable\)](#)" on [page 16](#) and ensure you provide our engineer with Skype for Business server access and information as described in that section.

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