

# MICROSOFT LYNC 2013 AND SKYPE FOR BUSINESS ON VMWARE HORIZON 7

VMware Horizon 7 version 7.4

VMware Horizon Client 4.7

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# Microsoft Lync 2013 and Skype for Business on VMware Horizon 7

## Introduction

This document is an update to the previous paper titled *Microsoft Lync 2013 and Skype for Business 2015 on View in VMware Horizon 7*. Prior to [Horizon 7](#) version 7.2, the only way to use the Lync 2013 client or Skype for Business 2015 client within VMware Horizon®7 virtual desktops to make audio and video calls was through the [Microsoft Lync VDI plug-in](#). The Lync VDI plug-in allowed organizations to make rich, optimized audio and video calls with Microsoft clients within a VDI environment.

With Horizon 7 version 7.2, the [VMware Horizon Virtualization Pack for Skype for Business](#) was released to support the latest versions of Skype for Business and Microsoft Office 365 (which includes cloud-based Skype for Business). VMware includes the components of the Horizon Virtualization Pack for Skype for Business in the Horizon Agent and the VMware Horizon Client™.

New features for the Horizon Virtualization Pack for Skype for Business are released with each new version of Horizon 7 and Horizon Client, so this document focuses on Horizon 7 version 7.4 and Horizon Client 4.7. For details on earlier versions of the Horizon Virtualization Pack for Skype for Business, see *Configure Skype for Business* in [Configuring Remote Desktop Features in Horizon 7](#).

The VMware cloud-based VDI, [VMware Horizon Cloud Service™ with Hosted Infrastructure](#), also supports Skype for Business. A later version of this document will provide additional information needed to use Skype for Business with VMware cloud-based virtual desktops.

## Scope

This document provides details about how to set up and install the Lync VDI plug-in and VMware Horizon Virtualization Pack for Skype for Business.

- Software requirements
- Hardware requirements
- Configuring client devices to support Microsoft Lync and Skype for Business
- Configuring virtual machines to support Microsoft Lync and Skype for Business

This document does not provide

- Installation and configuration instructions for Microsoft Lync Server 2013 and Skype for Business Server 2015
- Installation and configuration instructions for VMware Horizon 7, including View virtual desktops

The instructions assume that the administrator already knows how to deploy, install, and configure View and Microsoft Lync Server 2013, or Skype for Business Server 2015, and their respective components.

For more information, see [Additional Resources](#).

**Note:** In April 2015, Microsoft Lync 2013 was re-branded Skype for Business 2015. All references to Microsoft Lync 2013 are equally applicable to Skype for Business 2015 or 2016.

## Architectural Challenges of Running Real-Time Audio and Video in a VDI Environment

Previously, VoIP and video support in VDI environments was limited by architectural issues that prevented audio and video conferencing from working optimally in a virtual machine. These issues included

- **Heavy CPU load on data center servers** – All processing for VoIP and video chat calls was handled on the data center servers.
- **Media hairpinning** – VoIP and videoconferencing traffic was not sent point-to-point but streamed through the data center network and server.
- **High bandwidth usage** – Audio and video traffic was not encoded with standardized codecs but was sent as raw USB traffic, resulting in extremely high bandwidth usage.
- **No quality of service (QoS)** – Audio and video traffic was sent inside the display protocol, which did not provide granular QoS

policies to prioritize VoIP and videoconferencing traffic.

## Microsoft Lync VDI Plug-In

VMware and Microsoft collaborated to bring support for Lync 2013 or Skype for Business 2015, with Unified Communications (UC) VoIP and videoconferencing, to View virtual desktops.

### Benefits of Using the Lync VDI Plug-In with Lync 2013 or Skype for Business 2015 Client on View Desktops

This solution from VMware and Microsoft is fully supported by both companies. Benefits of the Lync VDI plug-in include

- **A highly scalable solution** – All media processing is offloaded from the data center server to client devices.
- **Enterprise-grade UC VoIP and video** – The solution uses industry-standard VoIP and video codecs and supports full-screen HD video.
- **QoS** – QoS can be used to prioritize and ensure proper treatment of VoIP and video conferencing.

### Lync 2013 and Skype for Business 2015 Features with View Desktops and the Lync VDI Plug-In

The combination of View and the Microsoft Lync 2013 client or Skype for Business 2015 client enables

- Use of a Microsoft Lync 2013 client or Skype for Business 2015 client running on a View virtual machine in the data center
- Making and receiving UC VoIP and video chat calls with microphones and webcams connected to client devices
- Support for the Lync VDI plug-in on client devices

The Lync 2013 or Skype for Business 2015 features supported in View are listed in Table 1. VDI-related improvements that differentiate Lync 2013 from Lync 2010 are marked with asterisks (\*).

| LYNC FEATURE        | VIEW SUPPORT  |
|---------------------|---|
| Presence            | Supported   |
| Instant message     | Supported   |
| Desktop sharing     | Supported in Horizon 7                                      |
| Application sharing | Supported   |
| PowerPoint sharing  | Supported   |
| Whiteboard          | Supported   |
| File transfer       | Supported   |
| Online meeting      | Supported   |
| Office integration  | Supported   |
| Audio*              | Supported (Lync 2010 supported audio only with an IP phone) |
| Video*              | Supported (Lync 2010 did not support video)                 |
| Recording audio     | Not supported   |

**Table 1:** Features Supported in View with Microsoft Lync 2013 and Skype for Business 2015

### Microsoft Lync VDI Architecture

In addition to deploying Lync Server 2013 or Skype for Business Server 2015, you must deploy Lync or Skype for Business software components on virtual machines and client devices. Figure 1 highlights the architectural components of the Lync VDI solution. In Figure 1, references to Lync 2013 client also apply to Skype for Business 2015 client. References to Lync Server 2013 also apply to Skype for Business Server 2015.

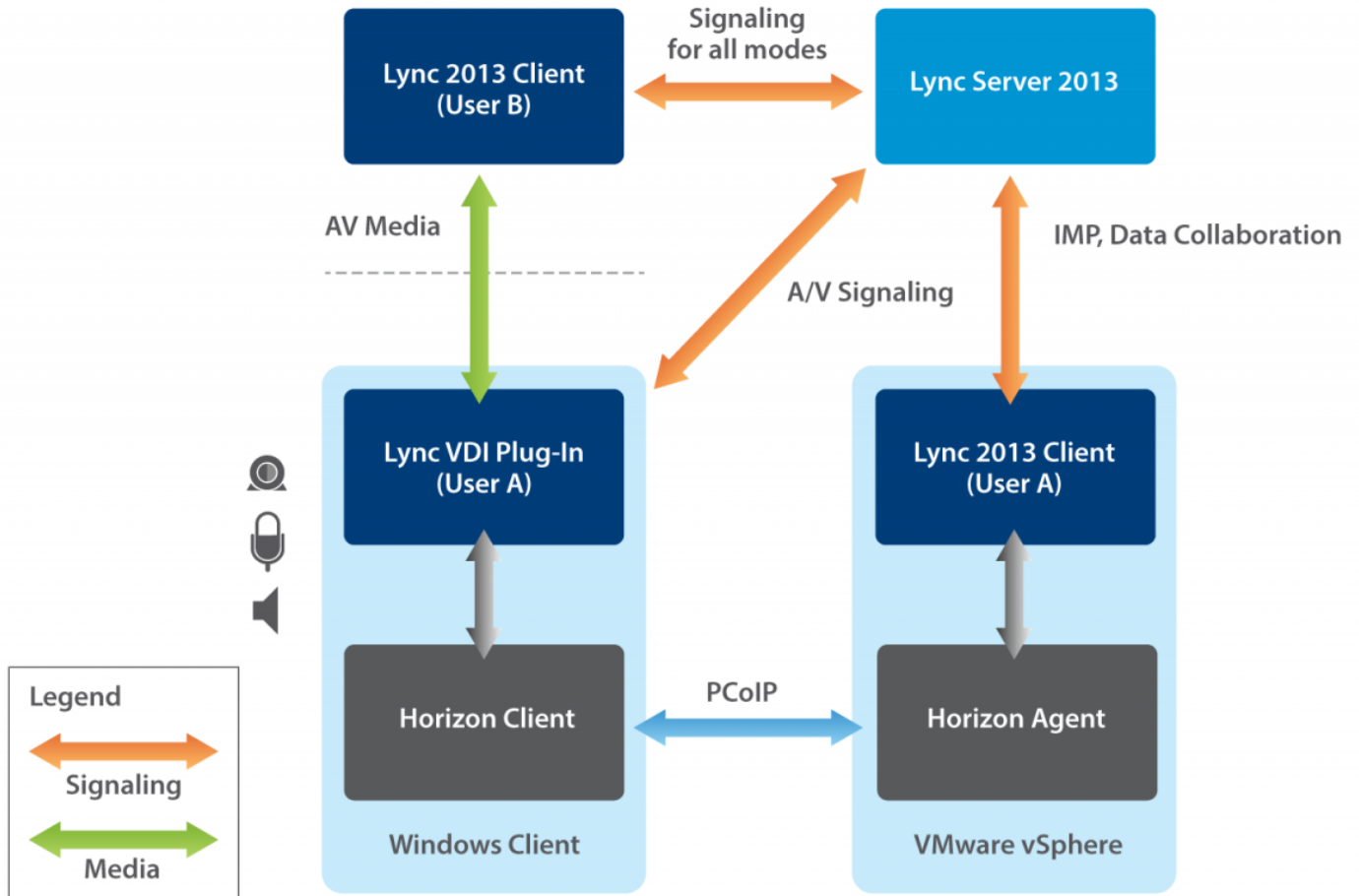


Figure 1: Architecture of View and Microsoft Lync 2013 and Skype for Business 2015

### Getting Started

Before deploying this solution, become familiar with the VMware knowledge base articles listed in [Additional Resources](#). The Lync or Skype for Business client is supported when deployed on RDSH desktops but not as a remote application.

To get started, you must download and install software components for View and Microsoft Lync 2013 or Skype for Business 2015. See [Requirements](#) for links to the server, client, and Lync VDI plug-in.

Table 2 shows the View Agent support matrix for client devices with the Microsoft Lync VDI plug-in using View PCoIP. This table applies to View 5.2 and 5.3.

| VIEW AGENT OS                     | HORIZON CLIENT OS         | HORIZON CLIENT (BIT LEVEL) | MICROSOFT VDI PLUG-IN (BIT LEVEL) |
|-----------------------------------|---------------------------|----------------------------|-----------------------------------|
| Windows 7 SP1 (32-bit and 64-bit) | Windows 7 SP1 (32-bit)    | Horizon Client (32-bit)    | Lync VDI plug-in (32-bit)         |
| Windows 7 SP1 (32-bit and 64-bit) | Windows 7 SP1 (64-bit)    | Horizon Client (64-bit)    | Lync VDI plug-in (32-bit)         |
| Windows 7 SP1 (32-bit and 64-bit) | Windows 8 or 8.1 (32-bit) | Horizon Client (32-bit)    | Lync VDI plug-in (32-bit)         |
| Windows 7 SP1 (32-bit and 64-bit) | Windows 8 or 8.1 (64-bit) | Horizon Client (64-bit)    | Lync VDI plug-in (32-bit)         |

**Table 2:** Supported Configurations of View 5.3 on Clients with the Lync VDI Plug-In

In Horizon 6, VMware added View Agent support for Windows 8 and 8.1.

In Horizon 6 version 6.2, VMware added support for Windows 10, Windows Server 2008 R2 SP1 RDSH, Windows Server 2012 RDSH, and Windows Server 2012 R2 RDSH.

Configuration options for Horizon 6 and later are listed in Table 3.

| HORIZON AGENT OS  | HORIZON CLIENT OS         | HORIZON CLIENT (BIT LEVEL)   | MICROSOFT VDI PLUG-IN (BIT LEVEL) |
|---|---------------------------|--|-----------------------------------|
| For Horizon 6:<br>Windows 7 SP1 (32-bit and 64-bit)<br>Windows 8 or 8.1 (32-bit and 64-bit)<br>Windows 2008 R2 SP1 desktop (64-bit)   | Windows 7 SP1 (32-bit)    | Horizon Client (32-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 7 SP1 (64-bit)    | Horizon Client (64-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 8 or 8.1 (32-bit) | Horizon Client (32-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 8 or 8.1 (64-bit) | Horizon Client (64-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 10 (32-bit)       | Horizon Client (64-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 10 (64-bit)       | Horizon Client (64-bit)  | Lync VDI plug-in (32-bit)         |
| For Horizon 6 version 6.2 and Horizon 7:<br>Windows 10 (32-bit and 64-bit)<br>Windows 2008 R2 SP1 desktop (64-bit)<br>Windows 2012 R2 desktop (64-bit)<br>Windows Server 2008 R2 SP1 RDSH (64-bit)<br>Windows Server 2012 RDSH (64-bit)<br>Windows Server 2012 R2 RDSH (64-bit) | Windows 7 SP1 (32-bit)    | Horizon Client (32-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 7 SP1 (64-bit)    | Horizon Client (64-bit)  | Lync VDI plug-in (64-bit)         |
|   |                           | Horizon Client (64-bit) with 32-bit Core Remote Experience (option available with Horizon Client 4.4 or later) | Lync VDI plug-in (32-bit)         |
|   | Windows 8 or 8.1 (32-bit) | Horizon Client (32-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 8 or 8.1 (64-bit) | Horizon Client (64-bit)  | Lync VDI plug-in (64-bit)         |
|   |                           | Horizon Client (64-bit) with 32-bit Core Remote Experience (option available with Horizon Client 4.4 or later) | Lync VDI plug-in (32-bit)         |
|   | Windows 10 (32-bit)       | Horizon Client (32-bit)  | Lync VDI plug-in (32-bit)         |
|   | Windows 10 (64-bit)       | Horizon Client (64-bit)  | Lync VDI plug-in (64-bit)         |
| Horizon Client (64-bit) with 32-bit Core Remote Experience (option available with Horizon Client 4.4 or later)  |                           | Lync VDI plug-in (32-bit)  |                                   |

**Table 3:** Supported Configurations of View in Horizon 6 and Horizon 7 on Clients with the Lync VDI Plug-In

## Known Limitations

Microsoft Lync and Skype for Business on View have the following known limitations:

- Although you can download both 32-bit and 64-bit versions of the VMware Horizon Client, the Core Remote Experience process running on the Horizon Client operates only in 32-bit mode in all versions earlier than Horizon Client 4.3. Therefore, you can use only the 32-bit version of the Lync VDI plug-in on client endpoints for versions earlier than Horizon Client 4.3.
- Organizations using the Horizon Client 4.3 must use the 64-bit version of the Lync VDI plug-in if the client endpoint is 64-bit.
- You cannot use a 32-bit version of the Microsoft Lync VDI plug-in on a machine that has the 64-bit version of Office 2013. Microsoft does not support this configuration. The bit level of the plug-in must match the bit level of the local Microsoft Office installation.
- Neither the client nor the virtual machine can support Windows 7 without SP1.

## Microsoft Lync VDI Requirements

Before you can effectively deploy Lync 2013, or Skype for Business 2015, for VoIP and video calls, your environment must meet particular software and hardware requirements.

## Software Requirements

Enabling Lync 2013 client or Skype for Business 2015 client for VoIP and interactive video calls from View virtual desktops requires the software components listed in Table 4. Download links are included where applicable.

| PRODUCT  | DESCRIPTION   |
|--|---|
| View   | View Agent (which is renamed Horizon Agent in Horizon 7) and Horizon Client software<br>View 5.2 or later is required for Windows 7 desktop OS (agent)<br>Horizon 6 or later is required for Windows 8.x desktop OS (agent)<br>Horizon 6 version 6.0.1 or later is required for Windows 2008 R2 desktop OS (agent)<br>Horizon 6 version 6.2 or later is required for Windows 10<br>Horizon 6 version 6.2 or later is required for RDSH desktops running on Windows 2008 R2 or Windows 2012 R2 (RDSH servers)<br>See the <a href="#">Download VMware Horizon page</a> for more information. For Horizon 6 version 6.0 and earlier, see the <a href="#">Download Horizon (with View) page</a> . |
| Microsoft Lync Server 2013 or Skype for Business Server 2015                             | TechNet subscribers can download a copy from the TechNet website.   |
| Microsoft Lync 2013 client or Skype for Business 2015 client running in virtual machines | Included with Microsoft Office 2013.<br><b>Note:</b> You must deploy the full version of Microsoft Lync or Skype for Business. Microsoft Lync Basic 2013 is not supported inside a VDI environment.   |
| Microsoft Lync VDI plug-in running on the client device                                  | Only required for users wanting UC VoIP and video chat functionality.<br><b>Note:</b> Prior to Horizon 7 version 7.1, Horizon 7 supports only the 32-bit version of the Lync VDI plug-in. As of Horizon 7 version 7.1 with Horizon Client 4.5, the 64-bit version of the Lync VDI plug-in should be used with 64-bit client endpoints. A TechNet subscription is not required for this download.  |

**Table 4:** Software Components for Deploying Lync 2013 Client or Skype for Business 2015 Client

## Hardware Requirements

You must have servers that can host the VMware ESXi™ platform, View infrastructure, and the Microsoft Lync Server 2013 or Skype for Business Server 2015 infrastructure. Review the hardware requirements in Table 5.

To enable the VoIP and video functionality, use a VMware ESXi 5.0 or later server with Horizon Agent and Horizon Client components.



| PRODUCT   | HARDWARE REQUIREMENTS   |
|---|---|
| VMware vSphere® and View                          | See <a href="#">ESXi hardware requirements for your ESXi version</a> .<br>See System Requirements for Server Components in <a href="#">View Installation</a> .  |
| Microsoft Lync Server 2013 infrastructure         | See <a href="#">Microsoft Lync Server 2013 hardware requirements</a> .  |
| Skype for Business Server 2015 infrastructure     | See <a href="#">Skype for Business Server 2015 hardware requirements</a> .  |
| Microsoft Lync 2013 client                        | See <a href="#">Microsoft Lync 2013 client information</a> .  |
| Skype for Business client                         | See <a href="#">Skype for Business client information</a> .   |
| Microsoft Lync VDI plug-in                        | See the Lync VDI plug-in deployment information for <a href="#">Microsoft Lync Server 2013</a> or <a href="#">Skype for Business Server 2015</a> .<br><b>Note:</b> The Lync VDI plug-in requires a Windows client machine with 1.5 GHz CPU and minimum of 2 GB RAM. |
| Supported Microsoft Lync USB headsets and webcams | See <a href="#">Microsoft Lync–supported USB devices</a> .  |

**Table 5:** Required Hardware Components

## Setup and Installation

This section provides steps to make sure that you configure the correct settings to enable the Lync VDI plug-in to work with the Lync client or Skype for Business client. It covers

- Lync Server 2013 or Skype for Business Server 2015 and accounts
- Windows client device with the VDI plug-in and Horizon Client
- Windows 7 SP1, Windows 8, Windows 8.1, Windows 10, Windows Server 2008 R2 desktop, Windows Server 2008 R2 RDSH, Windows Server 2012 RDSH, or Windows Server 2012 R2 RDSH virtual machine with Lync 2013 client and Horizon Agent

After these steps are completed, users can log in to the Microsoft Lync client or Skype for Business client in View.

## Set Up Lync Server 2013 or Skype for Business Server 2015 and Accounts

Follow these steps to set up Lync Server 2013 or Skype for Business Server 2015 and your accounts.

**Important:** As part of the Lync Server or Skype for Business Server setup, make sure you generate a certificate and add it to each Windows client device and View virtual machine. The certificate must be placed in the Trusted Root Certificate Authorities certificate store. The Lync VDI plug-in cannot pair with the Lync 2013 client or Skype for Business 2015 client running on the View virtual machine if this step is not completed.

1. Deploy Lync Server 2013 or Skype for Business Server 2015. See the [Lync Server 2013 deployment guide](#) or the [Skype for Business 2015 deployment guide](#).
2. Before installing and testing the Lync VDI plug-in, verify that the Lync Server 2013 or Skype for Business Server 2015 has been set up properly.
  1. Install the Lync 2013 client or Skype for Business 2015 client on a Windows client device.

**Important:** Place the Lync Server or Skype for Business Server certificate in the Trusted Root Certificate Authorities certificate store.

2. On the client, enter the sign-in address and click **Sign In**.

The client attempts to resolve your sign-in name and domain name with the enterprise Lync Server or Skype for

Business Server.

3. If you cannot sign in, verify that your Lync Server 2013 or Skype for Business Server 2015 and Lync or Skype for Business accounts have been set up properly.

**Note:** Make sure that the DHCP servers have been configured to resolve server lookup requests during sign-in and that the Edge server is configured correctly.

3. On Lync Server 2013 or Skype for Business Server 2015, ensure that the **EnableMediaRedirection** option is set to **TRUE** for all VDI users.

## Set Up the Windows Client Device with the Lync VDI Plug-In and Horizon Client

If you have not already done so, download the Lync VDI plug-in.

1. On each Windows client device, install the plug-in by running Lyncvdi.exe and following the installation wizard.

**Note:** Install the Lync VDI plug-in on the physical Windows client devices. Do not install the plug-in on virtual machines.

2. Install the Horizon Client.
3. Import the certificate that you generated while deploying Lync Server 2013 or Skype for Business Server 2015 into the Trusted Root Certificate Authorities store on each client machine.

Video calls require either a built-in webcam or a USB webcam plugged in to the client device.

**Important:** Do not use USB redirection to redirect the webcam or microphone to the remote desktop.

## Set Up the Windows Virtual Machine with Microsoft Clients and Horizon Agent

Before you begin, make sure that you have downloaded all the software listed in the Software Requirements section.

Follow these steps on each virtual machine in the data center:

1. Install the Horizon Agent that you downloaded from the [Download VMware Horizon page](#). For Horizon 6 version 6.0 and earlier, see the [Download Horizon \(with View\) page](#).
2. Install the Lync 2013 client that you downloaded with Office 2013 or install the Skype for Business 2015 client.
3. Import the certificate that you generated while deploying Lync Server 2013 or Skype for Business Server 2015 into the Trusted Root Certificate Authorities store on each virtual machine.

Use Horizon Administrator to add and configure View desktops. For instructions, see [Setting Up Desktop and Application Pools in View](#).

## Log In to the Microsoft Lync or Skype for Business Client

Users must follow these steps to log in to the Microsoft Lync or Skype for Business client.

1. From the Windows client device, log in to the View desktop.
2. Open the Lync client or the Skype for Business client, enter the sign-in address provided by the system administrator, and click **Sign In**.

**Note:** If you are the system administrator, be sure to provide this information to your end users. The client tries to resolve the sign-in name and domain name with the enterprise Lync Server or Skype for Business Server. An alert message button is displayed on the Lync 2013 client or the Skype for Business 2015 client.



**Figure 2:** Lync Client or Skype for Business Client Alert Message

When the Lync client or Skype for Business client connects to the Lync Server or Skype for Business Server, it initiates a handshake, using the Dynamic Virtual Channel (DVC), with the Lync VDI plug-in running on the client device. As part of the handshake procedure, a dialog box appears in which the user can enter name and password credentials for the Lync VDI plug-in.

3. Enter user credentials.

The plug-in connects to the Lync Server or Skype for Business Server. The alert message is replaced by a green circle with a check mark on the right side of the screen.

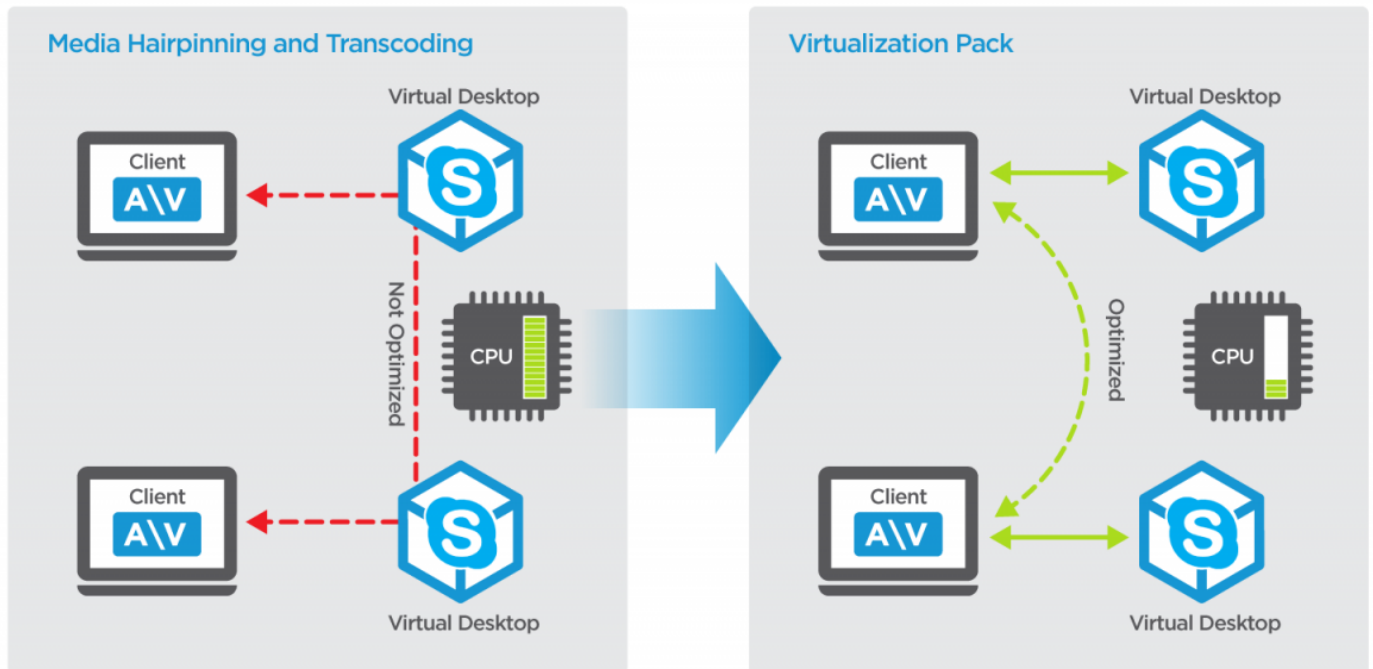


**Figure 3:** Successful Connection Message

## VMware Horizon Virtualization Pack for Skype for Business

Due to limitations of the Microsoft Lync VDI plug-in, VMware released an updated solution, VMware Horizon Virtualization Pack for Skype for Business, which allows administrators to support the latest versions of Skype for Business. This new solution allows you to leverage the Skype for Business client to communicate and collaborate using rich audio and video without negatively affecting your virtual infrastructure.

With the Horizon Virtualization Pack installed, all audio and video calls are processed on the client endpoints, and all real-time audio and video packets are routed directly between the client endpoints.

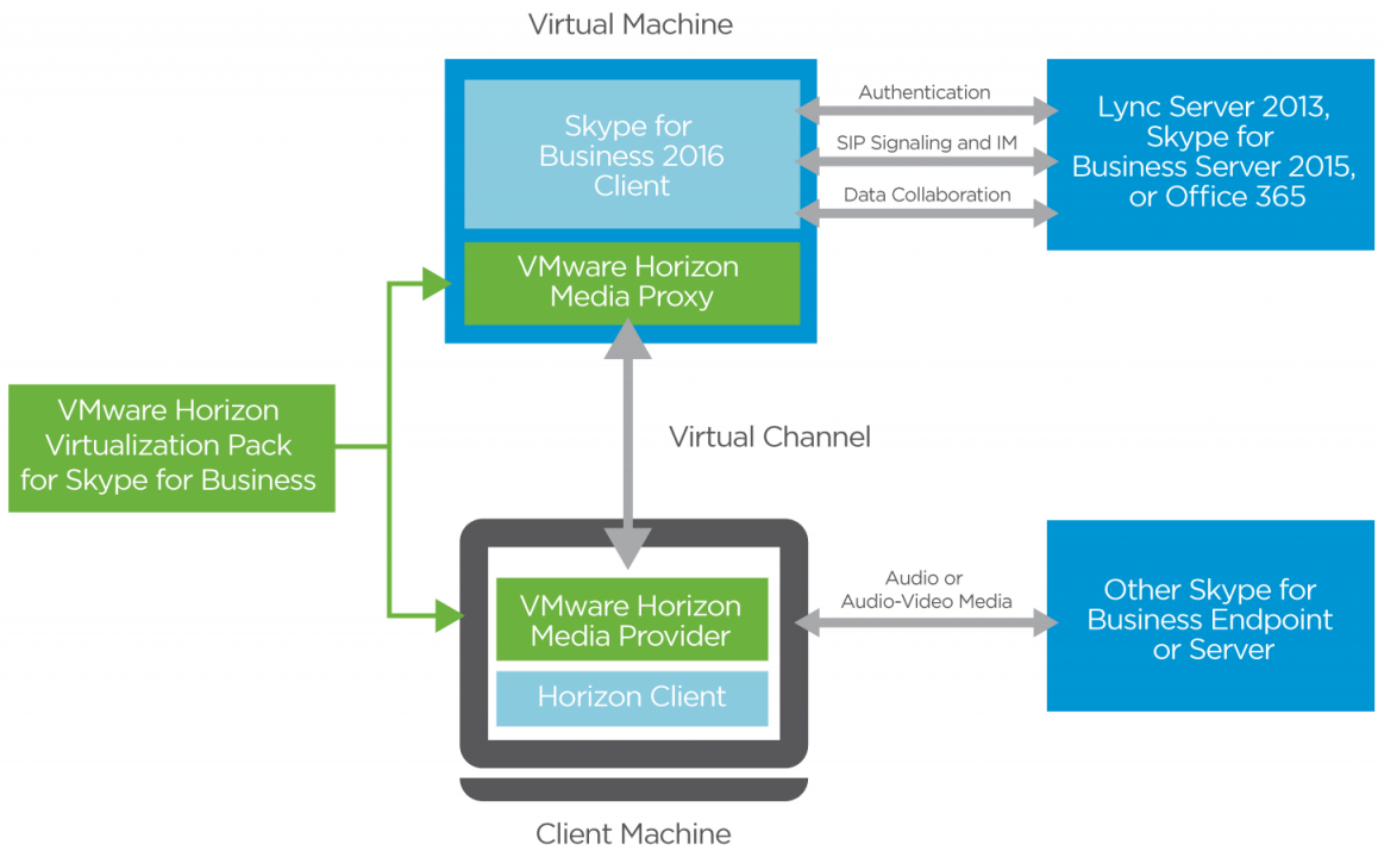


**Figure 4:** Non-Optimized Call Flow on Left, and Optimized Call Flow on Right, with VMware Horizon Virtualization Pack for Skype for Business

## System Architecture

The VMware Horizon Virtualization Pack for Skype for Business is comprised of two new components, the Horizon Media Proxy and Horizon Media Provider. The Horizon Media Proxy is included as part of the Horizon Agent in Horizon 7 version 7.3 and later (optional install), and the Horizon Media Provider is included as part of the Horizon Client 4.6 and later (installed by default, with an option to not install it).

The VMware Horizon Media Proxy acts as a proxy between the Skype for Business client and the Horizon Media Provider running on the client endpoint. You will notice in the following diagram that all authentication, SIP signaling, and data collaboration is between the Skype for Business client and the backend Skype infrastructure. The Horizon Media Provider is responsible for performing all the media processing of audio and video packets.



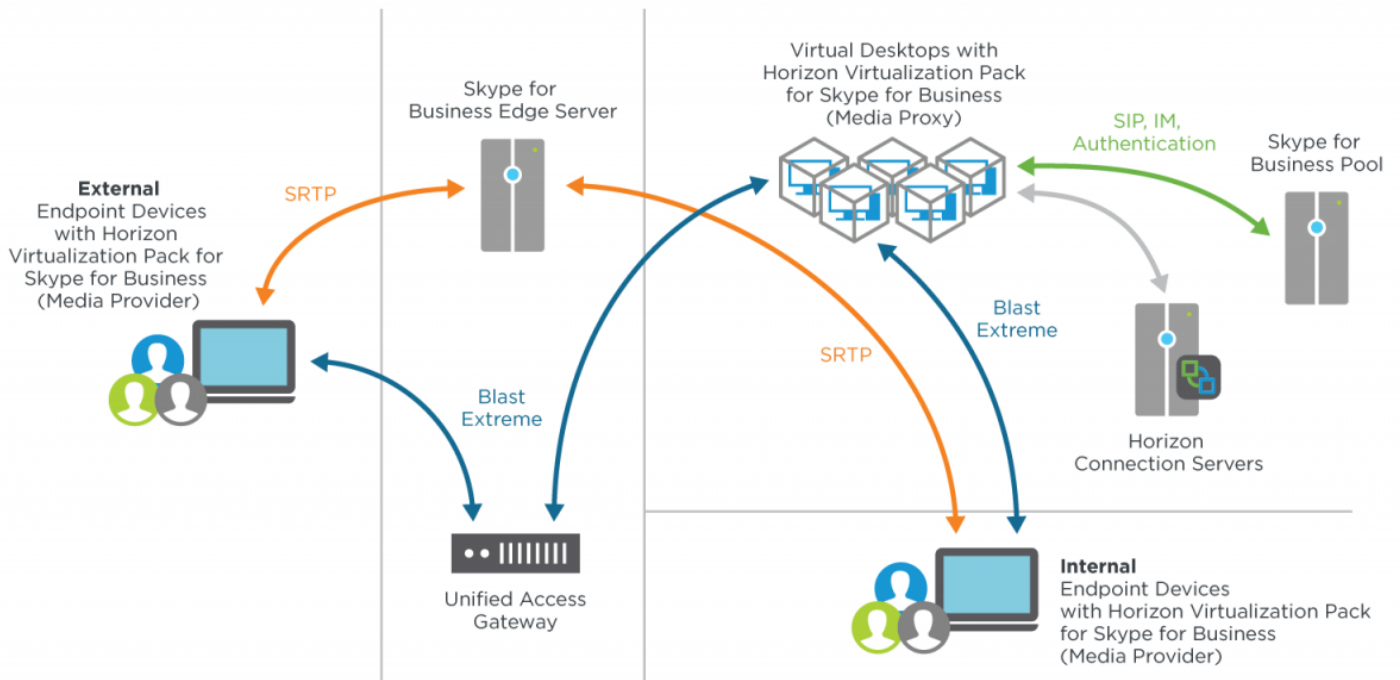
**Figure 5:** Components of VMware Horizon Virtualization Pack for Skype for Business

## Remote Accessibility

The Horizon Virtualization Pack for Skype for Business supports the use of the Skype for Business Edge Server for external access relating to audio and video communications over Secure RTP. The Edge Server is necessary for external users who are not logged into an organization's internal network and who want to conduct audio and video calls with internal users.

In addition to the Edge Server, [VMware Unified Access Gateway™](#) is used for external accessibility to Horizon 7 deployments. Both products are designed to be placed in the DMZ to ensure that the only traffic entering the organization's data center is traffic on behalf of a strongly authenticated remote user.

As an extra security benefit for Skype for Business organizations, only the network ports that pertain to audio and video communications are required to be open for external access. This means that user interactions like instant messaging and data collaboration are contained within the boundaries of the organization while allowing secured access to perform these operations via Horizon 7 virtual desktops.



**Figure 6:** External Access Architecture for VMware Horizon Virtualization Pack for Skype for Business

## System Requirements

For Windows clients, to use the VMware Horizon Virtualization Pack for Skype for Business, you must use both of the following:

- Horizon Agent from Horizon 7 version 7.2 or later
- Horizon Client 4.5 or later

For Linux clients, to use the VMware Horizon Virtualization Pack for Skype for Business, you must use both of the following:

- Horizon Agent from Horizon 7 version 7.3 or later
- Horizon Client 4.6 or later

The following table indicates supported configurations for various components used with the VMware Horizon Virtualization Pack for Skype for Business.

| SYSTEM                           | SUPPORTED CONFIGURATIONS  |
|----------------------------------|---|
| Server                           | Lync Server 2013<br>Skype for Business Server 2015<br>Office 365  |
| Client                           | Skype for Business 2015 15.0.4933.100, or later<br>Skype for Business 2016 as part of Office 365 Plus 16.0.7571.2072, or later<br>Skype for Business 2016 as part of Office 2016 16.0.4561.1000, or later   |
| Virtual desktop operating system | Windows 7 SP1 persistent and nonpersistent desktops<br>Windows 8.1 persistent and nonpersistent desktops<br>Windows 10 persistent and nonpersistent desktops<br>Windows 2008 R2 SP1 desktop<br>Windows 2012 R2 desktop<br>Windows 2008 R2 SP1 RDSH desktops<br>Windows 2012 R2 RDSH desktops<br>Windows Server 2016 RDSH desktops |
| Client operating system          | Windows 7 SP1<br>Windows 8.1<br>Windows 10<br>WES7<br>Windows 10 IoT<br>Windows Thin PC<br>Ubuntu 14.04 32-bit<br>Ubuntu 14.04 64-bit<br>Ubuntu 16.04 64-bit<br>RHEL 6.9 32-bit<br>RHEL 6.9 64-bit<br>RHEL 7.3 64-bit<br>CentOS 6.x 32-bit<br>CentOS 6.x 64-bit<br>SLED 12 SP2 64-bit<br>OS X 10.11<br>macOS 10.12<br>macOS 10.13 |
| Display protocol                 | Blast Extreme<br>PCoIP  |
| Network ports                    | The same ports as those used by the native Skype for Business client. See client ports in <a href="#">Ports and protocols for internal servers</a> .  |
| Webcam                           | The same devices that are qualified to work with Skype for Business. See webcams listed in <a href="#">Phones and Devices for Skype for Business</a> .  |
| Audio and video codecs           | The same as the audio and video codecs used by the native Skype for Business client. See <a href="#">Plan network requirements for Skype for Business 2015</a> .  |
| Media Feature Pack               | Must be installed on the remote desktop for Windows 10 N and KN versions. You can install the Media Feature Pack from <a href="#">Media Feature Pack for N and KN versions of Windows 10</a> .  |

**Table 6:** Supported Configurations (Windows, Linux, and Mac) for Horizon Virtualization Pack for Skype for Business, with Horizon Agent from Horizon 7 version 7.4, and Horizon Client 4.7

## Features Supported, and Limitations

With each new release of Horizon 7, you can expect new features to be added to the VMware Horizon Virtualization Pack for Skype for Business. For features and limitations, see *Skype for Business Features and Limitations* in [Configuring Remote Desktop Features in Horizon 7](#).

Horizon 7.4 with the Horizon Client 4.7 supports the following features and capabilities with the VMware Horizon Virtualization Pack for Skype for Business:

- PSTN calls
- E911 support
- Call park and pickup
- Joining external meetings anonymously
- Redirection of calls to mobile devices
- Call statistics
- Smart card authentication
- Custom ringtones
- USB phones
- Published desktop and application support
- Forward error correction for audio and video calls
- Multi-party audio and video conferencing
- Meet Now conferencing
- Whiteboarding
- Screensharing
- Office integration
- Call delegation
- Call via X (home, work, and so on)
- Active speaker identification
- Volume control in the remote desktop
- Call response groups

A complete list of features can be found in *Configure Skype for Business* in [Configuring Remote Desktop Features in Horizon 7](#).

## Setup and Installation

This section provides steps to install the Horizon Media Proxy and Horizon Media Provider and ensure that they are properly functioning.

### Set Up the Virtual Desktop with Horizon Agent and Skype for Business Client

Before you begin, make sure that you have downloaded all the software listed in the System Requirements section.

Follow these steps on each virtual machine in the data center:

1. Install the Horizon Agent that you downloaded from the [Download VMware Horizon](#) page. As part of the Horizon Agent from Horizon 7 version 7.2 (or later) install, be sure to select **VMware Virtualization Pack for Skype for Business** to install the Horizon Media Proxy on the VDI desktop. As part of the Horizon Agent install, we also recommend installing the **Real-Time Audio-Video** feature for fallback capabilities. The solution reverts to fallback mode in cases where the end user is connecting from a client device without the Horizon Media Provider installed.



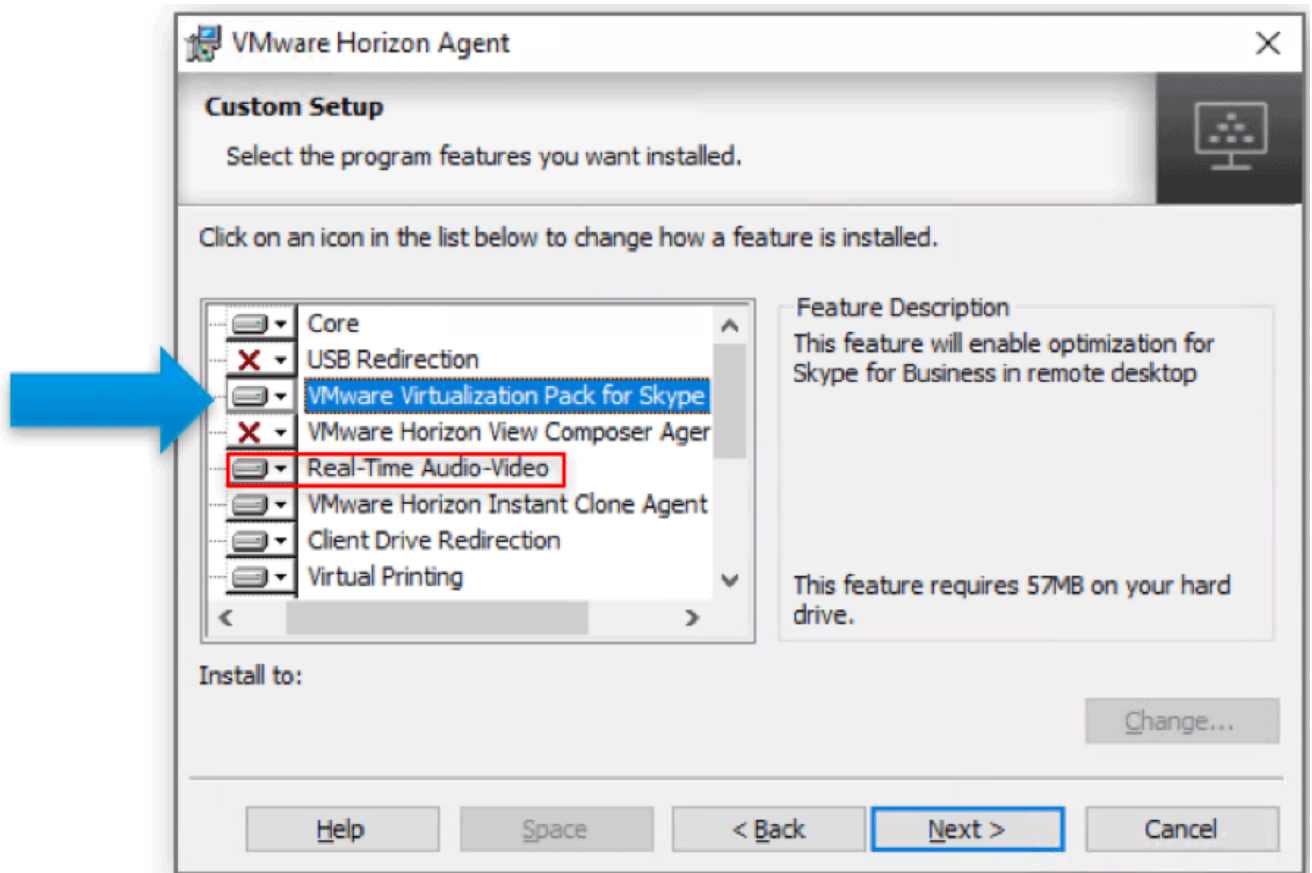
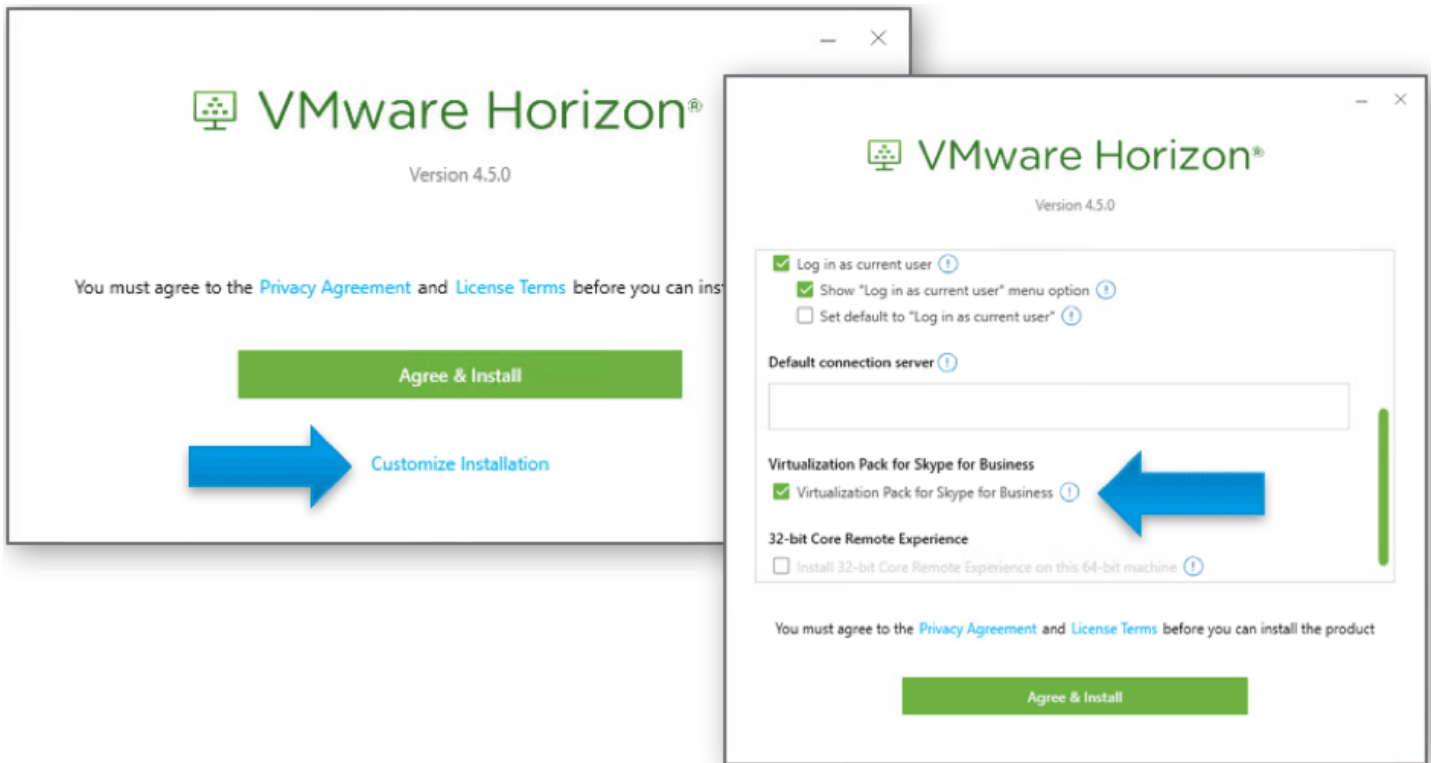


Figure 7: Configurations During Horizon Agent Installation

2. Install the Skype for Business 2015 or 2016 client and apply the latest updates for the Skype for Business client.

## Set Up the Windows Client Device and Horizon Client

Organizations wishing to use the Horizon Virtualization Pack for Skype for Business to make audio and video calls must install the Horizon Media Provider on the Windows client endpoint. The Horizon Media Provider is an optional component that is included with Horizon Client 4.5 or later. Therefore, during Horizon Client installation, you must select the Virtualization Pack for Skype for Business, which will install the Horizon Media Provider.



**Figure 8:** Selecting Virtualization Pack for Skype for Business During Installation of Horizon Client 4.5 for Windows

**Note:** The Horizon Media provider is installed by default with the Horizon Client 4.6 and later.

**Important:** When configuring Horizon Client, do not use USB redirection to redirect the webcam or microphone to the remote desktop.

## Set Up the Linux Client Device and Horizon Client

With Horizon 7.3.1 and Horizon Client 4.6, you can now use Linux clients with the VMware Horizon Virtualization Pack for Skype for Business and make audio and video calls. You must first install the Horizon Linux client and install the VMware Horizon Media Provider on the Linux client.

## Log In to the Skype for Business Client

Users must follow these steps to log in to the Skype for Business client.

1. From the Windows client device, log in to the View desktop.
2. Enter user credentials on the Skype for Business client.

After the user starts the Skype for Business client, a pairing displays in the lower right corner of the virtual desktop and indicates that the Horizon Virtualization Pack is working in Optimized mode.

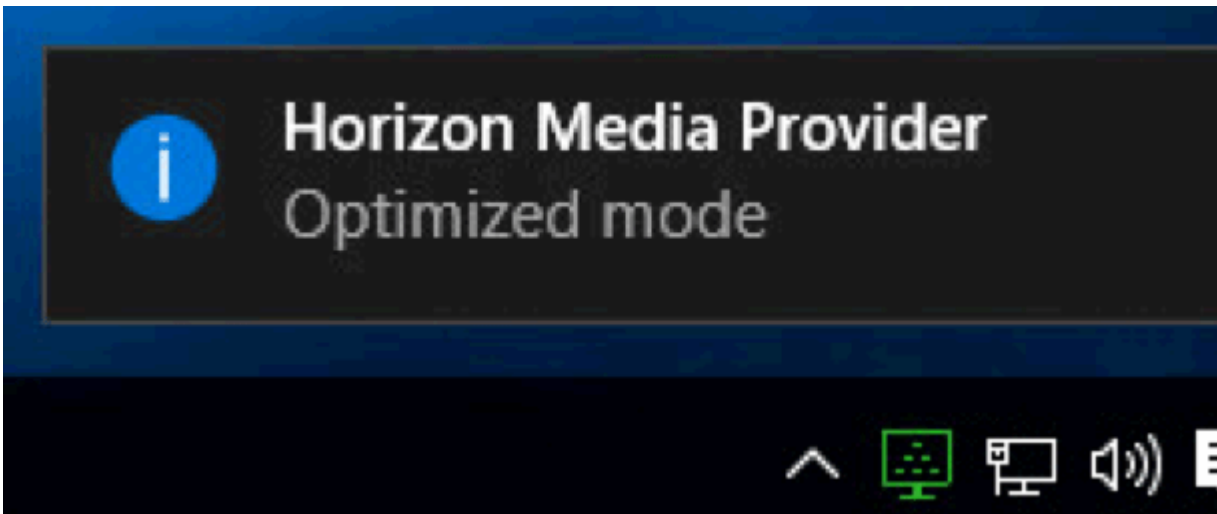


Figure 9: Pairing Icon Indicating Pairing of the Horizon Media Proxy and the Horizon Media Provider

## Summary

This paper provides you with the information necessary to

- Set up the Lync VDI plug-in for using Microsoft Lync 2013 or Skype for Business 2015 with View desktops in Horizon 7
- Set up the VMware Horizon Virtualization Pack for Skype for Business for using Skype for Business or Office 365 with View desktops in Horizon 7

## Additional Resources

Review the following VMware knowledge base articles before deploying the Lync VDI solution with View desktops:

[Using VMware Horizon View 5.2 and later with Microsoft Lync 2013 \(2045726\)](#)

[Bit-level match between the Microsoft Lync 2013 client running on VMware Horizon view 5.3 and the virtual machine operating system \(2064266\)](#)

[Lync VDI plugin fails to start in a VMware Horizon View session when using the PCoIP protocol \(2063769\)](#)

[Supportability for Microsoft Lync 2013 phone integration within VMware Horizon View \(2078289\)](#)

[Microsoft Lync 2013 does not respond with VMware Horizon View 5.2 Feature Pack 1 or 2 desktops \(2053732\)](#)

For more information about Microsoft Lync 2013 and Skype for Business 2015, see

[Skype for Business 2015 deployment information](#)

[Microsoft Lync Server 2013 hardware requirements](#)

[Microsoft Lync 2013 general information](#)

[Planning for clients and devices in Lync Server 2013](#)

[Deploying the Lync VDI plug-in in Lync Server 2013](#)

For more information about VMware vSphere and VMware vCenter Server™ resources, see

[VMware vSphere Product Overview](#)

[VMware vSphere Documentation](#)

For more information about View installation and configuration, see

[View Installation](#)

View Administration

## About the Authors and Contributors

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Tony and Karin recently updated the document to include support for Windows 10 and Windows Server 2012 R2 RDSH.

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- Frank Anderson, Solutions Architect, End-User-Computing Technical Marketing, VMware
- Rick Terlep, EUC Architect, End-User-Computing Technical Marketing, VMware

## Feedback and Questions

VMware appreciates feedback on the material included in this document, and in particular would appreciate input on the following questions:

- How useful is the information presented here?
- What other specific topics would you like to see covered?

For additional information, post questions to the [VMware View Community](#). The View (Horizon 7) team monitors the Community page and replies to queries.



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