



SOLUTION DEPLOYMENT GUIDE

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Polycom® RealPresence® Group Series for Microsoft® Environments



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Polycom Support Visit the [Polycom® Unified Communications Solution for Microsoft® Environments](#) for information on Polycom software versions and products supporting Skype for Business Server, administrative documentation, and Polycom release notes.

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Before You Begin

The purpose of this guide is to explain a number of deployment models, architectures, and limitations of the solution and assist administrators deploying Polycom products in a Microsoft environment. Where the Microsoft environment can include Skype for Business or Lync Server, this guide refers to Skype for Business except where a feature is not supported by Skype for Business or instructions apply only to Lync Server.

Audience and Required Skills

The primary audience for this guide is administrators who configure, customize, manage, and troubleshoot RealPresence Group Series systems with Skype for Business. Polycom expects the administrator to be a mid-level IT professional experienced in system administration.

Deploying RealPresence Group Series systems in a Microsoft environment requires planning and knowledge of SIP video conferencing and video conferencing. Note that this guide does not provide full administration or maintenance procedures for Skype for Business or Microsoft Lync Server 2013. For full administrative procedures, see [Skype for Business Server 2015](#) on Microsoft TechNet.

This document assumes administrators have knowledge of the following systems, that these systems are already deployed, and that Microsoft administrators are available to assist administrators of RealPresence Group Series systems.

- Microsoft Active Directory
- Microsoft Exchange Server
- Domain name servers
- Microsoft Domain accounts
 - To participate in calls with Microsoft components, including Skype for Business clients and Skype for Business-hosted multipoint calls, your Polycom devices must have an account in a Windows domain accessible by the Skype for Business Server environment. You can create a new Skype for Business account for your Polycom device, or you can set up your Polycom device with an existing Skype for Business account. This Windows domain can be an Active Directory domain or a SIP domain. You need to configure the proper capabilities and settings at the account level, and at the domain level, with policies.
- Skype for Business or Lync Server
 - For help with Skype for Business 2015, see [Skype for Business Server 2015](#).
 - For help with Lync Server 2013, see [Microsoft Lync Server 2013](#).
- Skype for Business Server components. In particular, you should be familiar with [Skype for Business Server 2015 Management Shell](#).

For solution in a secure federal environment, refer to [Deploying in Secure/Federal Environments](#).

Get Help

For more information about installing, configuring, and administrating Polycom products, refer to Documents and Downloads at [Polycom Support](#).

For more information on Polycom solutions with Microsoft, see the following Microsoft resources:

- [Skype for Business 2015 documentation](#) and [Microsoft's Lync Server 2013 Planning Tool](#) and on the [Microsoft TechNet Library](#)

Polycom Resources

All Polycom documentation for Microsoft solutions is available at [Polycom Support](#).

Polycom provides support for Polycom solution components only. Additional services are available from Polycom Global Services. These services are intended to help customers successfully design, deploy, optimize, and manage Polycom visual communication within their third-party UC environments. If you want to deploy with Skype for Business Server, contact [Polycom Services](#) or contact your local Polycom representative for more information.

The Polycom Community

The [Polycom Community](#) gives you access to the latest developer and support information. Participate in discussion forums to share ideas and solve problems with your colleagues. To register with the Polycom Community, simply create a Polycom online account. When logged in, you can access Polycom support personnel and participate in developer and support forums to find the latest information on hardware, software, and solutions topics.

Customer Feedback

We are striving to improve our documentation quality and we appreciate your feedback. E-mail your opinions and comments to DocumentationFeedback@polycom.com.

Registration and Deployment

Microsoft Interoperability

RealPresence Group systems support interoperability with the following Microsoft software products. For supported server and client versions and any limitations for systems registered with Skype for Business, refer to the *Polycom RealPresence Group Series Release Notes* at [Polycom Support](#).

Servers

- Microsoft Skype for Business Server 2015
- Microsoft Lync Server 2013
- Microsoft Exchange Server 2013
- Microsoft Skype for Business Online
- Microsoft Exchange Server Online

Clients

- Microsoft Skype for Business 2015
- Microsoft Lync Server 2013
- Windows client
- Mac client
- Polycom Trio (with video)
- Skype Room System v1 (Polycom CX8000)
- Polycom RealConnect Solution

Supported Skype for Business Online and On Premises Topologies

The following table lists Polycom support for each Skype for Business topology, which varies by environment.

Topology	Active Directory	Skype for Business	Exchange	Polycom Support
On Premises	On Premises	On Premises	On Premises	Supported
Office 365 Multi-tenant (O365MT)	Online	Online	Online	Supported

Topology	Active Directory	Skype for Business	Exchange	Polycom Support
Hybrid (Split domain)	On Premises	On Premises and Online	Online	Supported
Hybrid (CCE/OPCH)	On Premises	Online	Online	Not supported at this time

Support for Skype for Business Online

To enable Skype mode for RealPresence Group Series, you must provision a Office 365 room account and register the system with the room account. You can use a RealPresence Touch device or a RealPresence Group Series remote control to provision and register Skype for Business Online.

Prerequisites

Before you can register Skype for Business Online, the following prerequisites must be met:

- Have a minimum Microsoft license for E1 with Skype Plan 2 for enabling RealPresence Group video endpoints. For information about the various plans, refer to this [Technet article](#).
- To search the directory for contacts, you must have added contacts to your Skype for Business contact list.
- Register the RealPresence Group Series system with a room account instead of a user account for the following reasons:
 - Automatic processing and acceptance of meeting invites
 - Display of Skype for Business meeting prompts
 - Lobby enforcement, which prevents participants from automatically being admitted to a meeting

For step-by-step instructions on each required setting, refer to [Configure RealPresence Group Systems for Registration with Skype for Business Online](#).

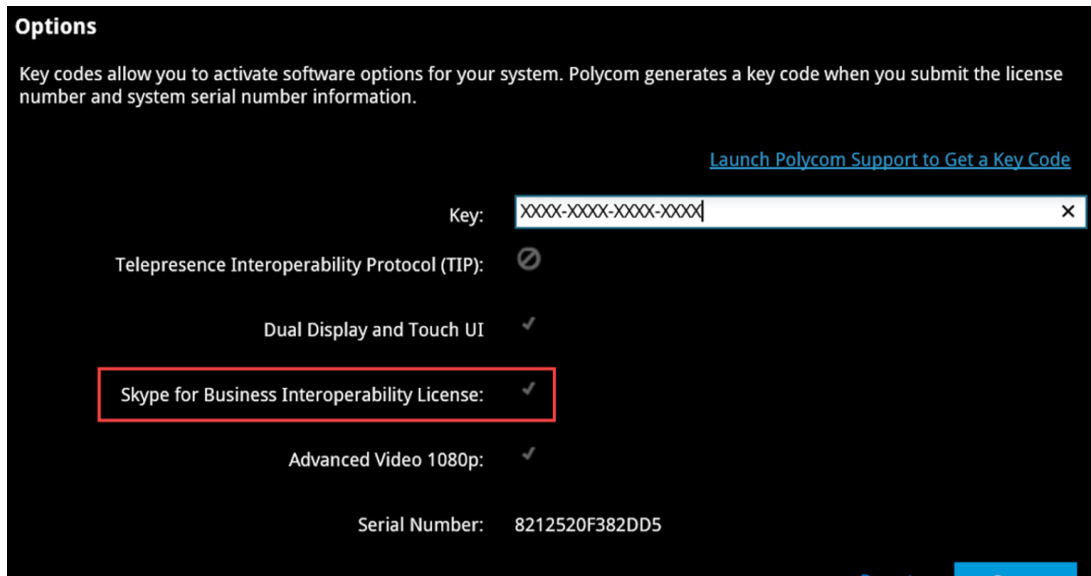
Configure RealPresence Group Systems for Registration with Skype for Business Online

You must perform some configuration steps before the RealPresence Group system is ready to interoperate with Skype for Business Online. The following registration and encryption tasks are required.

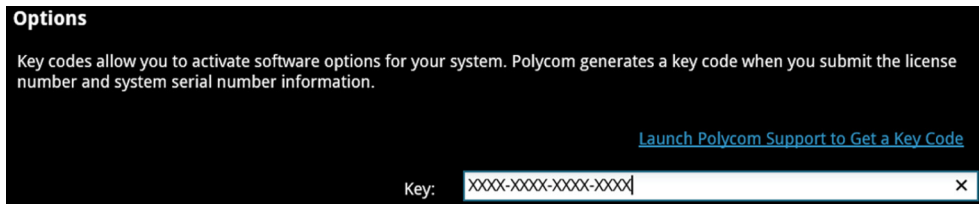
Register RealPresence Group Series with Skype for Business Online

- 1 Provision your Office 365 RealPresence Group Series room account. For information on creating room accounts, refer to [Provisioning Skype Room System Accounts in Office 365](#) on the [Microsoft Technet](#) site.
- 2 Do one of the following:
 - **Use the RealPresence Touch device.** On the RealPresence Touch device, ensure that you are paired to a RealPresence Group system. In the paired system's web interface, navigate to **Admin Settings > General Settings > Pairing**, select **Enable Polycom Touch Device** and select **Save**.
 - Use the RealPresence Group Series remote control to perform this registration process.

- To verify that the system has a Skype for Business Interoperability License, navigate to **Admin Settings > General Settings > Options**.



- To enable Skype Mode, navigate to **Admin Settings > General Settings > Home Screen Settings**, and click the checkbox **Enable Skype Mode**.



- To configure the SIP registration for the room system, navigate to **Admin Settings > Network > IP Network > SIP**.
- Click the **Enable SIP** checkbox, enter the SIP registration information, at **Registrar Server Type**, select **Microsoft**. Then ensure that the **Registration Status** changes to **Registered**.

In the example below, the sign-in address and the username for the room account is *gslm@plcmmslab03.onmicrosoft.com*.

SIP

Enable SIP:

Enable AS-SIP:

Registration Status: Registered

SIP Server Configuration: Auto

Transport Protocol: Auto

Force Connection Reuse:

BFCP transport preference: Prefer UDP

Sign-in Address: gsrms@plcmmslab03.onmicrosoft.com

User Name: gsrms@plcmmslab03.onmicrosoft.com

Password:

Registrar Server:

Proxy Server:

Registrar Server Type: Microsoft

Configure encryption

Ensure encryption is enabled, as this is a requirement to establish an AV MCU conference.

- 1 In the system web interface, go to **Admin Settings > Security > Global Security > Encryption**.
- 2 In the **Require AES Encryption for Calls** list, select **When Available**.
- 3 Click **Save**.

Configure the Directory Server

- » In the system web interface, go to **Admin Settings > Servers > Directory Servers**, enter the Directory Server information, and ensure the **Registration Status** changes to **Registered**, as shown next.

Directory Servers

Server Type: Microsoft

Registration Status: Registered

Domain Name: plcmmslab03.onmicrosoft.com

Domain User Name: gsrms@plcmmslab03.onmicrosoft.com

User Name: gsrms@plcmmslab03.onmicrosoft.com

Configure the Calendaring Service

- 1 In the system web interface, go to **Admin Settings > Servers > Calendaring Servers**, enter the server information, and ensure the **Registration Status** changes to **Registered**, as shown in the figure below.

Calendaring Service

Enable Calendaring Service:

Registration Status: Registered

Email: gsrms@plcmmslab03.onmicrosoft.com

Domain:

User Name: gsrms@plcmmslab03.onmicrosoft.com

Password: ●●●●●●

Auto Discover Using: E-mail Address SIP Server

Auto Discover

Microsoft Exchange Server: outlook.office365.com

Secure Connection Protocol: Automatic

Meeting Reminder Time In Minutes: 5

Validate the system status

- » In the system web interface, go to **Diagnostics > System > System Status**, and ensure the **Microsoft Server**, **SIP Server Registrar Server**, and **Calendaring Service** options all show a Green status, as shown next.

System Status		
Auto Answer Point-to-Point Video	●	More Info
Remote Control	●	More Info
Audio Devices	●	More Info
VisualBoard	●	More Info
Microsoft Server	●	More Info
Presence Service	●	More Info
IP Network	●	More Info
Gatekeeper	●	More Info
SIP Registrar Server	●	More Info
Log Threshold	●	More Info
Meeting Password	●	More Info
Calendaring Service	●	More Info
Recording Service	●	More Info

RealPresence Group Series Systems with Skype for Business Server

This section provides an overview of the RealPresence Group Series solution for Skype for Business environments and includes information on available features.

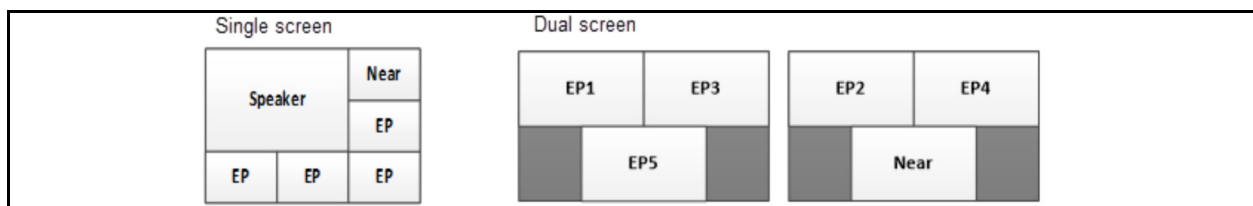
Features of the Polycom Solution

Integrating RealPresence Group Series systems with Skype for Business Server 2015 enables the following:

- Support for Exchange Online (only on RealPresence Group Series systems) and Microsoft Skype for Business
- Native support for Microsoft Remote Desktop protocol (receive-only)
- Support for native Microsoft application and desktop sharing with the Skype for Business clients
- Easily join Skype for Business meetings from standards-based endpoints using 'Click to Join' functionality
- Point-to-point and multipoint calls involving RealPresence Group Series systems with Microsoft Skype for Business clients
- Real-time presence information between Polycom devices and Microsoft Skype for Business clients
- Support for remote and federated endpoints to participate in point-to-point calls and video conference calls
- High-quality video (720p for RTV and 1080p for SVC) between Skype for Business clients and Polycom endpoints
- Participation in Skype for Business-hosted multipoint conferences using Polycom endpoints
- Optional use of Microsoft Skype for Business clients to view the presence status of Polycom RealPresence meeting rooms and to start one-click conferences

Continuous Presence with RealPresence Group Series Systems

Polycom's native support for Microsoft SVC technology means that you can use Skype for Business to host multipoint conferences with up to five active participants with continuous presence video. The new SVC layouts enable RealPresence Group Series systems to host up to five active speakers in a multipoint conference call using a single-screen or dual-screen layout that optimizes participant screen space. Two primary use cases are illustrated in the following figure.



You can use RealPresence Group Series systems to view content from Skype for Business desktop clients in active calls when the Skype for Business client initiates the content-sharing request. RealPresence Group Series can view the following content types from Skype for Business clients:

- **All Monitors:** Displays content from all monitors connected to the system with the Skype for Business client.
- **Primary Monitor:** Displays content from the primary monitor connected to the system with the Skype for Business client.
- **Secondary Monitor:** Displays content from the secondary monitor connected to the system with the Skype for Business client.
- **Program:** Displays content from a particular program connected to the system with the Skype for Business client.

Polycom One Touch Dial Application

The Polycom One Touch Dial is an optional application that enables easy 'Click to Join' calls held on Polycom RealConnect technology in Skype for Business On Premises deployments. With Polycom RealConnect technology and Skype for Business enabled, a meeting organizer can schedule an online meeting using Microsoft Outlook and the integrated solution automatically sets up the call in the background. Any H.323 or SIP compatible video conferencing system, including telepresence systems in conjunction with supported clients and devices, can use the Polycom One Touch Dial application to join conferences through calendar invitations.

The Polycom One Touch Dial application is required with Office 365 and is used to discover scheduled meetings and create a VMR that includes the conference focus URI and destination network (which are part of the Office 365 meeting invitation) to the RealPresence DMA system using the REST API. To use the Polycom One Touch Dial application with Office 365 and to create VMRs in Office 365, you must install or update to Polycom One Touch Dial version 1.5.2 or later.

Remote and Federated Users in Skype for Business Environments

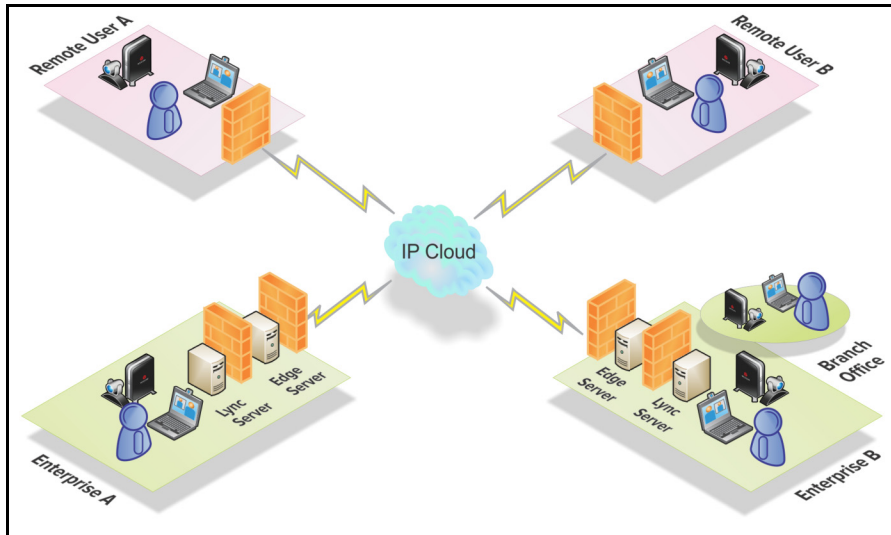
You can support remote and federated users by including a Skype for Business 2015 Edge Server in your environment. Skype for Business 2015 Edge Server environments support calls to RealPresence Group Series systems.

- *Remote users* are users located outside of an organization's firewall. A remote user registered to an enterprise's Edge Server can make and receive calls to and from enterprise users without the use of a VPN or additional firewall traversal device.
- *Federation* is a trust relationship between two or more SIP domains that permits users in separate organizations to communicate in real-time across network boundaries as federated users. Federated users registered to a separate Skype for Business Server on a separate enterprise network are able to make and receive calls to endpoints and video infrastructure on an external network that is behind one or more firewalls.

Installing an Edge Server to your Skype for Business environment enables you to support the Interactive Connectivity Establishment (ICE) protocol. The ICE protocol enables devices outside an organization's network to call other devices that are also part of the Polycom-enabled unified communications solution. Remote and federated users are supported with Skype for Business Server 2015, Lync Server 2013, Polycom video infrastructure, and Polycom video systems.

The following figure illustrates a possible Edge Server deployment scenario. In this example scenario, enterprises A and B are federated, meaning that users in Enterprise A can communicate with users in Enterprise B, and vice versa. Enterprise B also contains a branch office, which in this example is a Polycom

HDX system user behind more than one firewall. The user in the branch office can also place and receive calls to and from other enterprises and remote users.



Users in enterprise A and B can place calls to remote user A and B. The remote users can call each other as well as users in both enterprises.

Deploying in Secure/Federal Environments

Use this appendix as a reference to this Solution Deployment Guide when deploying the Polycom Microsoft solution in a secure environment. This appendix points to:

- Restrictions and limitations of the solution in a secure environment
- Product-specific configurations
- Additional steps to complete and steps in this Solution Deployment Guide to ignore

Additional Skills and Resources for Secure Environments

Administrators require the following additional background, skills and resources when deploying this solution in a secure federal environment:

- Knowledge of local security policies enforced in the secure environment
- UCR and applicable Security Technical Implementation Guide (STIG) requirements
- Applicable Polycom documentation for each Polycom product you are installing and deploying in a secure environment. You can locate Polycom supporting documentation at Documents & Downloads on [Polycom Support](#) or contact your Polycom representative.

RealPresence Group Series Systems

Complete the initial installation of RealPresence Group Series systems as outlined in the *Polycom RealPresence Group Series for Maximum Security Environments - Deployment Guide*.

The following lists exceptions in this Polycom for Microsoft Solution Deployment Guide when deploying RealPresence Group Series systems:

- Do not configure Calendaring Services (no Click-to-Join) for RealPresence Group Series systems
- Do not enable connection with remote/federated users
- Polycom® Touch Control is not supported
- Do not enable conference room access for remote and federated users for RealPresence Groups Series systems.