Deltapath Video Mobility Controller with Polycom Video Endpoints and RealPresence Platform

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Created by Deltapath

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About this guide

The Partner Solutions Guide describes how a partner solution and Polycom combine to solve specific customer needs.

The Polycom Partner Solutions Guide for integration with Deltapath Video Mobility Controller (VMC) is for administrators who need to integrate Deltapath VMC with Polycom video endpoints and RealPresence Platform.

Please read the Polycom and Deltapath documentation before you install or operate the system.
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Overview

Single platform, seamlessly integrating and unifying all Polycom video endpoints and infrastructure

Polycom customers who have invested into room based videoconference systems are often challenged by a need to make videoconference available beyond the conference rooms. While room based VC systems gives all the bells and whistles for executives to enjoy life-like high definition videoconference, it limits the executives to have to be physically present at the conference room. This can be challenging as a lot of videoconference calls may be at awkward times due to time zone differences, the executives may be traveling, the conference room may be booked for another conference, and having to schedule for the room and IT support resources discourage ad-hoc discussions.

Executives nowadays expect high quality videoconference at anytime, without advance scheduling, from anywhere, using any device.

Solution Overview

Deltapath® Video Mobility Controller (VMC) is an all-in-one device that is built to enable mobile videoconference and bridging the typical isolated corporate video islands to the outside world while offering security.

Deltapath VMC integrates and unifies all Polycom video devices, routes users to conference room from the remote location, authenticate and authorize users for services, implement call-routing policies, and seamlessly provide features to all Polycom users anytime, anywhere, on any device.

Drive up videoconference usage by allowing employees to dial into conference room or conference bridges while they are at home or on the go. Break the traditional network boundaries and enjoy videoconference with external parties without compromising on security and privacy. Start an ad-hoc videoconference whenever you need.

Deltapath VMC is an all-in-one appliance that bundles a firewall, session border controller, SIP proxy, call routing engine, and endpoint-provisioning server into a single device that can also offer 1+1 redundancy.
Polycom RealPresence Desktop
Polycom RealPresence Desktop for Windows and Apple® Mac OS X is a powerful, enterprise-grade collaboration app that extends video communications beyond the typical conference room setting to mobile professionals. RealPresence Desktop combines quality, power and ease-of-use with industry-leading interoperability, and security that is both cost effective, and highly scalable.

Polycom RealPresence Group 300/500/700
Polycom RealPresence Group Series is the engine that drives enterprise-grade video, voice and collaboration experiences, accelerating decision-making and fostering innovation. Only Polycom delivers video collaboration experiences that bring users closer together and drive meaningful conversation for geographically dispersed teams.

Polycom RealPresence Mobile
Polycom RealPresence Mobile is a powerful, enterprise-grade collaboration app that meets the needs of organizations to extend video communications beyond the typical conference room to tablets and smartphones.

Polycom VVX Business Media Phones
Polycom VVX Business Media Phones provide a unified voice and video communication experience for executives, knowledge workers and call attendants in organizations of all sizes. By combining Polycom’s superior audio and video technology with innovative industrial designs and user interfaces, these Business Media Phones improve productivity by simplifying communication processes and business workflows. In particular, they are often used as a desktop video solution for users in their home offices.

Polycom HDX 4000/6000/7000/8000/9000
Polycom® HDX® telepresence solutions offer users extraordinary visual communication, enhancing collaboration from the desktop to the conference room.

Polycom RealPresence Collaboration Server (RMX)
Polycom RealPresence Collaboration Server is the software for multiparty video, voice, and content collaboration that connects the most people at highest quality and lowest cost.

Based on open standards, the architecture of the Collaboration Server series is uniquely integrated with hundreds of business, UC, and social networking applications and protocols to make it easy to meet face to face with others over video.

The Challenges

The Need for Videoconference To Go Mobile
Traditionally, videoconference has been made available at fixed conference rooms. It has been a luxury item that is usually made available to executives only and requires IT support to pre-test and support the call. Nowadays, with the wide adoption of Bring Your Own Device (BYOD), availability of high speed 4G/LTE and Wi-Fi networks, and accessibility to video enabled devices such as smartphones, tablets,
and laptops, there is a huge demand for hosting / joining videoconference outside the office, from any network, using a device of their choice.

**Connecting External Parties / Business-to-Business Video Conferencing**
As more confidential and highly classified information gets discussed over videoconference, many corporations put their video endpoints behind the firewall, forming an isolated video island that is only accessible within their corporate network. It is often then becoming a challenge to allow external parties such as a customer/partner/supplier to call in from outside the corporate network. For those organizations that choose to put their video infrastructure with direct WAN access, then it poses a problem of privacy and security. Anyone who is aware of your WAN IP will be able to call into your conference room. Hackers can also use a war dialer to constantly send malicious packets to disrupt your current call.

**Handling Callers from Behind NAT**
Besides security concern with opening access from the WAN into corporate, supporting mobile videoconferencing often means IT need to support users who are connecting from uncontrolled networks such as a Wi-Fi hotspot, a cellular data connection, or a home broadband. This often meant that the videoconference users are behind NAT, sometimes nested-NAT, which is troublesome for video communications.

**Securely Provision All Your Remote Devices**
As telecommuting becomes more popular, IT managers face a need to remotely provision and manage video endpoints that are outside the corporate network. Once devices are placed into the public field, for example an employee’s home, then WAN access to your provisioning server will be required. This often poses a security risk if the provisioning data are not encrypted because hackers could easily hack into your provisioning server and steal account credentials.

**The Solution**
Deltapath and Polycom, together offers a solution that enables mobile videoconference, external parties joining in securely in a controlled manner, remotely provision your devices securely, share content and collaborate, and easily call each other via video by dialing extensions no matter where the participants are using any smart devices or Polycom hardware endpoints.
In the above-illustrated example, the Deltapath VMC acts as a firewall bridging the private video LAN with the public Internet. All devices outside of the corporate network connecting to the Internet behind NAT will be able to register to the Deltapath VMC box. Enterprise B devices will be able to call to Enterprise A by dialing a one-time secure access code in the form of 123456789@sip.company.com without any registration via SIP.

**Solution Highlights**

**One-Time Guest Access**
Offer secured business-to-business calling without exposing your video endpoints to the public WAN. Create one-time disposable meeting access code for external parties to call in via SIP URL (e.g. 123456789@sip.company.com) from any SIP based video endpoints. The system will automatically validate the code and ensure the caller is calling at the permitted scheduled time. If the caller calls within the scheduled period or as early as 5 minutes before the scheduled time, the system will grant permission and route the caller to the predefined video endpoint or videoconference room on the RMX. Once outside of the scheduled time period, the code is no longer valid. This mechanism prevents uninvited guests from calling in, callers randomly dialing into your video endpoints or videoconference rooms, or guests calling in at a time not desired by the conference host. Since the calling party does not require any SIP registration, it also becomes very intuitive and should not require any need for IT to make changes to endpoints or firewall rules.
Dial by Extension or Room Number
Traditionally, Polycom videoconference users would have to dial by IP address to connect to each other. While this is intuitive for a user with IT knowledge, it may pose as a challenge for an ordinary user. Through Deltapath VMC, Polycom endpoints may register to Deltapath VMC as an extension. This enables users across the network to dial by extension without knowing the endpoint’s IP address.

Understanding that users may want to keep the traditional dialing method while offering this new extension-to-extension dialing, Polycom offers dual stack support for H.323 and SIP. Users who are comfortable with the tradition H.323 dial by IP address may continue to use H.323, while users who prefer dialing by extension can do so and the endpoint will automatically use SIP to complete the call.

When Deltapath VMC is interconnected to Polycom RealPresence Collaboration Server (RMX), users will be able to dial by conference room number to enter into the desired RMX conference room.

Video Mobility
Videoconference’s biggest enemy is Network Address Translation (NAT). Organizations and homes often use NAT to share its Internet connection. To overcome the problems associated with NAT, Deltapath VMC has a built-in session border controller; Deltapath VMC performs NAT traversal functions so that remote users do not need to do any port forwarding on its firewall and will seamlessly be able to make and receive video calls.

Deltapath VMC is able to support typical home and office NAT, including nested-NAT scenarios. SIP ALG support on firewall is not required.

Universal Collaboration
Enjoy true video collaboration by seeing content shared by colleagues in the office or push content directly from your laptop or tablet using Polycom RealPresence Desktop and Polycom RealPresence Mobile respectively. Deltapath VMC supports H.239 that can stream data content and video at the same time to supported endpoints. Polycom RealPresence Mobile on tablets can also perform whiteboard annotations while sharing data from the tablet. Deltapath VMC also supports H.224 Far-end Camera Control so that supported Polycom endpoints such as Polycom HDX series, Polycom Group series, Polycom RealPresence Mobile tablet edition, and Polycom RealPresence Desktop may tilt, pan, and zoom the far-end camera, allowing the mobile participant to see better on his/her limited-size screen without disrupting the participants at the conference room.

Secure Provisioning
To safeguard sensitive account provisioning data, Deltapath VMC supports encryption on all supported Polycom endpoint’s provisioning data. Devices in the field will be able to download provisioning data in encrypted format over WAN. In the rare event that hackers eavesdrop the communication between the device and the server or even gained access into the provisioning server, account credentials are still secured.
Safe Guard Against Threat On The Public Internet
To address the concerns of enabling a WAN access point on your video network, Deltapath VMC has a built-in firewall that automatically filters malicious packets. Packets are never forwarded from WAN to internal directly. Instead, only approved packets such as RTP video and audio can be relayed to other endpoints in the network. The internal endpoints will only be able to connect to Deltapath VMC to retrieve the approved packets. Any packets that the internal endpoints want to send to an endpoint in the public Internet will only be sent to Deltapath VMC for further relay to the endpoint on the public Internet. The topology of your network is then masked and protected from external parties.

In addition, the built-in SIP Application firewall will inspect and monitor all SIP dialogue exchanges between the public Internet and the Deltapath VMC server. Attacks such as brutal force attempts, number guessing, or application layer denial-of-service attacks will be quickly filtered by the application firewall.

![Diagram](image)

Figure 2 – A functional diagram illustrating how users can access make/receive video calls and call into videoconference rooms via Deltapath VMC.

Deltapath Video Mobility Controller Implementation

Design Considerations
Typically Deltapath VMC sits as a firewall with one interface facing the WAN while another facing internal LAN. It is however possible to let Deltapath VMC sit entirely inside your LAN and simply port forward a WAN IP with one-to-one NAT mapping to the internal IP of the Deltapath VMC box.
Typical Configuration

In this typical configuration mode, the network topology is relatively simple. Deltapath VMC will act as a firewall and prevent unauthorized packets reaching any of the endpoints sitting in the internal LAN.

Alternative Configuration

In this alternative setup, the network configuration is slightly more complex but may be required in certain organizations due to IT security policies.
### Important Configuration Parameters

<table>
<thead>
<tr>
<th>Mode</th>
<th>Deltapath VMC Configuration</th>
<th>Corporate Firewall Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deltapath VMC connecting directly to WAN (Typical)</td>
<td>Set interface connecting to WAN as Untrust (WAN)</td>
<td>No configuration changes required</td>
</tr>
<tr>
<td></td>
<td>Set interface connecting to video network as Trust</td>
<td></td>
</tr>
<tr>
<td>Deltapath VMC connecting to DMZ. Firewall does a one-to-one NAT mapping to Deltapath VMC DMZ IP (Alternative)</td>
<td>Set interface connecting to DMZ as Untrust (LAN)</td>
<td>SIP ALG = OFF</td>
</tr>
<tr>
<td></td>
<td>Set interface connecting to video network as Trust</td>
<td>Activate one-to-one NAT mapping to Deltapath VMC DMZ IP</td>
</tr>
<tr>
<td></td>
<td>Add the WAN IP that is port forwarded to Deltapath VMC DMZ IP into the frSIP virtual interface</td>
<td>Deny all ports except the following ports: TCP 21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TCP 443 TCP/UDP 5060 UDP 10000 - 20000</td>
</tr>
</tbody>
</table>

### Installation

The default factory image of Deltapath VMC has most common parameters pre-configured to enable you to deploy the system within 15 minutes.

**Quick Start Installation Checklist**

1. Change default administrator account credentials.
2. Configure network interfaces per your network design. See the previous section “Deltapath Video Mobility Controller Implementation”.
3. Activate built-in firewall.
4. Customize enterprise specific settings under Configuration / General Settings and E-mail Templates.
5. Add SIP Trunk to Polycom RealPresence Collaboration Server (RMX)
6. Create user accounts for Polycom HDX endpoints and Polycom RealPresence Group endpoints.
7. Create user accounts for mobile users (Polycom RealPresence Desktop & Polycom RealPresence Mobile).

Note that Deltapath’s concept of a user is an extension. For example, a user is identified by his/her extension.
Deltapath Video Mobility Controller with Polycom RealPresence Collaboration Server (RMX)

1. Ensure your RMX is running at software version 8.3.0.
2. To form a SIP trunk to RMX, simply access the VMC administrative interface and go to “SIP Trunk” and “Add SIP Trunk”

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Recommended Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunk ID</td>
<td>Name of the Trunk</td>
<td>RMX4000</td>
</tr>
<tr>
<td>Short Name</td>
<td>Additional Name</td>
<td>No recommended</td>
</tr>
<tr>
<td>Host Name / IP</td>
<td>IP Address or FQDN of your RMX</td>
<td>Recommended to use IP Address</td>
</tr>
<tr>
<td>Port</td>
<td>Port on RMX accepting SIP packets</td>
<td>5060</td>
</tr>
<tr>
<td>Incoming Calls Permission Group</td>
<td>This option defines what numbers the RMX may call to</td>
<td>Internal Only</td>
</tr>
</tbody>
</table>
| Allowed Codec           | Codec permitted in the order from high definition to narrowband. | G722.1C  
G722  
G711U  
G711A  
H.264 |
| Session Timer           | RMX requires SIP Session Timer to be enabled          | Accept                |
| Session Expires         | By default session expires in 1800 seconds for RMX     | 1800 seconds          |
3. Ensure your RMX has SIP enabled with the following. Click on “IP Network Services” → “Default IP Service” → “IP”. IP Network Type must either be “SIP” or “H.323 & SIP”

4. Click on SIP servers and configure the following:
   a. SIP Server as OFF. This will disable any registration from RMX to Deltapath VMC.
   b. Transport type should be UDP
5. Create routing in dial plan to enable users to dial by room number. 
   Click on “Numbering Plan” → “Outbound Routing” → “Add Outbound Routing”. 
   Add the entire number range of your meeting rooms on your RMX. For example, if your room is in 
   the range of 1000 to 1999, the number would be _1XXX.

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**Deltapath Video Mobility Controller with Polycom HDX Series Endpoints**

1. Ensure your Polycom HDX is running with firmware 3.0.6 or above.
2. To configure a Polycom HDX endpoint, you will need to create a user account first. From Deltapath 
   VMC administrative interface, go to “User” → “User” → “Add User”.
3. Enter the user details according to below.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Recommended Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension</td>
<td>The extension number of the conference room / employee concerned</td>
<td>To give users a better usage experience, use the same extension your company has currently assigned for the conference room / employee concerned. Note that whatever extension you enter now cannot be changed and will be used to call that user from any device</td>
</tr>
<tr>
<td>PIN</td>
<td>PIN that is used for Polycom RealPresence Mobile / Polycom RealPresence Desktop enterprise sign-in.</td>
<td>Leave Blank. System will automatically generate one</td>
</tr>
<tr>
<td>Group</td>
<td>Select a Group / Department To add more groups, go to “Groups”</td>
<td>No recommended default</td>
</tr>
<tr>
<td>E-mail</td>
<td>E-mail address of the employee. By default the employee will receive a welcome e-mail from the</td>
<td>No recommended default.</td>
</tr>
</tbody>
</table>
system with his/her PIN and further instruction on how to sign in from Polycom RealPresence Mobile / Polycom RealPresence Desktop. If leave blank, user will not receive any system e-mail.

<table>
<thead>
<tr>
<th>User Profile</th>
<th>Select from a template of settings for this user. To manage templates, go to &quot;User&quot; “User Profile”</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>Select “Own CPE” → “Polycom HDX/Group”</td>
<td></td>
</tr>
<tr>
<td>Device Location</td>
<td>This parameter controls whether the HDX needs to go through the built-in Session Border Controller. Inside Network: The HDX is in a routable network to a Deltapath VMC interface without any NAT. Outside Network: The HDX is located in a non-routable network and goes through an NAT router before reaching Deltapath VMC interface. This usually applies when the HDX is registering to the WAN interface of Deltapath VMC</td>
<td>No recommended default.</td>
</tr>
</tbody>
</table>

4. You will receive a one-time pop-up a SIP account credential that you must copy down to be entered into the Polycom HDX.

5. Access your Polycom HDX web administrative interface, click “Admin Settings” → “Network” → “IP Network”. Make sure SIP is enabled and enter the following:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Recommended Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable SIP</td>
<td>Activate the SIP stack on HDX.</td>
<td>Must be enabled</td>
</tr>
<tr>
<td>SIP Server Configuration</td>
<td>Type of SIP Server</td>
<td>Must select “Specify”</td>
</tr>
<tr>
<td>Server Name or IP Address</td>
<td>FQDN or IP address of Deltapath VMC</td>
<td>The Deltapath VMC IP Address that the HDX will register to. Use internal LAN IP of Deltapath VMC if HDX is within your corporate network. Only use the Deltapath VMC WAN IP if the HDX is located outside your corporate network.</td>
</tr>
<tr>
<td>Transport Protocol</td>
<td>Protocol that will be used for the SIP signaling</td>
<td>UDP</td>
</tr>
<tr>
<td>Sign-in Address</td>
<td>Put the SIP username here. This is usually the extension of the user.</td>
<td>No recommended default</td>
</tr>
<tr>
<td>User Name</td>
<td>As Above</td>
<td>No recommended default</td>
</tr>
<tr>
<td>Password</td>
<td>Box must be checked Enter the SIP account password displayed in above step 4.</td>
<td>No recommended default</td>
</tr>
</tbody>
</table>
### SIP Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable SIP</td>
<td>✓</td>
</tr>
<tr>
<td>Server Name or IP Address</td>
<td>10.0.0.1</td>
</tr>
<tr>
<td>Transport Protocol</td>
<td>UDP</td>
</tr>
<tr>
<td>Sign-in Address</td>
<td>2047</td>
</tr>
<tr>
<td>User Name</td>
<td>2047</td>
</tr>
<tr>
<td>Password</td>
<td>✓</td>
</tr>
<tr>
<td>Enter Password</td>
<td>········</td>
</tr>
<tr>
<td>Confirm Password</td>
<td></td>
</tr>
<tr>
<td>Directory</td>
<td>Microsoft Lync Server 2010</td>
</tr>
</tbody>
</table>
6. If your HDX is Outside Network, meaning there is a NAT router between the HDX and the Deltapath VMC network interface that you are registering to (this is usually the case when you are registering to the WAN IP of the Deltapath VMC). You will need to enable the following option under “Admin Settings” → “Network” → “IP Network” → Firewall section. **Enable SIP Keep-Alive Messages** must be turned on (checked).

---

**Deltapath Video Mobility Controller with Polycom RealPresence Group Series**

1. Ensure your Polycom RealPresence Group is running with firmware 4.3.0 or above.
2. To configure a Polycom RealPresence Group endpoint, you will need to create a user account first. From the Deltapath VMC administrative interface, go to “User” → “User” → “Add User”.
3. Enter the user details according to below.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Recommended Default</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extension</strong></td>
<td>The extension number of the conference room / employee concerned</td>
<td>To give users a better usage experience, use the same extension your company has currently assigned for the conference room / employee concerned. Note that whatever extension you enter now can not be changed and will be used to call that user from any device.</td>
</tr>
<tr>
<td><strong>PIN</strong></td>
<td>PIN that is used for Polycom RealPresence Mobile / Polycom RealPresence Desktop enterprise sign-in.</td>
<td>Leave Blank. System will automatically generate one</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>Select a Group / Department To add more groups, go to “Groups”</td>
<td>No recommended default</td>
</tr>
<tr>
<td><strong>E-mail</strong></td>
<td>E-mail address of the employee. By default the employee will receive a welcome e-mail from the system with his/her PIN and further instruction on how to sign in from Polycom RealPresence Mobile / Polycom RealPresence Desktop. If leave blank, user will not receive any system e-mail.</td>
<td>No recommended default.</td>
</tr>
<tr>
<td><strong>User Profile</strong></td>
<td>Select from a template of settings for this user. To</td>
<td>Default</td>
</tr>
</tbody>
</table>
4. You will receive a one-time pop-up a SIP account credential that you must copy down to be entered into the Polycom RealPresence Group.

![SIP account credential](image)

5. Access your Polycom RealPresence Group web administrative interface, click “Admin Settings” → “Network” → “IP Network”. Make sure SIP is enabled and enter the following

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Recommended Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable SIP</td>
<td>Activate the SIP stack on HDX.</td>
<td>Must be enabled</td>
</tr>
<tr>
<td>SIP Server Configuration</td>
<td>Type of SIP Server</td>
<td>Must select “Specify”</td>
</tr>
<tr>
<td>Server Name or IP Address</td>
<td>FQDN or IP address of Deltapath VMC</td>
<td>The Deltapath VMC IP Address that the HDX will register to. Use internal LAN IP of Deltapath VMC if HDX is within your corporate network. Only use the Deltapath VMC WAN IP if the HDX is located outside your corporate network.</td>
</tr>
<tr>
<td>Transport Protocol</td>
<td>Protocol that will be used for the SIP signaling</td>
<td>UDP</td>
</tr>
<tr>
<td>Sign-in Address</td>
<td>Put the SIP username here @ Deltapath VMC IP. This is usually the extension of the user.</td>
<td>Example 2047@10.0.0.1 where 2047 is the username and 10.0.0.1 is the Deltapath VMC IP that is reachable from the Group.</td>
</tr>
<tr>
<td>User Name</td>
<td>As Above</td>
<td>No recommended default</td>
</tr>
<tr>
<td>Password</td>
<td>Box must be checked. Enter the SIP account password displayed in above step 4.</td>
<td>No recommended default</td>
</tr>
<tr>
<td>Registrar Server</td>
<td>FQDN or IP address of Deltapath VMC</td>
<td>The Deltapath VMC IP Address that the HDX will register to. Use internal LAN IP of Deltapath VMC if HDX is within your corporate network. Only use the Deltapath VMC WAN IP if the HDX is located outside your corporate network.</td>
</tr>
<tr>
<td>Proxy Server</td>
<td>FQDN or IP address of Deltapath VMC</td>
<td>The Deltapath VMC IP Address that the HDX will register to. Use internal LAN IP of Deltapath VMC if HDX is within your corporate network. Only use the Deltapath VMC WAN IP if the HDX is located outside your corporate network.</td>
</tr>
</tbody>
</table>

![SIP Configuration](image-url)
6. If your Group is Outside Network, meaning there is a NAT router between the Group and the Deltapath VMC network interface that you are registering to (this is usually the case when you are registering to the WAN IP of the Deltapath VMC). You will need to enable the following option under “Admin Settings” → “Network” → “IP Network” → Firewall section. **Enable SIP Keep-Alive Messages** must be turned on (checked).

![Deltapath Video Mobility Controller with Polycom Video Endpoints & RealPresence Platform](image)

**Deltapath Video Mobility Controller with Polycom RealPresence Desktop and Polycom RealPresence Mobile**

1. In order to minimize users having to remember the Deltapath VMC IP address or FQDN, it is recommended to add an external DNS SRV record. Create a DNS service record (SRV record) on the external DNS server to map the SRV service address for endpoint provisioning to the FQDN of the Deltapath Video Mobility Controller.

   `_cmaconfig._tcp.example.com. IN SRV 0 100 443 vmc.example.com.  
   Where: Service = _cmaconfig, Protocol = _tcp, Priority = 0, Weight = 100, Port = 443 and Host offering this service = vmc.example.com`

2. Once the DNS SRV record is created. You may create user accounts for all the mobile users. From the Deltapath VMC administrative interface, go to "User" → "User" → “Add User”. Enter the user details according to below.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Recommended Default</th>
</tr>
</thead>
</table>
| Extension | The extension number of the conference room / employee concerned             | To give users a better usage experience, use the same extension your company has currently assigned for the conference room / employee concerned. 
Note that whatever extension you enter now cannot be changed and will be used to call that user from any device |
| PIN       | PIN that is used for Polycom RealPresence Mobile / Polycom RealPresence Desktop enterprise sign-in. | Leave Blank. System will automatically generate one                                                            |
| Group     | Select a Group / Department                                                  | No recommended default                                                                                       |
3. Your users will receive an e-mail with the PIN for signing into Polycom RealPresence Desktop / Polycom RealPresence Mobile. In addition, the system will also prompt you the PIN after the user is created. You may record the PIN and notify the user separately if you did not enter the user’s e-mail during the user creation process.

4. To download and install Polycom RealPresence Desktop, direct your users to http://support.polycom.com/PolycomService/support/us/support/video/realpresence_desktop/realpresence_desktop.html

5. To download and install Polycom RealPresence Mobile, direct your users to Apple App Store or Google Play Store and search for Polycom RealPresence Mobile.

6. To sign-in onto Polycom RealPresence Mobile or Polycom RealPresence Desktop, Your users will enter his/her corporate e-mail. (Polycom RealPresence Desktop users will first need to click Enterprise Sign-in). If your DNS SRV record is configured properly in Step 1, it should automatically resolve the FQDN of the Deltapath VMC. Simply enter the user’s extension and PIN to sign-in.

7. Once signed-in, the user will be able to dial by extension to any other endpoints registered to Deltapath VMC and enjoy a suite of video collaboration tools.
For More Information

Product Information
For more information about Deltapath, visit www.deltapath.com

For more information about Deltapath Video Mobility Controller, visit http://www.deltapath.com/products/video-mobility-controller/

Deltapath Support
Online support is available at http://www.deltapath.com/services-and-support/support-portal/

By country sales contact information is available at http://www.deltapath.com/company/contact-us/

Polycom Support
For support or service of Polycom products, please contact your Polycom distributor or go to Polycom Support at http://www.polycom.com/support

For more information about Polycom Technology Partner Program and the Technology and Developer Partner solutions, visit http://www.polycom.com/partners
Test/Validation Annex

Interoperability Table
The following table lists the devices with which Deltapath VMC V3.2 was tested.

<table>
<thead>
<tr>
<th>Device</th>
<th>Software Version</th>
<th>Known Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polycom RealPresence Collaboration Server (RMX)</td>
<td>8.3</td>
<td>Only RealPresence Mobile is allowed to push content to a RMX room.</td>
</tr>
<tr>
<td>Polycom RealPresence Desktop</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Polycom RealPresence Group Series</td>
<td>4.3.0</td>
<td></td>
</tr>
<tr>
<td>Polycom RealPresence Mobile</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Polycom HDX Series</td>
<td>3.0.6</td>
<td>When an HDX is hosting a multiparty video call, Group series endpoints will not be able to receive content.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>When a VVX phone is present in a multiparty video call hosted by HDX, only HDX side would be able to push content. All other participants will be blocked from pushing content</td>
</tr>
<tr>
<td>Polycom VVX Business Media Phones</td>
<td>5.3.0</td>
<td></td>
</tr>
</tbody>
</table>

Test Cases

<table>
<thead>
<tr>
<th>Category</th>
<th>Device Involved</th>
<th>Description</th>
<th>Expected Result</th>
<th>Known Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Far-End Camera Control</td>
<td>HDX RPM Group RPM RPD</td>
<td>During a call, on any of the device, press the far-end camera control button to pan / zoom the far-end camera</td>
<td>Far-end camera will pan / zoom accordingly</td>
<td>Far-end camera control to the Group device is disabled whenever Eagle Eye Producer is activated.</td>
</tr>
<tr>
<td>Content Sharing</td>
<td>HDX Group RPM RPM RPD</td>
<td>During a call, on any of the device, press the content sharing button to push content to the far end.</td>
<td>All devices should receive the content and video stream at the same time</td>
<td>Whenever there is a participant entering or leaving a multiparty conference hosted on HDX or Group, the ongoing content sharing session will be dropped and require the host to push content again.</td>
</tr>
<tr>
<td>Devices Behind NAT</td>
<td>HDX Group RPM RPM RPD VX</td>
<td>Any of the devices may be behind one or more NAT router before reaching the Deltapath VMC WAN interface</td>
<td>Receive / make video call Perform far-end camera control Push / receive content</td>
<td></td>
</tr>
<tr>
<td>Dial by Room Number</td>
<td>RMX HDX Group RPM RPM RPD VX</td>
<td>Enter any RMX conference rooms</td>
<td>From any endpoints, simply dial the room number to get into the RMX meeting room</td>
<td></td>
</tr>
</tbody>
</table>