

# TEST REPORT POLYCOM REALPRESENCE DESKTOP

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## GENERAL

## PERIOD

The video conferencing software Polycom RealPresence Desktop for Windows was tested in October/November 2013 at the VCC. Polycom RealPresence Desktop for Mac was tested in January 2014.

## SW VERSION

The software version is the official version 3.0.0.

## DEVICE CLASS

The video conferencing system Polycom RealPresence Desktop is a software client for the Microsoft operating systems Windows 7 (32 bit and 64 bit), Windows XP (32 bit with SP3), Windows 8 Pro and Enterprise (32 bit and 64 bit). It requires 200 MB memory and 2 GB of RAM. Additional information can be found in the 2013 [data sheet](#).

Polycom RealPresence Desktop for Apple Mac OS X works starting with Lion (10.7) and requires 2 GB of RAM, a graphics memory of minimum 256 MB RAM and 200 MB memory. Additional information can be found in the 2013 [data sheet](#).

## SCOPE OF DELIVERY

The software can be downloaded at the website of the manufacturer Polycom. An activation key has to be purchased to activate the programme. If the software is not activated with the help of a key when starting it, the product can be used as a 30-day trial version.

Besides the integrated camera, standard USB cameras and standard USB headsets as well as cinch headsets can be utilised as audio/video accessories of the Polycom RealPresence Desktop.

## BANDWIDTHS AND VIDEO FORMAT

The video conferencing system facilitates video conferences in the LAN area up to 1920 kbps with maximum 720p up to 30 fps in sending and receiving direction.

## INSTALLATION

The manufacturer recommends certain system requirements for the [Microsoft Windows](#) and [Apple Mac OS](#) hardware.

At the VCC, a XMG P702 notebook with Windows 7 and a Mac Book Pro with OS X Mavericks as well as a [Logitech C930e](#) Full HD webcam were used as test systems. The [installation](#) worked faultlessly under Windows and Mac OS. The programme is operable immediately afterwards. In the [configuration manual](#) you can find the appropriate settings for participating in the [service DFNVideoConference](#).

## TEST

## OPERATION

The graphical user interface of the programme Polycom RealPresence Desktop (see image on the right) shows a completely new design. For users experienced with video conferencing it is immediately accessible. But newcomers will find their way around fairly quickly as well.

Calls can be executed according to H.323 (via IP address or E.164 number) and via SIP. In the lower status bar, after gatekeeper registration and H.323 call activation, the E.164 number is displayed in the left corner. On the right, above the number pad, you can see whether a H.323 call is selected. If SIP registration is activated in the settings and SIP is selected as call protocol, your SIP address is displayed in the status bar. The call bandwidth is set in the configuration settings.



## AUDIO/VIDEO

In all test connections, audio was encoded with G.719, G.722, G.722.1C, Siren LPR or Siren 14, the audio quality at the RealPresence Desktop Windows being very good in all cases.

In test connections to RealPresence Mac, the audio quality was good to very good. In tests with Cisco C40 and EX90, there were occasional audio drop outs.

The video quality was very good in most of the tested connections. The video codec H.264 was negotiated with all the remote sides, except for the Cisco MCUs of the [DFNVideoConference](#). In the latter case, H.263+ was used as codec and XGA image resolution (1024x768) was sent, which had a negative influence on the video quality (blurriness, formation of blocks). In the test with the Sony XG80, the received video quality on the part of the Polycom RealPresence Desktop can only be rated as satisfactory with noticeable colour and pixel errors. In almost all tests, the Polycom RealPresence Desktop sent and received the highest possible resolution 720p.

## H.239

The data presentation according to H.239 was very good in transmitting slides, with two exceptions. On most slides, font sizes starting with 8px-10px could be read well. In those test connections, slide changes were transmitted quickly. In almost all of the test connections, 720p was used as video format in sending and receiving direction and H.264 encoding.

When transmitting SD video 52%, and in the case of HD video 20% of the transmitted films were displayed as video at the remote side.

Additional information on the test connections can be found in the [compatibility matrix](#).

## CAMERA REMOTE CONTROL

As long as the technical requirements were met at the remote side, the camera remote control worked.

## SERVICE DFNVIDEOCONFERENCE

When collaborating with the Cisco MCUs of the [service\\_DFNVideoConference](#) the Polycom RealPresence Desktop sent H.264 with 720p as video with audio codec G.722.1C up to the maximum bandwidth of 1920 kbps and received H.263+ in XGA resolution (1024x768) with audio codec Siren14.

## GATEKEEPERS

Collaboration with the gatekeepers GNU-GK and CISCO MCM worked faultlessly and stably.

## SIP

SIP calls to the service DFNVideoConference did only work as long as UDP was set as transport protocol in the SIP settings. This restriction is known from the predecessor Polycom PVX 8.0.2 under Windows XP. G.722.1C with 48 kbps and H.264 with 720p are sent, Siren14 with 48 kbps and H.264 with 720p received.

## URI DIALLING

URI dialling works with Polycom RealPresence Desktop without gatekeeper registration. G.722.1C was sent with 48 kbps and H.264 with 720p to the Cisco MCU, Siren14 was received with 48 kbps and H.263+ in XGA resolution (1024x768).

## ENCRYPTION

All test connections were transmitted AES-encrypted.

## MOBILE DEVICES

Polycom RealPresence Desktop was tested on an Apple iPad 4 Wi-Fi 32GB. Audio was sent and received with SirenLPR with 64 kbps. Video was sent with H.264 High Profile in 480x272 format and received in 640x360 format with maximum 15 fps.

On a Samsung Galaxy Tab 16 GB, audio was encoded with Siren LPR with 64 kbps in both directions. Video was sent with H.264 High Profile in 320x180 format and received in 640x360 format with changing image rate between 3 and 15 fps. During the tests, the client Polycom RealPresence Desktop did not receive any audio, which could also be proved with the help of the statistics.

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## CONCLUSION

The video conferencing software Polycom RealPresence Desktop is a software client, which convinces due to its control concept and good to very good audio and video quality. The 720p, promised by the manufacturer in sending and receiving direction, could be affirmed with a maximum bandwidth of 1920 kbps. The presentation of multimedia content according to H.239 is practical. With this single-position solution, the company Polycom has a product in its portfolio, which is well-suited for a heterogenous video conferencing landscape like that of the German National Research and Education Network (DFN) and can therefore be recommended. Solely in collaboration with the Cisco-MCUs of the service DFNVideoConference H.263+ in XGA resolution (1024x768) are negotiated in receiving direction at the Polycom RealPresence Desktop, which does have a negative influence on the video quality.

The system requirements recommended by the manufacturer should be met, if you want to use the full capabilities of the product in good quality.

## DOCUMENTATION

Manufacturer: Polycom  
Distributor: MVC

<b>Supported General Standards</b>	H.323, SIP
<b>Audio Codecs</b>	G.711, G.719, G.722.1, G.722.1C, Siren 14, Siren LPR
<b>Video Compression</b>	H.263, H.263+, H264, H264 AVC/SVC High Profile
<b>Bandwidth</b>	1920 kbps