Minimum system requirements for video conferencing

To send or receive video with a resolution of 360p, ensure that your system meets the following minimum requirements:

Action	What you need
Send	• A webcam capable of producing high-quality video. Webmeeting supports most webcams of this type. • A computer with at least 1 GB of RAM and a dual-core processor. • A fast network connection.
Receive	• A computer with at least 1 GB of RAM and a dual-core processor. • A fast network connection.

To send or receive video with a resolution of 720p, ensure that your system meets the following minimum requirements:

Action	What you need
Send	• A webcam capable of producing HD video. Webmeeting supports most webcams of this type. • A computer with at least 2 GB of RAM and a quad-core processor. • A fast network connection.
Receive	• A computer with at least 2 GB of RAM and a dual-core processor. • A fast network connection.

ALLOcloud
Av. Champagne 3
1480 Saintes
Belgium

www.allocloud.com
BE0821802905

Browser	From version	Windows	Mac	Linux	Android	iOS (iPhone/iPad)
Firefox	66	Yes	Yes	Yes	>= Android 4.4	No
Google Chrome	72	Yes	Yes	Yes	>= Android 4.4	No
Chromium	72	Yes	Yes	Yes	>= Android 4.4	No
Opera	60	Yes	Yes	Yes	>= Android 4.4	No
Safari	13	na	Yes	na	na	>= iOS 13
Chromiume Edge	81	Yes	Yes	na	>= Android 4.4	No
Legacy Edge (*)	18	Yes	Na	na	na	na

(*) We recommend disabling Legacy Edge in the system settings, the WebRTC support of the Legacy Edge browser is limited and not stable

# Recommended bandwidth requirements

Overview

Webmeeting offers four different types of meeting rooms. The Standard and Off-the-Record meeting rooms establish peer-to-peer connections between the participants. Our Boardroom and Webinar meetings leverage the functionality of a Selective Forwarding Unit (SFU) that routes all media traffic between the participants.

These two different paradigms have distinguished bandwidth requirements for the clients and the servers.

Additionally, we also allow the meeting organizer to define the video resolution for a meeting. The more participants and the higher the video resolution the more bandwidth are required on all ends. By default, Webmeeting uses a 320x280 video resolution.

Peer-to-Peer meetings

In a peer to peer meeting every client connects to every other client to build a mesh network. Around 80% of these connections are pure peer-to-peer connections without any server in between. In the remaining 20% of the cases the media is relayed through a TURN server, while still being end-to-end encrypted.

ALLOcloud
Av. Champagne 3
1480 Saintes
Belgium

www.allocloud.com
BE0821802905
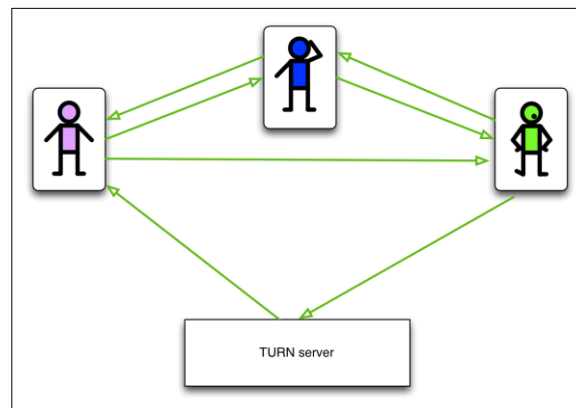
	For each participant, client side			
Participants	2	3	4	5
Resolution: 160x120	100 Kb/s	200 Kb/s	300 Kb/s	400 Kb/s
Resolution: 320x240	200 Kb/s	400 Kb/s	600 Kb/s	800 Kb/s
Resolution: 640x480	350 Kb/s	700 Kb/s	1'050 Kb/s	1'400 Kb/s
Resolution: 1280x720	800 Kb/s	1'600 Kb/s	2'400 Kb/s	3'200 Kb/s
Kb/s: Kilobits per second				

Video bridge meetings

In video bridge meetings all media is distributed through a central SFU. Compared to the peer-to-peer meetings this solution is more efficient for the participants as only one stream is sent from every client. The clients still receive separate media streams for each participant.
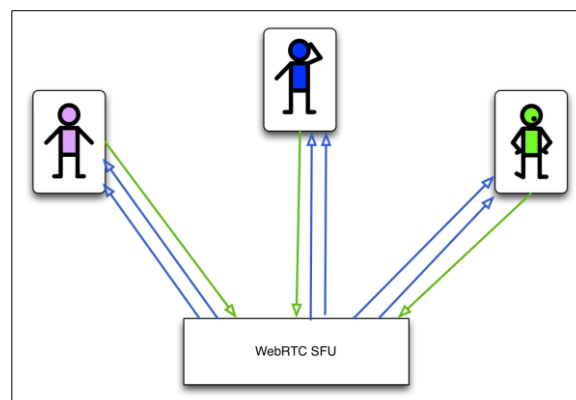
Within the realm of SFU meetings the Boardroom and Webinar work differently. In a Boardroom meeting all participants stream and receive their video and thereby interact with each other constantly. In a Webinar meeting one usually has a small number of presenters streaming its media and a larger number of participants just consuming that stream. A Webinar meeting is therefore less bandwidth heavy than a Boardroom meeting.

Boardroom and Webinar, client side

	Bandwidth requirements for participants, client side			
Number of presenters	2	3	4	5
Resolution: 160x120	100 Kb/s	150 Kb/s	200 Kb/s	250 Kb/s
Resolution: 320x240	200 Kb/s	300 Kb/s	400 Kb/s	500 Kb/s
Resolution: 640x480	350 Kb/s	525 Kb/s	700 Kb/s	8750 Kb/s
Resolution: 1280x720	800 Kb/s	1'200 Kb/s	1'600 Kb/s	2'000 Kb/s
Kb/s: Kilobits per second				

Boardroom, server side

	Bandwidth requirements on the SFU			
Participants	2	3	4	5
Resolution: 160x120	200 Kb/s	450 Kb/s	800 Kb/s	1'250 Kb/s
Resolution: 320x240	400 Kb/s	900 Kb/s	1'600 Kb/s	2'500 Kb/s
Resolution: 640x480	600 Kb/s	1'350 Kb/s	2'400 Kb/s	3'750 Kb/s
Resolution: 1280x720	1'600 Kb/s	2'400 Kb/s	6'400 Kb/s	10'000 Kb/s
Kb/s: Kilobits per second				

Webinar, server side

	Bandwidth requirements on the SFU			
Participants	5	10	20	50
Resolution: 160x120	250 Kb/s	500 Kb/s	1'000 Kb/s	2'500 Kb/s
Resolution: 320x240	500 Kb/s	1'000 Kb/s	2'000 Kb/s	5'000 Kb/s
Resolution: 640x480	750 Kb/s	1'500 Kb/s	3'000 Kb/s	7'500 Kb/s
Resolution: 1280x720	2'000 Kb/s	4'000 Kb/s	8'000 Kb/s	20'000 Kb/s
Kb/s: Kilobits per second				

ALLOcloud
Av. Champagne 3
1480 Saintes
Belgium

www.allocloud.com
BE0821802905

Firewall Requirements for Participants

Introduction

Webmeeting leverages the official WebRTC standard for its audio and video conferencing solution. To conduct successful audio and video conferences, certain requirements needs to be fulfilled by corporate firewalls. This document describes the minimal rules that need to be met.

Definitions

Throughout this document we speak about Web, STUN, TURN and Video Bridge IP addresses. These IP addresses differ from white label to white label. We will use the following placeholders which you need to replace with your actual IP addresses:

- WEB_IP - the IP address of the web server
- ICE_IP - the IP addresses of our STUN/TURN servers
- VB_IP - the IP addresses of our video bridges

Firewall rules

Web server

Normally HTTP traffic is not blocked by firewalls. Certain high-risk verticals prevent documents upload. If these corporations would like to allow documents sharing in Webmeeting they need to allow documents upload to the WEB_IP.

Firewall rules:

Allow TCP traffic to WEB_IP on ports 80 and 443

STUN/TURN

STUN and TURN are technologies used to establish peer-to-peer connections between participants. These types of connections are used in Standard and Off-the-Record Meeting room types.

Firewall rules:

Allow unfiltered TCP and UDP traffic from and to ICE_IP on the following ports: 80, 443, 3478-3479, 32768-65535

"Unfiltered" means no DPI: The STUN protocol is different to the HTTP protocol that usually uses the ports 80 and 443. That is why technologies such as DPI might prevent STUN protocol traffic on these ports.

Video Bridge

The video bridge is used for Boardroom, Webinar and Dial-in Meeting rooms. The browser will communicate with the video bridge through HTTP and will also establish an SRTP session to send and receive media.

Firewall rules:

Allow TCP traffic to VB_IP on the following ports: 80, 443
Allow TCP and UDP traffic from and to VB_IP on the following ports: 32768-65535