How To Setup and Run a 100% Digital Conference: DIGICROP 2020

Cyrill Stachniss, Ignacio Vizzo, Louis Wiesmann, Nora Berning

v1, 2020-12-22

Abstract	1
Conference Format	1
General Remarks	1
Our Planned Improvements for the Next Event	1
Required People to Run an Event of that Format	2
On Site	3
Off Site	3
Technical Setup	4
Website	4
Website Improvement for the next event	4
Videos	5
Video Improvement for the next event	5
ZOOM	6
Accounts	6
Group Management	6
ZOOM Groups setup	6
Computer Setup	7
Windows Configuration (all computers)	7
ZOOM Master Computer	7
Observer Computer	7
OBS Computer	8
Technical Workflow	10
OBS Master	10
Instructions for startup (ONLY ONCE)	10
Instructions for sessions (CONTINUOUSLY)	10
ZOOM Host	11
Instructions startup (ONCE)	11
Instructions for sessions (CONTINUOUSLY)	11
Observer Host	11
Instructions for sessions	11
Appendix	11

Abstract

The purpose of this record is to document the setup and execution of DIGICROP 2020 and to simplify conducting future online events of that kind. DIGICROP 2020 was a 100% virtual conference run via Zoom with around 900 registered people in November 2020. It consisted of video presentations available via our website and a single-day live event for Q&A. We had around 450 people attending the Q&A session overall, most of the time 200-250 people have been online at the same time.

This document is a collection of notes, instructions, and todo lists. It is not a polished manual, however, we believe these notes will be useful for other conference organizers and for us in the future.

Conference Format

- Everything was done remotely via our website and Zoom.
- All presentations are provided as videos. Every presenter must submit two videos beforehand: one short version and one long version.
- All videos are accessible via the website before the main event. Short videos act as teaser videos, long videos for detailed information.
- Live Q&A event run via Zoom. Keynotes were streamed in full length, all other talks in form of the short videos followed by a Q&A discussion.
- Overall, this format turned out to work very well. We would do it again in the same way.
- We had no social event because we could not find a tool that we imagined to work.

General Remarks

- Organizing and running was more work than envisioned and took a lot of time in the days before going live
- Even for a digital conference, one needs at least(!) 3 persons per parallel track that will be busy during the event with keeping everything running.
- Discussions run less fluently compared to a live event and one needs to plan the Q&A session carefully.
- From our point of view, it is of great help that all the videos are available in the future (multiple use, easy sharing, accessibility).

Our Planned Improvements for the Next Event

- We had 15 min long videos on the website for each presented plus 3 minute short videos, also used to open the Q&A. The discussion was partially difficult. Most people watched only the 3 min videos. (Use Opponent and extend the short video to 5 min.)
- Next time, the short videos should be 5 min long so that a bit of technical content can be presented as well
- Better explain next time a new target for short videos: basis for discussion
- Opponent: One person for every session besides the session chair that
 acts as an opponent asking critical questions to stimulate a discussion. At
 DIGICROP 2020, we did not have opponents but we should have had
 some to have better discussions during the Q&A session.
- In the surveys, people loved the idea of submitting questions beforehand but nearly no one used the option. We had almost no pre-submitted questions (58 talks, 20 questions)
- Minor changes on the website (see below)
- Minor changes for the videos (see below)

Required People to Run an Event of that Format

On Site

- Every track needs 3 people for the tech stuff, less does not work well:
 - o OBS Person
 - o Zoom Person
 - Observer (Check everything, keep time, and support the moderator/session chair)
- Trained backup tech person(s) to call in case someone gets sick
- 1 technical lead for oversight of the whole event and instant help
- 1-2 bosses to make decisions instantly in case of problems
- 1-2 people supporting the team with drinks, food, print-outs, calls, running around between rooms, organizing stuff quickly, etc.

For every track, one needs an individual room. One "war room" for bosses (always one person there). All rooms should be close to each other.

At DIGICROP 2020, we had 9 tech people (PhenoRob PhD students) for 3 parallel tracks + tech lead (IV) + SW + 3 supporting student assistants. We had 3 bosses on site (CS, HK, NB) with no other duties rather than partially moderating a session, only one person at a time. We had 3 trained backup tech people (PhenoRob PhD students) but they were not needed.

Off Site

- Moderators/session chairs: One per session plus a backup moderator (everyone was moderator once and backup moderator for another session)
- (SUGGESTION) Opponent: One person for every session besides the session chair that acts as an opponent asking critical questions to stimulate a discussion. At DIGICROP 2020, we did not have opponents but we should have had some to have better discussions during the Q&A session.

Technical Setup

Website

- We used wordpress
- Recommendation: select a good template FIRST and do a few test pages.
 Commit to template only when happy
- Plugins
 - Admin Bar & Dashboard Control to not show the admin bar when uses (conference participants login)
 - User Registration for handling user registrations. Two things to note:
 - Do not redirect statically after login to another page. This caused serious issues with firefox and took ages to debug
 - Some users could not reset their password for some reason (1-2% maybe)
 - Restrict User Access restrict access for different users on different pages
 - o Shortcodes Ultimate the main tool for style elements
 - o WP Fastest Cache Cache System to make Wordpress 2.5 times faster
 - WP Force SSL make sure user logins happen via https and not http
 - wpDiscuz discussion/post questions for pages one of the best tools for discussions buy maybe not the best for posting questions (but it worked well)
 - All-in-One WP Migration to create backups of the website
- Get a SSL cert early officially via HRZ or use Let's encrypt. For us, Let's encrypt worked extremely well and we changed to Let's encrypt for all our servers after Digicrop. Less effort than HRZ and the required renewal.

Website Improvement for the next event

- The wp accordions sucked. Better user ultimate shortcode
- We created a separate page per video. This was needed for the individual discussions per video but was hard to maintain in case of change on each page (=> lots of manual work). One might investigate better options in the future.

Videos

- All presentations are streamed as videos. Every presenter must provide two videos beforehand, one short version and one long version.
- Ask for 1080p videos as MP4 files, encoded approx 15 Mbit/s with H264 codec. Use at least 160 kBit/s for the audio stream.
- Make sure videos have good audio. Bad audio was the most annoying thing. Presenters must use a mic or headset, otherwise there too many disturbances (laptop fan goes on, sounds from surroundings, etc)
- Upload and embedding using Youtube was good. Cyrill's Python scripts allowed us to create pages easily in an automated fashion via Google API.
- What was suboptimal was that YT shows "related videos" when paused or after the video. This cannot be disabled in YT.

Video Improvement for the next event

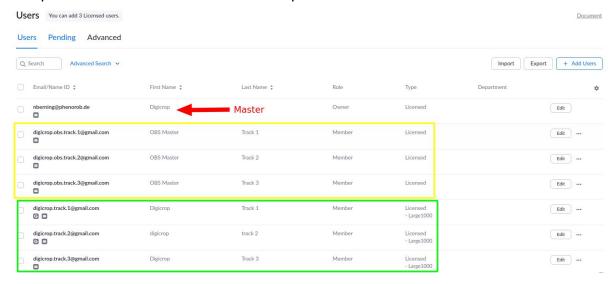
- If resources available: check audio of the videos beforehand.
- Ask users to provide a Digest Slide/Picture in 16:9 to be used as a thumbnail on YT (and will be shown on the website). This would make it nicer.
- Create a proper right/release form to sign for sharing the videos.

ZOOM

- Given that we expected more people than the regular licence allows for, you must upgrade the licenses. This can be done up to 1000 people per meeting (max).
- We ran an individual Zoom meeting per track. One may use Breakout rooms but they were not available when we setup the conference

Accounts

You only need one Licensed ZOOM account (the master account) for the setting up the meetings and 9 other users. This ZOOM account must have at least 10 extra licences which 3 of them should be able to hold meetings up to 1000 people. Of course you will need **ONE** email account for each ZOOM user. The setup we've used can be seen on this picture:



Group Management

It's much easier to create 3 different groups, where you can pick the zoom-meeting options and other stuff for all the users of that group. This will also prevent zoom users to change any option:

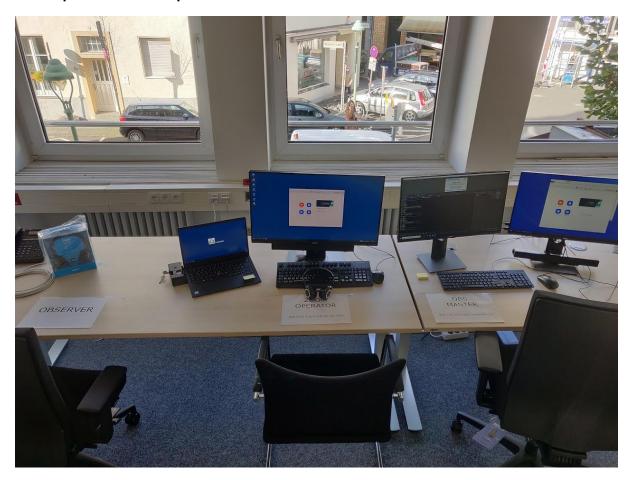


ZOOM Groups setup

The setup for the groups is quite long and can be found here:

- <u>track-meetings-setup.pdf</u> (see Appendix)
- <u>obs-master-setup.pdf</u> (see Appendix)

Computer Setup



Windows Configuration (all computers)

The Windows configuration for ALL 3 computers must follow these rules:

- Give camera permissions to ZOOM
- Disable Lock screen
- Disable Auto-suspend
- Enable max-performance Energy Plan
- Disable ALL Windows updates

ZOOM Master Computer

No hard requirements for this computer, a normal laptop with ZOOM installed will work.

Observer Computer

No hard requirements for this computer, a normal laptop with ZOOM installed will work.

OBS Computer

We streamed the videos through ZOOM, by just "sharing one screen". To do so, you need one "OBS computer", which consists off:

- Desktop computer
- External GPU (preferably NVIDIA) (the integrated one won't be enough)
- 2 Full HD Screens (1920x1080)
- Internet Access

The software you will need for the OBS computer it's only:

- ZOOM
- OBS

For streaming, you will have OBS running on the main screen. And the second one it's only used for screen sharing. Here is a diagram of the OBS Computer screens:



- You need to download ALL the videos you need to stream. And store it locally.
- You should also get any sort of transition slides or any alike at this moment.
- Open OBS, and create one unique scene for each video and each transition slide.
 - Select "enable hardware encoding when available".
 - Deselect "restart playback when it becomes active".
 - Deselect "Loop".
- Go to OBS properties and select an audio device for monitoring.
- Open advanced audio properties on OBS, and select "Monitor and Output" for all your video sources.
- Once you have ALL the videos in OBS. You should open again the audio properties from the sources, deselect "active sources only" from the bottom left corner and now, you need to "calibrate" all the audio so they have the same volume.

- Now you need to go manually to each video and "stop it" using the square button from the media source.
- Once you finish this setup, the OBS screen should look something like:



 Export your scene collection (otherwise you will need to re-do all these steps again incase something goes wrong)

Technical Workflow

OBS Master

Instructions for startup (ONLY ONCE)

- 1. Open OBS.
- 2. Enable preview in **FULL SCREEN** on second monitor.
- 1. Open ZOOM.
- 2. Login into the track meeting
- 3. Mute yourself.
- 4. Stop your camera on zoom.
- 5. Check that the ZOOM host make you co-host(so you can share screen)

Instructions for sessions (CONTINUOUSLY)

During session starts

- To start a talk video (when notified by moderator):
 - Start screen sharing
 - Make sure you **UN**-select Optimize for video clip sharing
 - Make sure you **ONLY** Select the OBS Fullscreen preview
 - Make sure you **SELECT** sound sharing
 - Start video playback via OBS(on second screen) and make sure it plays
 - Wait for the video to end
 - Stop screen sharing
 - [Let moderator do Q&A]
 - REPEAT

When there are no talks in the session (mainly for track 3)

- Display slide informing that talks happen in the other rooms.
- Wait until the next session starts

When session ends

- Display break slide.
- Wait until the next session starts

ZOOM Host

Instructions startup (ONCE)

- 1. Start ZOOM
- 2. Login into your track account (digicrop.track.X@gmail.com)
- 3. Go to the meetings tabs, select the track meeting and start it
- 4. Select the OBS Master and make him/her co-host
- 5. Select the Observer and make him/her co-host
- 6. Mute all (Participants tabs)
- 7. Disable "unmute themselves" (Participants tabs)

Instructions for sessions (CONTINUOUSLY)

- 1. Select the Moderator and of **that** session and make him/her co-host
- 2. Hand over to moderator, so he/her knows it's in charge

When session ends:

1. Disable last moderator as co-host

Observer Host

Instructions for sessions

- 1. Rename yourself as Observer Track X
- 2. Make sure that moderators stick to the time slots.

Appendix

- track-meetings-setup.pdf
- <u>obs-master-setup.pdf</u>

SCHEDULE A MEETING JOIN A MEETING →

O

Modified Reset



PERSONAL

Meetings

Webinars

Recordings

ADMIN

Dashboard

User Management

Users

Role Management

> Room Management

> Account Management

Attend Live Training

Video Tutorials

Knowledge Base

Groups > Tracks > Settings Profile Meeting Recording Telephone Groups members will use the following settings by default. If you don't want the settings below to be changed, you can lock the settings here. Learn More Schedule Meeting Waiting Room **O** In Meeting (Basic) When participants join a meeting, place them in a waiting room and require the host to admit them individually. Enabling the waiting room automatically disables the setting for allowing participants to join before host. In Meeting (Advanced) Waiting Room Options **Email Notification** The options you select here apply to meetings hosted by users who turned 'Waiting Room' on ✓ Everyone will go in the waiting room Edit Options Customize Waiting Room Meeting Passcode Modified Reset All instant, and scheduled meetings that users can join via client, or room systems will be passcode-protected. The Personal Meeting ID (PMI) meetings are not included Personal Meeting ID (PMI) Passcode All Personal Meeting ID (PMI) meetings that users can join via client, or room systems will be passcode-protected. Require passcode for participants joining by phone Modified Reset A numeric passcode will be required for participants joining by phone if your meeting has a passcode. For meeting with an alphanumeric passcode, a numeric version will be generated. Embed passcode in invite link for one-click join **(** Using account setting Meeting passcode will be encrypted and included in the invite link to allow participants to join with just one click without having to enter the passcode Only authenticated users can join meetings Modified Reset **a** The participants need to authenticate prior to joining the meetings, hosts can choose one of the authentication methods when scheduling a meeting. Learn more Meeting Authentication Options: Sign in to Zoom (Default) Edit Hide in the Selection If Waiting Room is enabled, phone-only users will be placed in the Waiting Room. If Waiting Room is not enabled, phone dial-in only users will: Be allowed to join the meeting Be blocked from joining the meeting Only authenticated users can join meetings from Web client Modified Reset **O** The participants need to authenticate prior to joining meetings from web client Approve or block entry to users from specific regions/countries Modified Reset Determine whether users from specific regions or countries can join meetings/webinars on your account by adding them to your Approved List or Blocked List Schedule Meeting Host video **(**) Start meetings with host video on Modified Reset Start meetings with participant video on. Participants can change this during the meeting. Audio Type Using account setting Determine how participants can join the audio portion of the meeting. When joining audio, you can let them choose to use their computer microphone/speaker or use a telephone. You can also limit them to just one of those audio types. If you have 3rd party audio enabled, you can require that all participants follow the instructions you provide for using non-Zoom audio. O Telephone and Computer Audio Telephone Omputer Audio

Allow participants to join before host

Enable Personal Meeting ID

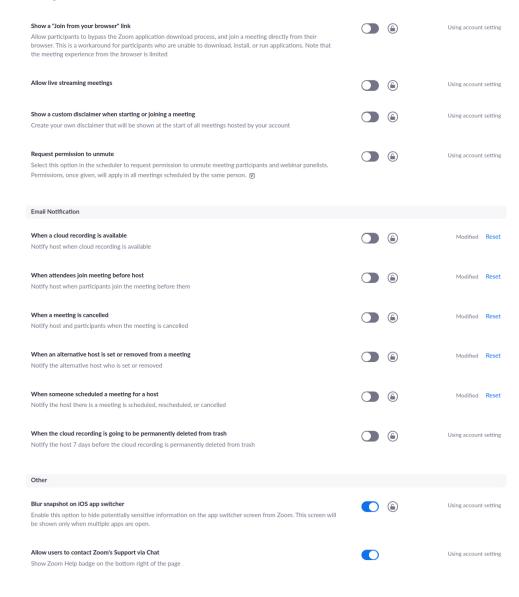
Allow participants to join the meeting before the host arrives

becomes the users personal meeting room. Learn more 🗵

A Personal Meeting ID (PMI) is a dedicated 9-11 digit number which is assigned to each individuals account. This

Mute all participants when they join a meeting Automatically mute all participants when they join the meeting. The host controls whether participants can unmute themselves. (9)	0	Modified
Upcoming meeting reminder Receive desktop notification for upcoming meetings. Reminder time can be configured in the Zoom Desktop Client. ©	۱	Using account
In Meeting (Basic)		
Require encryption for 3rd party endpoints (SIP/H.323) By default, Zoom requires encryption for all data transferred between the Zoom cloud, Zoom client, and Zoom Room. Turn on this setting to require encryption for 3rd party endpoints (SIP/H.323) as well.		Using account
Chat Allow meeting participants to send a message visible to all participants	0	Modified
Private chat Allow meeting participants to send a private 1:1 message to another participant.	0	
Auto saving chats Automatically save all in-meeting chats so that hosts do not need to manually save the text of the chat after the meeting starts.	•	
Sound notification when someone joins or leaves	0	Modified
File transfer Hosts and participants can send files through the in-meeting chat. Ø	0	Modified
Feedback to Zoom Add a Feedback tab to the Windows Settings or Mac Preferences dialog, and also enable users to provide feedback to Zoom at the end of the meeting		Modified
Display end-of-meeting experience feedback survey Display a thumbs up/down survey at the end of each meeting. If participants respond with thumbs down, they can provide additional information about what went wrong.	۱	
Co-host Allow the host to add co-hosts. Co-hosts have the same in-meeting controls as the host.	0	Modified
Polling Add 'Polls' to the meeting controls. This allows the host to survey the attendees. ▼	0	Modified
Always show meeting control toolbar Always show meeting controls during a meeting	0	Modified
Show Zoom windows during screen share $ \overline{y} $		Using account
Screen sharing Allow host and participants to share their screen or content during meetings	0	Modified
Who can share? • Host Only		
Who can start sharing when someone else is sharing? Host Only All Participants T		
Disable desktop/screen share for users Disable desktop or screen share in a meeting and only allow sharing of selected applications.	0	Modified
Annotation Allow host and participants to use annotation tools to add information to shared screens □	0	Modified
Whiteboard Allow host and participants to share whiteboard during a meeting Ø	0	Modified
Remote control During screen sharing, the person who is sharing can allow others to control the shared content	0	Modified
Nonverbal feedback Participants in a meeting can provide nonverbal feedback and express opinions by clicking on icons in the Participants panel. ②	0	Modified
Meeting reactions Allow meeting participants to communicate without interrupting by reacting with an emoji that shows on their video. Reactions disappear after 10 seconds. Participants can change their reaction skin tone in Settings. @	0	Modified

Include all data center regions to provide the best experience for participants joining from all regions. Opting out of data center regions may limit CRC, Dial-in, Call Me, and Invite by Phone options for participants joining from





Download

Meetings Client
Browser Extension
iPhone/iPad App
Android App

Sales

1.888.799.0125 Contact Sales Plans & Pricing Request a Demo Webinars and Events Support

Test Zoom
Account
Support Center
Live Training
Feedback
Contact Us
Accessibility
Privacy and Security

Language









O



ZOOM SOLUTIONS → PLANS & PRICING CONTACT SALES PERSONAL Meetings Webinars Recordings Settings ADMIN Dashboard v User Management Users Role Management > Room Management > Account Management Attend Live Training Video Tutorials

Knowledge Base

Groups > OBS masters > Settings			
Profile Meeting Recor	rding Telephone		
Groups members will use the following can lock the settings here. Learn More	g settings by default. If you don't want the settings below to be changed, you		
Security	Security		
Schedule Meeting			
In Meeting (Basic)	Waiting Room When participants join a meeting, place them in a waiting room and require the host to admit them individually.	0	Modified Reset
In Meeting (Advanced)	Enabling the waiting room automatically disables the setting for allowing participants to join before host.		
Email Notification	Waiting Room Options The options you select here apply to meetings hosted by users who turned 'Waiting Room' on		
Other	✓ Everyone will go in the waiting room		
	Edit Options Customize Waiting Room		
	Meeting Passcode		Modified Reset
	All instant, and scheduled meetings that users can join via client, or room systems will be passcode-protected. The Personal Meeting ID (PMI) meetings are not included.	0	
	Personal Meeting ID (PMI) Passcode		
	All Personal Meeting ID (PMI) meetings that users can join via client, or room systems will be passcode-protected.		
	Require passcode for participants joining by phone	(Modified Reset
	A numeric passcode will be required for participants joining by phone if your meeting has a passcode. For meeting with an alphanumeric passcode, a numeric version will be generated.		
	Embed passcode in invite link for one-click join		Using account setting
	Meeting passcode will be encrypted and included in the invite link to allow participants to join with just one click without having to enter the passcode.		Osing account setting
	Only authenticated users can join meetings		Modified Reset
	The participants need to authenticate prior to joining the meetings, hosts can choose one of the authentication methods when scheduling a meeting.Learn more	0	
	Meeting Authentication Options: Sign in to Zoom (Default) Edit Hide in the Selection		
	If Walting Room is enabled, phone-only users will be placed in the Walting Room. If Walting Room is not enabled, phone dial-in only users will:		
	Be allowed to join the meeting		
	Be blocked from joining the meeting		
	Only authenticated users can join meetings from Web client The participants need to authenticate prior to joining meetings from web client	0	Modified Reset
	Approve or block entry to users from specific regions/countries Determine whether users from specific regions or countries can join meetings/webinars on your account by adding them to your Approved List or Blocked List	0	Modified Reset
	Schedule Meeting		
	Host video		Modified Reset
	Start meetings with host video on	0	Wodified Neset
	Participants video	0	Modified Reset
	Start meetings with participant video on. Participants can change this during the meeting.		
	Audio Type Determine how participants can join the audio portion of the meeting. When joining audio, you can let them choose to use their computer microphone/speaker or use a telephone. You can also limit them to just one of those audio types. If you have 3rd party audio enabled, you can require that all participants follow the instructions you provide for using non-Zoom audio.	٨	Using account setting
	Telephone and Computer Audio		
	Telephone		
	Computer Audio		
	Allow participants to join before host Allow participants to join the meeting before the host arrives	0	Modified Reset
	Enable Personal Meeting ID	(Modified Reset

A Personal Meeting ID (PMI) is a dedicated 9-11 digit number which is assigned to each individuals account. This

becomes the users personal meeting room. Learn more $\, \mathbf{\nabla} \,$

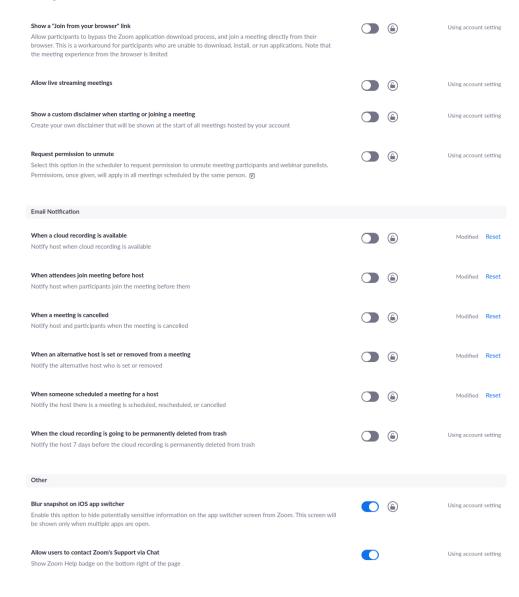
Mute all participants when they join a meeting Automatically mute all participants when they join the meeting. The host controls whether participants can unmute themselves. O	(2)	Modified
Upcoming meeting reminder Receive desktop notification for upcoming meetings. Reminder time can be configured in the Zoom Desktop Client.	©	Modified
In Meeting (Basic)		
Require encryption for 3rd party endpoints (SIP/H.323) By default, Zoom requires encryption for all data transferred between the Zoom cloud, Zoom client, and Zoom Room. Turn on this setting to require encryption for 3rd party endpoints (SIP/H.323) as well.		Using account
Chat Allow meeting participants to send a message visible to all participants	0	Modified
Private chat Allow meeting participants to send a private 1:1 message to another participant.	0	
Auto saving chats Automatically save all in-meeting chats so that hosts do not need to manually save the text of the chat after the meeting starts.	0	
Sound notification when someone joins or leaves	0	Modified
File transfer Hosts and participants can send files through the in-meeting chat. Ø	0	Modified
Feedback to Zoom Add a Feedback tab to the Windows Settings or Mac Preferences dialog, and also enable users to provide feedback to Zoom at the end of the meeting		Modified
Display end-of-meeting experience feedback survey Display a thumbs up/down survey at the end of each meeting. If participants respond with thumbs down, they can provide additional information about what went wrong.		
Co-host Allow the host to add co-hosts. Co-hosts have the same in-meeting controls as the host.	0	Modified
Polling Add 'Polls' to the meeting controls. This allows the host to survey the attendees. ②		Using account
Always show meeting control toolbar Always show meeting controls during a meeting	•	Modified
Show Zoom windows during screen share 🗹		Modified
Screen sharing Allow host and participants to share their screen or content during meetings	0	Modified
Who can share? Host Only All Participants ①		
Who can start sharing when someone else is sharing? Host Only All Participants		
Disable dealthsy (seems above for users		
Disable desktop/screen share for users Disable desktop or screen share in a meeting and only allow sharing of selected applications. ☑	0	Modified
Annotation Allow host and participants to use annotation tools to add information to shared screens	0	Modified
Whiteboard Allow host and participants to share whiteboard during a meeting Ø	0	Modified
Remote control	0	Modified
During screen sharing, the person who is sharing can allow others to control the shared content Nonverbal feedback		
Nonverbal reedback Participants in a meeting can provide nonverbal feedback and express opinions by clicking on icons in the Participants panel.	U	Modified
Meeting reactions Allow meeting participants to communicate without interrupting by reacting with an emoji that shows on their video. Reactions disappear after 10 seconds. Participants can change their reaction skin tone in Settings. (P)	0	Modified

(a)

Using account setting

Select data center regions for meetings/webinars hosted by your account

Include all data center regions to provide the best experience for participants joining from all regions. Opting out of data center regions may limit CRC, Dial-in, Call Me, and Invite by Phone options for participants joining from





Download

Meetings Client
Browser Extension
iPhone/iPad App
Android App

Sales

1.888.799.0125 Contact Sales Plans & Pricing Request a Demo Webinars and Events Support

Test Zoom
Account
Support Center
Live Training
Feedback
Contact Us
Accessibility
Privacy and Security

Language







