

Polycom's MGC™ Conference on a Port (COP)



Conference on a Port (COP) is a cost effective method of delivering large video conferences, by optimizing port utilization on the MGC-25, 50 or 100. In MGC-50/100 COP enables up to 100 video participants (IP and ISDN) to join in a Continuous Presence (CP) conference, on a single port. A Video+ module is required and each module can support up to a total of 128 participants.

Detailed Description

When Conference On a Port (COP) mode is selected for a conference, a single Continuous Presence layout is chosen and viewed by all participants.

Only the chairperson has the ability to use Click&View during COP to change the conference CP layout. All other participants in the conference view the same layout, and do not have control over the layout. For full featured conferencing, such as CP Personal Layout, Click&View, and full transcoding, using Advanced Continuous Presence is required.



COP (Basic CP) vs. Advanced CP

The major differences between Advanced CP and COP are summarized in the following table:

FEATURE	ADVANCED CP	CONFERENCE ON A PORT (BASIC CP)
Maximum number of participants per conference	<ul style="list-style-type: none"> MGC-25 – Six participants MGC-50/100 – Eight participants per Video+ card 	<ul style="list-style-type: none"> MGC-25 – The number of participants supported by the system. MGC-50/100 – Up to 100 participants per conference
Transcoding	Maintains the highest possible capabilities for each participant.	All conference participants communicate at the highest common video parameters. For example, if two participants connect using H.263 and one participant connects using H.261 the conference will use H.261, the highest common parameter for all participants.
Connection Speed	Any participant connecting at a video-capable speed will connect to the conference.	There is a minimum speed threshold that participants must support in order to connect with video. This minimum speed is determined according to the conference Line Rate. For example, a participant with a line rate of 128 Kbps will connect to a 768 Kbps conference as Secondary (Audio Only), thus preserving the video quality of the conference.
Personal View	Each participant may modify his/her layout, including personal Video Forcing.	Personal Layout is not available in COP. All conference participants view the same layout with the same participants displayed in each window.
Click&View	Full-featured Click&View is available to all participants (Personal Layout).	Click&View is available only to the conference chairperson who has the ability to modify the conference layout and request Operator's assistance.

Conference On a Port (COP) Parameters

In Conference On a Port, the MGC transmits a uniform video signal to each endpoint in a conference. The parameters of this signal are the "highest common" parameters of all participants in the conference.

Line Rate Thresholds for Conference On a Port

Conference On a Port conferences, as opposed to traditional Continuous Presence conferences, are run at the highest line rate common to all participants. For example, if three participants are connected at 384 Kbps and one participant now connects at 256 Kbps, the conference line rate will change to 256 Kbps for all participants to allow the fourth participant to connect. But if the participant connected at 256 Kbps leaves the conference, the conference line rate will go back up to 384 Kbps. The conference line rate changes dynamically in COP.

COP Benefits:

- *Cost effective method of delivering large video conferences*
- *Requires only one MGC Video+ module to support up to 128 participants per conference*
- *Chairperson retains complete control over video layout*
- *Supports “highest common” transcoding*
- *Conference line rate changes dynamically in COP to support highest line rate common to all participants*
- *Minimum speed threshold maintains conference quality*
- *Auto layout may be used with COP (for presenter only)*
- *Presentation mode is supported with COP*

COP Limitations:

- *Personal Layout is not available in COP*
- *Lecture Mode is not available in COP*
- *Cascading is not available to or from a conference set as Conference On a Port*
- *Moving a participant from a Software Continuous Presence (ie. the MGC IP default) conference to a conference set as Conference On a Port is not available*

To ensure a minimal video quality for a Conference On a Port, a minimum line rate necessary for connection to the conference (line rate threshold) is defined for each line rate set for the conference. Endpoints can connect to the conference using any line rate in the range between the line rate threshold and the conference line rate. Endpoints that connect using a line rate lower than the threshold will connect as secondary (Audio Only). For example, a participant that connects with line rate of 128 Kbps to the conference with line rate set to 768 Kbps will connect as Audio Only.

Defined conference connection line rate (speed)

128 Kbps
256 Kbps
384 Kbps
512 Kbps
768 Kbps
1920 Kbps

Minimum participant connection line rate (speed) necessary for video connection

No line rate threshold. All participants are connected to the conference using video if their video channel can be established
128 Kbps
128 Kbps
256 Kbps
384 Kbps
768 Kbps

To cancel the minimum line rate threshold, the flag “system.cfg” in the Video Plus section can be set to “NO”. This enables all video participants to connect, regardless of their line rates. The video quality of the conference will change according to the Highest Common parameters. The conference must be defined as Continuous Presence, either the Classic or a Quad Views Video Session can be selected.

Video Resources in the Resources Report

The Conference On a Port is run on the Video+ card, therefore the resources required to run such a conference are calculated for Video+ cards. Each Conference On a Port is allocated a single port and is counted in the same way as a single participant in a Continuous Presence conference.

Auto Layout

Auto Layout is a mechanism for automatic selection of video layout, based on the number of participants attending the conference. In Continuous Presence conferences, when you set the video layout to Auto Layout the system automatically selects a video layout based on the number of video participants connected to the conference. When a new video participant connects or disconnects, the conference layout automatically changes to reflect the new number of video participants. Audio Only participants do not affect the selected layout.

Auto Layout can be selected at the reservation stage, or during an on going conference. Auto Layout can be used with Conference On a Port (COP). In this mode, the system selects the layout as if one additional participant was added to the conference to show the self view of the speaker. For example, if there are five participants in the conference in a standard CP conference, the system will show only four windows as the speaker does not see himself/herself. In COP mode, the Auto Layout will select a layout for five participants (and not four) to show the speaker.

Presentation Mode

Presentation Mode is when the current presenter speaks beyond a predefined time, the conference layout automatically changes to full screen, displaying the current speaker as the conference lecturer. When another participant starts talking, Presentation Mode is cancelled and the conference returns to its predefined video layout.

In a COP conference, when the speaker becomes the conference presenter, the conference layout is automatically set to 1x1 (full screen) and all participants including the active speaker view this layout. If the speaker in a video conference is an Audio Only participant, Presentation Mode is not activated when that participant speaks.