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Research

A New Approach to Staying 'Connected'

Enhancing the remote experience during teaming sessions powered by Microsoft Skype for Business

This study sponsored by …

Polycom   Microsoft

The Changing Meeting Environment

In the past, business meetings were treated like formal events. They were scheduled days or weeks in advance, often on a recurring basis (e.g. every second Tuesday), and had a defined start time and end time. Typically, these meetings had a named meeting host who managed the session and guided the team through a pre-published agenda.

In most (but not all) cases, these formal meetings followed one of two formats:

1) **Moderated Discussion** – a structured discussion during which the participants discuss a wide range of topics. To ensure that all documented topics are covered and everyone gets a chance to speak, these meetings often followed a strict set of meeting rules (e.g. Robert's Rules of Order or something similar). In many cases, participants were given specific time limits (e.g. 3 minutes) to discuss their issue.

2) **Formal Presentation** – a structured meeting during which one or more participants present information about a specific topic. The goal of this session is to get through the previously prepared material to ensure that all participants are up to speed, and in some cases to allow others to provide commentary or feedback as required.

And for the most part, the named host (or the most senior person in the meeting) would sit at the end of a long table like the conductor standing in front of an orchestra (see image below).

Well as the saying goes … this too shall change. And a major contributor to this change in how people meet is the changing nature (and demographic) of the work force.

According to the Pew Research Center's analysis of U.S. Census Bureau data (specifically the monthly Current Population Survey),[1] there are more Millennials (adults between the age of 18 and 34) than Generation Xers (ages 35 to 50) in the United States labor force. In fact, more than 1/3rd of American workers today are Millennials (also referred to as Generation Yers).

While not specifically covered within Pew's research, this same trend of an ever-increasing percent of Millennials in the workforce is happening around the world.

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[1] Source: http://www.pewresearch.org/fact-tank/2015/05/11/millennials-surpass-gen-xers-as-the-largest-generation-in-u-s-labor-force/

Labor statistics aside, this youthful workforce brings with it a different set of priorities and expectations. While Gen Xers tend to be risk averse, seeking stability, consistency, and financial achievement, Millennials are driven more by a desire to make a difference and leave their mark on society. Millennials seek fast paced, innovative, and collaborative environments that afford them with opportunities to contribute to the company's success.[2]

So while Generation Xers are typically comfortable being presented to, most Millennials want to participate in and drive the discussion, solving problems collaboratively as a team – and without the burden and barriers of a structured meeting.

A survey by IdeaPaint revealed some additional tidbits about Millennials. First of all, the survey reveals that many Millennials are obsessed with efficiency. They were reared on the notion that they can access anything they need at any time, and tend to seek the fastest way to complete the task at hand. In addition, "Millennials like quick, casual, and socially-tinged meetings," instead of structured sessions that "do not give everyone a voice" and "lack spontaneity." [3]

The takeaway here is that although formal meetings are not likely to go extinct in the near future, less formal, unscripted, impromptu "teaming sessions" will, and for many have already become, daily business.

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[2] Source: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-dttl-2014-millennial-survey-report.pdf

[3] Source: IdeaPaint 2013 Millennial Survey (http://www.ideapaint.com/landing-pages/millennial)

Traditional Solutions Don't Apply

Traditional video conferencing systems were designed to support traditional business meetings. By placing the camera at the front of the room, the main presenter and even a few other people sitting nearby could be captured on camera. And for the most part, this works well … offering both local and remote participants a good view of the other people and locations in the meeting.

But teaming sessions work differently. While traditional meetings include a defined hierarchy with the leader (and his direct reports or co-presenters) sitting at the head of the table, teaming sessions are leaderless. Instead, like a meeting of the Knights of the Round Table, everyone is (in theory) an equal participant and is equally important. For these sessions, the ideal seating arrangement is a round or oval table as this fosters a feeling of democracy and equality. In such a teaming session, the participants huddle around the table and work together to achieve a common goal.

However, a camera at the front of the room can't capture an "around-the-table" huddle session as the camera would see some participant's backs instead of their faces. As a result, the remote participants would feel like they were located not just remotely, but distinctly outside the circle of participation. In effect, they would feel like second class citizens. If nothing else, this outsider's view certainly would not foster teamwork and contribution.

The takeaway here is that for teaming sessions where people are sitting around the table, traditional video conferencing systems with the camera in the front of the room are far from ideal.

The "Camera in the Middle" Approach

Polycom, the sponsor of this research study and hands-on assessment, offers several products designed to address the video and audio requirements during teaming sessions. These devices sit in the middle of the meeting room table – and thus in the middle of the team huddle (see image below).

The Polycom CX5100 and CX5500 products are 360 degree (panoramic) camera systems with integrated audio (microphones and speakers) designed to work with Microsoft Skype for Business (formerly Lync). [4] The CX5100 is the standard model, while the CX5500 includes a SIP stack (supports VoIP calling independent of Skype for Business) and a color touch display / user interface.

Unlike traditional, stand-alone video conferencing systems, these CX products are designed to connect via USB to a meeting participant's notebook computer. Once connected, and after the device is recognized by Windows and the standard video / audio drivers are automatically installed, the notebook PC sees the CX device as a USB camera and USB speakerphone.[5]

The CX systems provide remote Skype for Business users with two simultaneous views of the meeting room.

- The first is a panoramic (360 degree) view of the meeting room at up to 1920 x 288 resolution. This is accomplished using five (5) camera signals that are stitched together to form a single filmstrip view of the space (see image below).

- The second is an image (at up to 1080p) of the currently active speaker (a.k.a. voice activated switching). When a different person speaks, the system automatically shows the new speaker.

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[4] As of the date of our testing, the CX units support any Windows PC running Microsoft Skype for Business (formerly Lync). Note that a USB3 connection is required for 1080p video resolution.

[5] Since the CX units are recognized by Windows as standard video and audio devices, it is theoretically possible to use these systems with some 3rd party software clients. The level of support on a specific application will vary.

The combination of the panoramic view and voice activated view provides the remote participant(s) with a "feel" for the overall space and a tight connection to the current speaker. The net is that remote participants feel more involved in the meeting, which makes for a more productive teaming session.
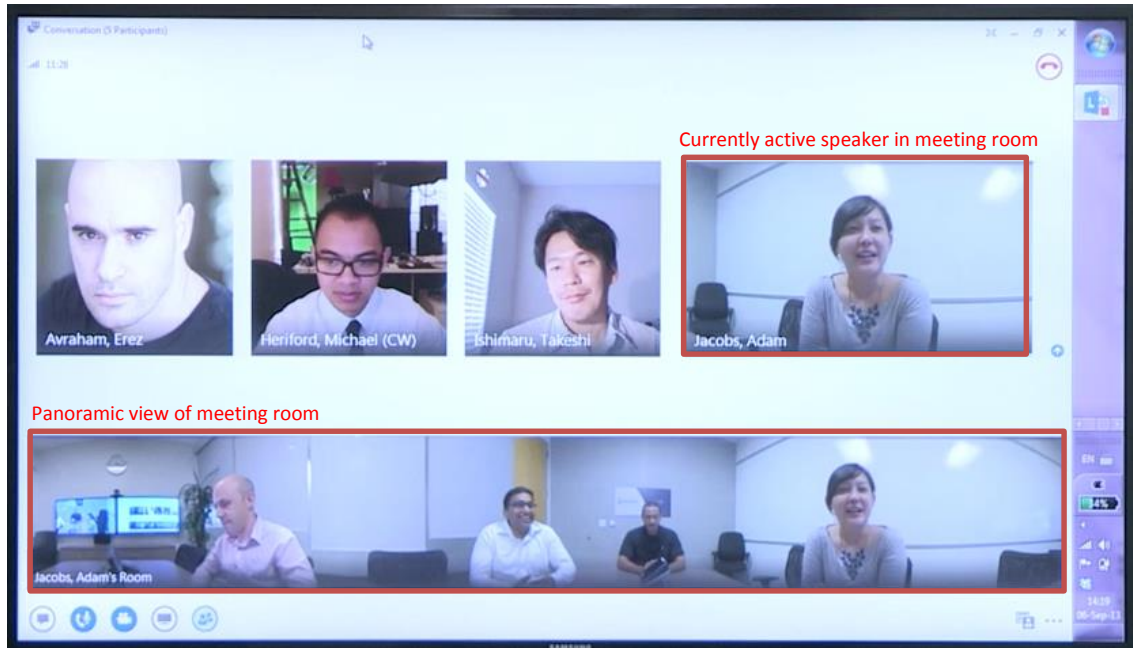
The image above shows a Skype for Business multiparty video call from the perspective of a remote Skype for Business user. The bottom image is a panoramic view of a remote meeting room. The top right image shows the currently active speaker in the meeting room. The other three images on top are other Skype for Business users.

Test Results:

As a part of this effort, the Wainhouse Research team installed the CX5100 and CX5500 within our test environment in our lab in South Florida. The systems were connected to two (2) Windows PCs running Lync 2013 (now Skype for Business - as a part of our Office 365 test environment).

Throughout our hands-on testing, the CX systems performed exactly as advertised. Specifically …

1) The systems were recognized automatically by Windows.

2) Windows automatically installed the proper video and audio drivers.

3) Skype for Business recognized the video and audio signals from the CX systems.

4) During our point to point and multi-point meetings, the remote Skype for Business / Lync users received two simultaneous, high quality views of the meeting room.

On a more subjective note, the testers confirmed that once they got used to the experience, the addition of the panoramic view of the room gave them a better feel for the remote space.

In terms of system performance, the CX5100 and CX5500 devices provided very high quality panoramic images. In fact, the team found it difficult to see the stitch lines between the five camera signals. Furthermore, the systems provided strong incoming and outgoing audio and very solid echo cancellation. Also the addition of VoIP capabilities and the color touch pad significantly enhances the utility of the CX5500.

After years of testing visual collaboration tools, our staff knows that no device is perfect. With the CX systems, for example, the camera unit connects to a processing appliance (referred to as the "Power Data Box" by Polycom) using two unsightly thick black cables. In addition, these cables are only ~ 3 meters long, which means the Power Data Box probably must reside under the meeting room table instead of in a closet or credenza. Furthermore, it is unfortunate that the CX systems are not compatible with Mac systems. Also the addition of a mechanical or digital image "crop" function to allow users to block out parts of the 360 degree view or decrease the vertical field of view would be helpful. This seemingly minor change would improve the remote user experience in many situations.

Additional Comments:

A key part of a good user experience is the use of the proper approach (traditional approach with camera in front of the room, or camera in the middle of the table) for the particular use case. See the table below for WR's analysis of this situation. The boxes shaded in green are acceptable situations / user experiences, while those shaded in red are problematic / not acceptable.

Type of Meeting	Mode 1 (standard meeting)	Mode 2a (teaming session)	Mode 2b (teaming session)
Description	Traditional meeting Shared display front of room	Teaming session Small square / round table No shared display One or two users running Skype for Business	Teaming session Small square / round table No shared display Many (or all) users running Skype for Business
Traditional Approach (camera located at front of the room)			
Experience for In-Room Participants	Very Good	Not viable (requires shared display)	Not viable (requires shared display)
Experience for Remote Participants	Very Good	Not viable (requires shared display)	Not viable (requires shared display)
Comments	Traditional approach works well for this type of meeting	Requires a shared display. Camera captures backs of participants.	Requires a shared display. Camera captures backs of participants.
Center of Table Approach (using 360 degree panoramic camera)			
Experience for In-Room Participants	Very Good	Poor (many participants won't see the remote people)	Very Good
Experience for Remote Participants	Good feel for remote room. Some eye contact issues. In-room people may be small (depending on table size). May see self in camera image.	Good feel for remote room. Some eye contact issues.	Very Good
Comments	Acceptable but not ideal experience. Better suited for small meeting rooms.	Only user running Skype for Business can see remote users and shared content. Supports in-room whiteboard.	Requires most in-room users to mute mics, speakers, and camera (if not so by default). Supports in-room whiteboard.

The chart above highlights that the traditional approach works well for standard / traditional meetings, but not for teaming sessions, while the center of table approach supports numerous meeting types – although the experience may not be perfect in some situations.

Conclusion

Whether we like it or not, the Millennials are taking over the workplace. And they bring a completely different set of priority and expectations – including the desire for a fast paced, nimble, highly collaborative work environment.

Traditional video conferencing systems that leverage front-of-room cameras are well suited for "standard" meetings (e.g. presentations, formal discussions with a leader, etc.). However, they are unable to properly support a teaming / huddle session without leaving the remote participants feeling somehow outside of the circle of participation.

With its CX5100 and CX5500 products, Polycom (the sponsor of this study) has taken an innovative approach to resolving this situation. The CX5100 and CX5500 are 360 degree camera systems that sit in the middle of the conference room table, providing remote Skype for Business / Lync users with a better "connection" to the meeting room. And unlike traditional video conferencing systems, the "camera in the middle of the table" approach is flexible enough to support both standard / formal meetings and teaming sessions.

As a part of this study, Wainhouse Research tested the CX5100 and CX5500 in our lab and found that it operates exactly as advertised. While no technical solution is perfect, these systems provided our staff with an enhanced feeling of involvement in the remote meeting.

Organizations embracing the new, information, teaming style of working should take a careful look at alternative camera approaches such as the Polycom CX5100 and CX5500 products.

About the Authors

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About Wainhouse Research

Wainhouse Research, www.wainhouse.com, is an independent analyst firm that focuses on critical issues in the Unified Communications and Collaboration (UC&C). The company conducts multi-client and custom research studies, consults with end users on key implementation issues, publishes white papers and market statistics, and delivers public and private seminars as well as speaker presentations at industry group meetings.

About Polycom   (copy provided by Polycom)

Polycom helps organizations unleash the power of human collaboration. More than 415,000 companies and institutions worldwide defy distance with secure video, voice and content solutions from Polycom to increase productivity, speed time to market, provide better customer service, expand education and save lives. Polycom and its global partner ecosystem provide flexible collaboration solutions for any environment that deliver the best user experience, the broadest multi-vendor interoperability and unmatched investment protection. Visit www.polycom.com or connect with us on Twitter, Facebook, and LinkedIn to learn more.

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Founded in 1975, Microsoft (Nasdaq "MSFT") is the worldwide leader in software, services, solutions and devices that help people and businesses realize their full potential.