**Conducting Successful Virtual Meetings: Getting Started with Technology Considerations**

**Presented by Allan Cummings, Pat Chambers and Stephanie Jensen**

**August 10, 2016**

>> TIM FUCHS: Good afternoon, everybody. Thanks for being here today. I'm Tim Fuchs with the National Council on Independent Living. I want to welcome you all to our latest IL NET teleconference and webinar, conducting successful virtual meetings, getting started with technology considerations. Today's call is being brought to you by the IL NET training and technical assistant project. The IL NET is operated through a partnership among ILRU, NCIL and APRIL with support provided by the Administration On Community Living at the U.S. Department of Health and Human Services.

So as always we're recording today's call so that we can archive it on ILRU's website. That should be available within 48 hours. And we will also break several times during the presentation to take your questions. And if you have questions or comments, there is a few ways you can do that. I know the great majority of you are logged in on the webinar today, which is great, and you can ask questions or make comments in the chat. That's probably no surprise to you. So that chat box underneath the list of attendees, you can type your comments or questions in that white text box any time during the call. And we will wait until Q&A breaks to address them but you can type them there. If you are having a problem that's technical in nature, let us know and we will do our west to troubleshoot it with you. If you are only on the phone today, that's fine, too. You can press \*# during our Q&A breaks and that will let the operator know you have a question. And then finally if you're

on the full screen CART captioning today, I'm logged in there as. Tim Fuchs. You can type your questions any time during the call and we will take them during the breaks pep we'll have three Q&A breaks. Plenty of time for Q&A. So I hope you will take advantage of that. Also, if you are on the webinar, the PowerPoint will display and change slides automatically, but if you are on the phone only or full-screen CART you'll definitely want to make sure to have a copy of the PowerPoint handy. That was sent to you -- it was attached in both PDF and plane text versions in the confirmation email you received. If you don't have that for any reason, you can email me and I'll send you a copy. My email is really easy. It's just Tim@NCIL.org.

So those are the -- oh, then, finally at the end of the call also there will be a link to than a evaluation form and I do hope you all will that out. I know some of you are participating in small groups today, but we would like to see an eval from everyone who participates. It's short, easy to complete and I really hope that you'll take the time to fill it out.

Okay. So that was it for my housekeeping announcements. I also want to take some time this morning to thank our presenters for being with us and introduce them. First we have Pat Chambers. Pat is the Executive Director of Heartland Independent Living center in Owensville, Missouri, but really Pat is here today because of his Lang standing membership on the Missouri SILC and having an integral role in helping the Missouri SILC move towards using technology to create virtual meetings. And both from the state of Wyoming we have Allan Cummings and Stephanie Jensen. Allan has been working in telecommunications for 25 years and he is one of two senior video principals for the state of Wyoming and Allan has taken a lead role with the roll-out of Google Hangouts and supported a number of agencies in the state of Wyoming. Stephanie is the IL programs manager for the Wyoming division of voc. rehab, where she has been the past five years and she has also played an integral role in

getting the Missouri SILC up and running with virtual meetings, which has been really important due to the physical and nature of weather in Wyoming.

So we're so excited to have our presenters, and I really do, I thank you all for putting together this presentation. Some of you may have noticed or may have noticed you missed their presentation at SILC Congress. This is kind of an updated virtual version of that. So, Pat, Allan and Stephanie, we're so happy having you with us today.

Before I turn it over to them I will click ahead to slide 3. Again an evaluation reminder. There is actually a live link to the eval at the end of the PowerPoint. Here you'll see Pat, Allan and Stephanie have been generous enough to provide their contact information so you have that on slide 3. And on slide 4 I'm just going to walk through our learning objectives quickly. You probably saw these in the training anounments when you signed up. But, first, we're going to learn the concept of virtual meetings along with the benefits and challenges. The platform, technology, equipment options and features that might best fit your organization's needs and improve the conference room virtual meeting experience. Next, strategies to overcome common pitfalls with conducting virtual meetings. And finally, informed decision-making process and strategies for implementing virtual meetings through case studies and examples.

So that's what we'll walk through today and I'm going to turn it over to slide 5 now and give the microphone to Stephanie who is going to walk through what are virtual meetings. Stephanie?

>> STEPHANIE JENSEN: Hi! a virtual meeting is an event or series of events where participants join in from multiple locations. A virtual meeting may be held in real time where everyone is participating at the same time, often by teleconference and/or videoconference. That is pretty important.

Moving on to the next slide, slide 6, we provide examples of some virtual meeting platforms. Would you like to talk about WebEx.

>> PAT CHAMBERS: Missouri is most -- we're very widespread. We have 22 Centers for Independent Living in Missouri. So getting everyone together sometimes is important business but it can take people in different centers more than six hours to drive just to the center part of the state, and if we go from the extreme southeast boot heel to the extreme northeast part of the state or northwest, many more hours than that. So actually our center association, which we call the roundtable, began looking for an alternate format to have meetings that didn't require so much drive t time and the expense and manpower time tied to it. We looked at various platforms and we decided to use WebEx because of its cost-effectiveness and it allowed us to all participate at one time. So we're now just about to begin our third year -- I'm sorry -- our second year of using that platform.

>> STEPHANIE JENSEN: And the state of Wyoming, the executive branch, uses Google Hangouts, and Allan was part of that process of choosing Google Hangouts. Do you want to talk a little about that, Allan?

>> ALLAN CUMMINGS: Yeah, hi. The state of Wyoming chose to use Google Hangouts for our video platform. The main reason was because of its cost-effectiveness with our Google apps for work suite that we have being with the state of Wyoming. It came with a little bit more features than what the basic Google hangout feature would have. But also because of the security. And we found that the security was a lot higher than our previous video platform, and it gave us the mobility that we needed due to the weather that we have that would allow us to be able to participate in meetings either through video or through audio like a telephone without having to travel 100 miles in a blizzard to be able to get to that meeting.

>> STEPHANIE JENSEN: Thanks.

Many other states from our feedback at SILC Congress have expressed that they use Go to Meeting. There are many, many other platforms out there. Someone such as Allan can tell you that. I think he looked at some others. We will give our experiences but also ideas on working with any platform.

We'll move on to the next slide, slide 7.

From presenting this previously, people have asked about including the public, because many of us are subject to open meetings laws or follow the open meetings laws if we are not subject to those. One of the ways around that is to have an availability of a physical location for the public and/or including a phone number for the public to call in, and/or including a link for the public to connect online. Those are good ways to allow people to know who was voting for what, and it is important to follow your own state's public meetings laws. If you are in New Mexico, it won't help you to follow Wyoming's public meetings laws.

Pat, do you have anything to add?

>> PAT CHAMBERS: I might mention in Missouri, as I said, the ED Roundtable group, which is a very informal association of the center -- the directors of the Centers for Independent Living, we are not a 501(c)(3), we don't have officers, we don't have bylaws, so the open meetings laws do not affect us. We've just learned as I shared just before we started that there is, through WebEx, a real time captioning option that you could do that provides the captioning for those with hearing impairments or -- but also if you have audio quality because of bandwidth problems that you can do that. We are going to make our association -- our association is going to make our WebEx available for the next Missouri SILC meeting, which is a week from Friday, to do that, and as you pointed out in the slide, we're going to make a call-in number to WebEx to the audio available. The only catch to that is we only have 25 slots in WebEx. You buy that in certain numbers, and they have -- you can buy

25 slot membership, you can buy 50, 100 or whatever. We have 22 centers. We bought 25 slots. So we will not be able to accommodate more than 25 people that want to call in or participate by the video platform.

>> STEPHANIE JENSEN: Thank you. Moving on to the next slide, slide 8, we've alluded to some of the benefits already, the benefits of virtual meetings. The first obvious one is the reduced cost from reduced travel. When we presented at SILC Congress, we brought Allan in via Google Hangouts. So he didn't have to have a plane ticket, no hotel, and also saves us with our SILC meetings or maybe your center board meetings, you don't have the mileage, you don't have the hotels, you don't have the per diem. That's the first obvious.

The next obvious that Pat has also talked about is a time savings. Similar to Pat, we can be on the road for six, seven, sometimes eight hours to get to a meeting, and if the meeting is two or three hours, that's not very efficient. The big one in Wyoming, even -- a bigger deal for me than the time or the dollar savings is avoiding potential dangerous weather and dangerous weather equals safety concerns. I know that other states deal with this... Nebraska, Montana, anywhere in the Midwest, I'm sure, and don't think that the dangerous weather is only in the wintertime. There are blizzards in Wyoming definitely in the winter, but we have dangerous weather in the summer as well. There are hail storms. Colorado experiences some of those, too. But I think there's only one month of the year that Cheyenne has not had snow on record. Yellowstone has snow any time of the year. So that is a really big deal for Wyoming.

And then a big important one is the availability to meet almost any time, anywhere.

Moving to the next slide, slide 9, there are some definite challenges to virtual meetings. Not everyone has a webcam or perhaps a computer. You would think in this day and age everyone does, but not quite. Some still have old devices. There is -- the Internet issue of Internet bandwidth varying across locations, especially in the rural and frontier areas.

>> PAT CHAMBERS: If I might, I want to mention that, because that was one of the -- perhaps the biggest obstacle in Missouri we encountered going into this and really none of the centers have any experience with virtual platforms. Bandwidth depends on the Internet provider you have, and if somebody on the call or somebody on the virtual platform has less of a bandwidth than others, it can cause feedback, it can cause static. So please consider that in your option, and if you have -- Stephanie pointed out in an earlier slide, if you have an on-site location for your meeting and you're conduct yucting the virtual platform from there, wherever that meeting site is it's important that they have a very strong wi-fi connection or connection to a dedicated line for your Internet because if it doesn't, it's certainly going to affect -- have an adverse impact on the quality, the bandwidth and thereof the quality of the meeting, people being able to follow the conversation and

being able to participate.

>> STEPHANIE JENSEN: Yes, thank you for elaborating.

And we are cognizant of the bandwidth in Wyoming because we do have those small areas where they're not as up to date as in the more populated areas.

Then the next challenge is the audio quality. Sometimes it has to do with the Internet. Sometimes it has to do with your equipment.

Pat, what do you have to add?

>> PAT CHAMBERS: I was going to go to the next one, Stephanie, that you had, and that is adaptive software. In Missouri one of our center executive directors is a blind gentleman, so he's got Jaws, and we had to do some trial and error to adjust Dennis' software so it didn't cause some of that feedback or static that we talked about. These are all things that if you -- if you start to do this, and we in Missouri learned the hard way, set up some trial meetings. So if you've got center directors or participants that have adaptive software, run some test meetings. We wound up doing a lot of that later than sooner, but still it will pay dividends because you want people to be able to participate. Nobody is going to participate in the meeting if they don't feel like they can be heard or they can express their opinions or views and actually be a participant. So the more testing you can do to eliminate those obstacles or challenges before you actually get into a meeting the

better.

>> STEPHANIE JENSEN: Thank you.

Sometimes a participant's antivirus software could prevent someone from connecting. And then, of course, there's also that learning curve of learning the new technology. And, of course, that is usually overcome with the practice meetings that Pat was talking about. We have found those practice meetings to be very beneficial in Wyoming.

Moving to the next slide, slide 10, there are some ways around those challenges. First is considered loaning webcams. Another option with being able to get people to connect is to partner with state agencies and with CILs for equipment and Internet. That might not catch everybody, but it will catch some. You can send links with tools to members to verify that their equipment is working. And we will emphasize this again, and again, practice... lots of practice sessions long before the actual meeting. And try to get as many people on the practice as you can before -- in the actual practice --

>> PAT CHAMBERS: Stephanie -- I'm sorry, go right ahead.

>> STEPHANIE JENSEN: So that you can simulate what it will be like. Go ahead, Pat.

>> PAT CHAMBERS: What I was going to say and this is a little teaser for later in the webinar, but everybody please stay tuned, if you're not familiar with equipment, Allan does an excellent job about talking about cameras, speakers, microphones, talks about the features, the pluses and the minuses, the costs, and I know you're all online, but it's certainly well worth your mind -- even if you're doing something now and not happy with the equipment that you're using or just getting involved, all of that information that Allan is going to share with us later is worth the price of admission.

>> ALLAN CUMMINGS: Thank you, Pat.

>> STEPHANIE JENSEN: Moving on to slide 11 on the audio, the first hint that we will emphasize again later is when you are on an individual computer to use headphones. And when you have a call-in number, be sure to use a phone number within the platform so that it gets audio from the -- so the audio from the phone callers comes throots computer speakers.

Google Hangouts currently uses Uber Conference for direct dial participants, and that does go through the speaker -- the computer speakers, but Google Hangouts is moving to a phone number within the platform.

>> ALLAN CUMMINGS: One thing real quick, Stephanie, one thing hangouts also does, it has the ability to call out to individuals as well.

>> STEPHANIE JENSEN: Oh, that's right.

>> ALLAN CUMMINGS: Eventually it will have the call-in number, but you have the ability to call out with the 25 numbers or with personal accounts up to 10 numbers. So it's both in and out.

>> STEPHANIE JENSEN: Nice. That's right.

One thing to keep in mind for people calling in is that most of them are not toll-free numbers, which presents the opportunity for a long distance bill if someone still pays for long distance with that participant's long distance provider.

Moving to the next slide, slide 12, we'll talk about accessibility. Pat's talked about screen readers. This is again where most practice sessions are very helpful. There is a place in the settings on most platforms to specify that a screen reader is being used. And one of the SILC members on Wyoming's SILC has a visual impairment, and she turns her screen reader off and on.

For captioning, you want to use a service that does remote captioning on a regular basis. That way they know the different platforms, they know if you need to have a second link for someone to pay attention to the captions on this other link instead of on whatever platform you are using.

For an ASL interpreter, you will invite the ASL interpreter as another participant. Google and possibly the other services are working to improve accessibility and the overall technology.

>> ALLAN CUMMINGS: One thing with Google Hangouts, Stephanie, there are screen readers that do work best with hangouts. Jaws is one of them. MVDA is another one if you are using window products. If you are on a Mac they recommend using Voas voiceover. For people using Chrome books they recommend something called a Chromebox. At least for that section they have that part ready for the hear -- for the hearing impaired section they are still working to improve that as well. So...

>> STEPHANIE JENSEN: And in my research, I have noticed that they have deaf and hard of hearing people on their development teams.

>> ALLAN CUMMINGS: Yes, they do.

>> STEPHANIE JENSEN: Moving on to the next screen, screen 13, it looks like it is time for Q&A.

>> TIM FUCHS: That's rts. So this is Tim. We're going to take our first Q&A break. Again, if you have questions you can press \*# if you're on the phone, or type your questions in either chat box, either on the webinar or on the full-screen CART.

I'm going to start with a question from Peter, and then we'll see what other questions roll in while we answer that.

So going back to technical suggestions, Peter is wondering what do you all recommend as the amount of bandwidth required? I awould assume that would be a minimum bandwidth. Allan, do you have a recommendation?

>> ALLAN CUMMINGS: With Google Hangouts they recommend anywhere from 900k to a Meg and a half for bandwidth. For people not familiar with what that terminology means, a Meg and a half bandwidth would be your basic DSL connection, the old local telephone company Internet connection. That would be for a standard video connection. For audio it talks less than 900k because audio is not pumping in as much bandwidth. Google Hangouts does do auto negotiating so it will recognize what bandwidth you are providing to it when you join the call and it actually works itself to give you the best possible connection that you could have during the meeting while the meeting is going on and it doesn't drop the whole meeting.

So for any type of mobile platform I am going to recommend at least a Meg and a half. If you have areas that would rather have hi-definition, then anything above a Meg and a half boo give you a hi-definition type connection as well.

>> TIM FUCHS: Great. Thanks, Allan.

All right. It doesn't look like we have any questions on the phone. That was the only written question we had. I'm going to wait just about 10 seconds to make sure there aren't any other questions pending.

This is just the first Q&A break and we'll have two more later in the call when we get into some of the more technical aspects.

And I don't see any more questions or anyone typing. But we will have a couple more chances for Q&A.

Okay. I'm going to go ahead, then, to slide 14 and turn it back over to Stephanie and Allan to get into more detail on Google Hangouts.

>> STEPHANIE JENSEN: This is Stephanie back again. When we move to Google Hangouts in Wyoming, I decided that we would go ahead and jump into it instead of waiting. I thought that we would be the ones to work out a lot of the bugs. It was frustrating, but I think it's paying off. I'll let Allan give some more of the details.

>> ALLAN CUMMINGS: For those of you who don't know what Google Hangouts is, Google Hangouts is a voice, video and chat service provided by Google. Every gmail user has the capability to use Google Hangouts. We are actually part of a section that's called Google Apps for Work, so our hangout has the ability to have 25 people in the call. What's great is those 25 people can either be video participants or they can be telephone participants or they can be both video and telephone participants. That was the great flexibility with Google Hangouts.

Now, the non-Google app for work customers, which would be the general public, they do right now have the capacity for up to 10 people to join on the hangouts, but those participants can be the same... video, telephone or both all together at the same time. Goog um hangouts when you're inviting people to join via video can be any type of provider. They no longer to be Google email addresses. All you have to do is invite a participant by sending them an email by typing in their email address and they'll get the invite. Or you can have Google Hangouts call their telephone number and then at that point they would just be a telephone participant. There is a URL. If you're all interested to learn about hangouts there is a URL on this page where you can join to learn more about the product itself and how you can use it. If you have an Android telephone, Google Hangouts is probably on your phone already you didn't realize it. Any mobile device can use it, even IOS devices, which

would be your iPhones, your iPhones or your Mac. The other great thing like Google Hangouts like many of the web-based services out there like WebEx or go to meeting, we have the opportunity to screen share documents, any type of Microsoft office document we can screen share or we can even do browser based type of material in the meeting. If you are going to be sharing a website for example, you can screen share your web page on the hangout. And it's an automatic full screen. So if you are on your computer or your laptop, it takes up the whole screen. So it's actually got one of the largest viewing areas of any of the web-based products out there that don't require you to actually do a full-screen click. This is automatic full screen. It makes it really well. The ability for mobile was the big seller for the state of Wyoming. We're able to use it I would say about 80 to 85% of the state of Wyoming's needs we can do via videoconference. If you want to go to the next slide.

>> STEPHANIE JENSEN: Just before I do that, I wanted to share that at least one or two of our SILC members that have participated have participated from an iPad, which has been very helpful.

And to the next slide, slide 15, is about WebEx, and we'll have Pat share a little bit more about WebEx.

>> PAT CHAMBERS: Stephanie and Allan, thank you. I wanted to follow up. This is a good time. As Allan just talked about with the Google Hangouts, the 25 members, and I mentioned early on with WebEx, you can do 25, and that's -- we did 25 because we have 22 centers, so we have a guest speaker or another person from a center wants to join from a different location they can do that, but you've got different options. So you can go to the WebEx website from Cisco and you can pick 25 or pick 50 and then I think it's 100 and 200. So whatever size group, you pay so much, but it's really affordable I think for us per year per center is less than $5 per center for the entire year. Going back to our previous conversations about the affordability, versus travel time, weather, all of those concerns. WebEx will also do sort of what Allan was talking about, and that is you can share documents -- I'm the facilitator of the group but if I'm turning it over to a guest speaker or one of

the other center A.D.s is making a presentation, I can change from me being the presenter to them and then they can share if they have documents on their hard drive or their computer that they want to pull up, they can share those documents. The same invitation process that Allan talked about pertains to WebEx. Every month I send out an agenda as an atasmment prior to our meeting and it alerts all those receiving the invitation what the call-in number will be, if you want to do an audio conference, if you want to do WebEx. One thing we learned through experience is for WebEx do not set up a conference call phone trying to accommodate some people in addition to the speakers that you have for WebEx. They will interfere with each other, and it makes it a very inaudible meeting. We are trying to accommodate too many people. Once we eliminated the conference call phone and just did with audio through WebEx, it really made it a much cleaner, much easier way for people to

participate. So it is very similar. As I said, we had not used these before. We haven't used all the features yet. There's a whiteboard feature. So if you are doing that, you could -- you could jot down thoughts that different people had if you were brainstorming or whatever. It's there. We haven't done it. I'm sure we will as we go forward, but it's been a real cost savings opportunity, and back to what Stephanie had on a slide earlier, that ability to call a meeting when you need it. Especially in the legislative session when bills are going on that affect the Centers for Independent Living or SILC, if something comes up and we need to talk about it, several of the centers do contract with a lobbyist, but we can call a meeting in as little as 10 or 15 minutes and get on and have that conversation and don't have to worry about driving to the state capitol in Jefferson City or getting the conference call number through the state or whatever. You can do that in a very, very

short amount of time. It's been a learning process but it's a very affordable and time-saving process platform for us. It sounds like Stephanie and Allan talk about the features they have with Google Hangouts, I think there's a lot of the same with WebEx that probably exists with whatever virtual platform that -- Go to Meeting or whatever you are use wring. Again, I just stress, take some time, learn what your platform has, test it, call different parts of the state where you've got large Internet providers, you've got smaller people. Make sure you work out as many of the bugs ahead of time as you can.

>> STEPHANIE JENSEN: Thank you. Moving on to the next slide, slide 16, with some more hints. Keep in mind that the technology is improving. You know, with any technology, it's always going to be rudimentary when we start. If you think back in the '50s when the television came out, that was difficult. And I wasn't even alive then. So giving away my age there for those who have or have not met me in person. And even with the Internet today, in a few years we'll be amazed. The telephone, the same thing. I was watching some historic videos last week and was blown away.

The next hint, of course, is to have backups because you never know when a piece of technology will go out just because it is a piece of technology.

And we'll keep emphasizing this one... practice, bra, practice. I will say it again. Simulate your meetings in your practice. That way you will see what it will really be like. Get as many people that will be on the meeting into the practice, even if they say, well, I've never had problems getting on before, try to twist their arms to get on the practice anyway. It won't prevent all problems. Last meeting everything went smooth in the practice and then an adapter went out right when I was trying to get on to the actual meeting, and I knew it was something simple, but I couldn't figure it out. I did work around it somehow, but keep -- practice before every meeting. Because these meetings are so important.

>> PAT CHAMBERS: Stephanie, I might mention, we were talking about bandwidth, and we talked about that. When we started, the center in Columbia, Missouri, which is pretty much in the center of our state, graciously agreed to be our on-site location for our meetings, but it's a center, and they're a large staff. There are probably 70 or more employees in the center using technology, Internet, telephones or whatever. So that affected the bandwidth, especially if you're in an area where they have voiceover, and Allan, I know I'm not saying that term right, but the he will phone system is on the computer, so you are using computer bandwidth for the phone lines as well. And that affected our system. So we have now -- at Jefferson City Missouri, which is about 30 miles from Columbia, the state capitol, we are using a community meeting room and because we're a non-501(c)(3), it's the Budweiser distributorship in Jefferson City but they have a very nice community room called the

Clydesdale Room with excellent bandwidth but there's no other interference as far as people using the bandwidth in that room. So we have the integrity of that start to finish. Our only complaint about the Clydesdale Room is it is a Budweiser distributor ship, they have a beautiful hand carved bar and they do not allow us to drink alcoholic beverages during our meeting.

>> STEPHANIE JENSEN: Oh, goodness! That is something to keep in mind. And that was a good workaround that you were able to discover. Sometimes it takes that work and practice to figure those things out.

We'll move on to the next slide, slide 17, and we are going to start in on the equipment on those hints. The first hint is to consider your needs, and the next one is to not buy more than you need. You want to buy just right, just like Goldilocks. And we'll let Allan elaborate a little bit more probably take over.

>> ALLAN CUMMINGS: In terms of equipment sometimes people have the tendency to go out and buy the latest, greatest deal. I mean, I've seen agencies go out and spend thousands of dollars on a camera that pretty much does the same thing that a $50 webcam raw can do. So always look at your needs. Look at the different options out there as well. I'm not saying a $10 web camera is your option. It's viable and it will get the job done. But there are web cameras that are $50 to $60 that are considered hi-definition type cameras so it gives you the best picture quality you can have as well. So just look at what you have, your computer, your mobile phone -- I mean, if you have a mobile phone that might need to be updated you might want to look at that as well. There are a lot of different things to look at, but look more importantly at what you need, not what the people around you have.

>> STEPHANIE JENSEN: I'll move to the next slide on room size.

>> ALLAN CUMMINGS: So room size is very different. It's very different on -- with every company as well. What we're going to be going over now you should be thinking, that's not what I would look at. These are just general dimensions in terms of how we here at the state of Wyoming and we -- we contacted Google and how we judge rooms. But for our purposes, a small room will seat generally four to six people at a roundtable, usually 12 foot by 10 foot. That would be considered your general small room. So when you hear me later on refer to equipment that would work in a small room, that's what you would have to envision. A small enough room that would fit just that many people for that type of meeting.

The medium size rooms can seat six to ten people at a table, 12 foot by 15 foot.

Larger rooms can seat between 10 to 20 people at a roundtable, which we like to say generally about 20 foot by 15 foot for the table.

Then you have your boardroom size or your conference rooms, your larger conference rooms, which are 20 to 30 people at a table, about 30 feet by 20 feet. Now, those dimensions once again are just dimensions that we -- we figured were good dimensions when we met with Google when we first decided to label what types of conference rooms we had. So that was just a general rule of thumb we went by when we met with Google.

A web camera, you've hushed me talk about this earlier, a webcam is a USB plug-in that would plug into your computer that provides video capabilities and gives you the two-way interactive communication from your computer or whatever other device you have. The cameras in the next section we are going to talk about, they have been tested by me and my co-worker as well as many other agencies, but I want to remind you they are not the only ones available out there.

>> STEPHANIE JENSEN: That was slide 19 and we'll move on to slide 20.

>> ALLAN CUMMINGS: So this camera that we're looking at now, this is a Logitech C930 ex-webcam. Right now that camera ranges in rice anywhere between 85 to $150. The reason why there's such a large scope of difference in there it really determines on where you go. Amazon, you could probably go to Amazon and get that particular webcam raw for about $90 to $100. The reason why we like this particular web camera for our conference rooms because it has a technology that's built into it, which is what's called H.264 scalable video coding. What that means for those of you who don't know what that term means, it's actually doing a lot of the processing of the video in the camera itself, all the compression, which frees up the bandwidth you're provide wring in the call. You're not using as much bandwidth to get a good video quality because the camera is doing the compression and not having to do through the computer. It's got a 90-degree field of view.

When you're looking at cameras, when you look at a 90 degree field of view you're thinking of a right corner. When looking at cameras, you shift it to where it's more flat. So a 90-degree field of view camera is one of the widest ever for a webcam. Usually they only have enough room to get your shoulder to your head. This web camera can pan out more and give you more coverage. So in a medium-size conference room or small conference room you're more apt to get more people at the table than you would with a common webcam degree which is 78 degrees. It provides 1080p HD video. That would be hi-definition quality. 30 frames for second is your common frames per second that web cameras do provide in videoconferences. You can also buy these at BHPhotoVideo.com or you can get them at Amazon. The great thing about these devices is they're called plug and play. You can plug them into a laptop, you can plug them into a Chromebox, Chromebook, a Mac and you plug it in, join

your conference and it's ready to go. I do recommend this web camera is good for small to medium-size conference rooms if you want to get that facial recognition for people. If you put it in one of the larger conference rooms it will cover the whole area really well but you won't be able to see the people's faces up close as well as you would in a small to medium conference room.

We can go on to slide 21 now. I'm sorry?

>> STEPHANIE JENSEN: Go ahead.

>> This next webcam raw is the most common out there. It's the Logitech HD C920. You can get this between 50 to $120. That price actually recently changed. So you can actually get this webcam raw under $100, generally at Amazon. This particular webcam raw is also great for a laptop. It's also great for a desktop computer. It's got a built-in microphone. One thing I forgot to mention about the C930e, that has a microphone built in. It's giving a high quality microphone and it's giving the people hearing you a stereotype sound. The negative about this camera is it only has a 78-degree field of view. But it does provide 1080p video calling. It does not have the same H.264 compression build in so when using this camera you will he be using more of the bandwidth based on the bandwidth that you're -- at your home or business has. This is still a great camera that you can use in a small to medium-size conference room. It's got a tripod connection on the very bottom so if

you have a tripod you can put on it your tripod or just connect it to the very top of your TV or PC monitor. Just like the other one, it's plug and play. So it works on a Google Chromebox, Chromebook, a Mac or a PC.

We can go on to slide 22. This particular camera, this particular camera we're looking at now, this is a Logitech BCC950. We like to call this the eyeball camera. If you looked at it, it's a round ball on top of a stick. This particular webcam raw does range actually between this price dropped just last week, it's 150 to about $250. Generally if you go to Amazon you'll find it anywhere between 150 to $200. It's a 1080 HD video with 30 frames per second. This is a great video -- this is a great webcam that can be used anywhere small to large-size conference rooms. The the reason why this one would work in a large size conference room is because it has a pan, tilt, zoom cape bill tea. If you are looking to the slide, at the right of the camera you will see a remote control. You can zoom in on people. If there is someone sitting right you had site the camera angle, you can move the camera, have the camera move, remotely, to the person who is speaking, and then you can

move it back. It's a really great webcam that can be used in those conference rooms where you need to be able to zoom in on people or if it's not going to get everybody in the room you can at least turn the camera remotely to the people that are speaking. Another great thing about this particular webcam it's got a built-in speaker as well as a noise canceling microphone. So you wouldn't need an additional speaker. You wouldn't need an additional microphone. And the speaker on this particular device is actually equivalent or even better than most of the telephones that you guys have in conference rooms. It gets that loud. So it works really well if you just set it in the middle of the table, it picks up everybody well, it has a 360 degree microphone coverage and the speaker on it is really loud, and you can control the volume on that speaker as well. And just like all of the other web cameras we've looked at so far it's plug and play so it can work on a Chromebox, a PC,

Chromebook, Mac, whatever you have.

And we can go to slide 23 now. Now, this is the webcam raw I kind much mentioned to the people that kind of buy more than they need. This particular camera is a very good webcam raw. It's the Logitech PTZ camera. It costs $800. It's a 1080p HD camera at 30 frames per second. Has the H.264 scale bbl video coding built in. It has a 90-deal field of view but it can pan 260 degrees left or right and it has a 130 degree tilt, but when when you zoom in with this, you can literally zoom into a table and see the grains of wood on a table. It's that good. With this particular one, though, you will need to get a separate Mee crow phone/speaker source. It's just a camera. But it's plug and play as well. Chromebook. All those. PC. But it's got a remote control. You don't have to manually turn it with your hand. But this one also has a tripod adapter on the bottom so you can set it on a tripod if you need to. And if you want to move to the next slide.

>> STEPHANIE JENSEN: And the next slide is questions and answers. Tim?

>> TIM FUCHS: Perfect. Thanks for that rundown, Allan. We've had a few questions roll in. So let's start there. Then again, if you have a question, you can press \*# on the phone or type it out in the chat. First question comes from Donalyn who is wondering what do you mean when you said that it works with the Google Chromebox, et cetera, when you were talking about the C930 webcam?

>> ALLAN CUMMINGS: When I say it works on a Google Chromebox, Google Chromebox is Google's version of a PC that runs a Google operating system in the background. So it doesn't have like Microsoft and all that built into it. It's all Google. So when you plug into it, it actually works on those because it's -- most of these cameras do have drivers that download. Google has prebuilt a lot of these drivers into these devices. So when you plug it in, it will work on those.

>> TIM FUCHS: Okay. Great. And next question also from Donalyn, does the BCC950 have the H.264 video coding feature?

>> ALLAN CUMMINGS: Unfortunately it does not. The only 2 that have that built in right now is the C930e and the Logitech PTZ camera. Those are the only two that have the video compression built in. The BCC950 does provide good quality video though.

>> TIM FUCHS: A follow-up question: Does the C930 work on a regular PC as opposed to the Chromebox??

>> ALLAN CUMMINGS: Yes, all these webcam rawz we just went over work on everything. It works on a PC, it works on a Mac system, it works on an IO system, Google as well. It works on all of those. Plug and play.

>> TIM FUCHS: Perfect. Thanks. Those are the only questions I see for now. I'll give a few more seconds. \*# if you're on the phone.

>> TIM FUCHS: I don't see any other questions. We will go ahead and continue. We will have another Q&A break at the end of the call so if you have any more questions or anything that comes up you will have an opportunity to ask.

I'm going to go ahead to slide 25 and turn it back over to Allan to continue the tech review.

>> ALLAN CUMMINGS: Sounds great. Thank you.

The one thing I did mention was all of those web cameras, most of those wep cameras, but one, did have microphones built into them. But you're going to run into a situation with conference rooms, for example, medium to large-size conference rooms to even boardrooms where the microphones on the web cameras are not enough. So you want to look at USB microphones which allow realtime audio conferencing from your computer or similar device. This next section we will talk about microphones we've actually tested in small to boardroom size conference rooms actually. So that's what we'll be covering now if you needed to get another peripheral that would require a microphone source. So we can go on to slide 26.

So the most common one that we have used here in the state of Wyoming is the Jabra Speak 410 microphone. This particular microphone does run 85 to $100. It can connect to a PC or a Mac or a Google Chromebox. And U.K. Use it for videoconferencing or use it for voice calls. It's a low cost way to turn more rooms like conference rooms for video or voice calls without having to pay to get another phone line added in or pay a monthly fee to your company just to have that phone port opened up. It's got an omni directional microphone. Omni directional is the 360-degree coverage. It's also noise filtered, which means it does echo cancellation inside of it. The digital signal processing that optimizes your voice also helps suppress those echoes. What that does is since it's a speaker also, whenever sound is coming out of the speaker, it suppresses that sound so it doesn't automatically create an echo effect. It is a very wideband hi-fi speaker. What I mean by hi-fi, it's got a

really high quality sound coming out of it. We've actually had a lot of conference rooms in the state of Wyoming, a lot of agencies, that have gotten rid of their phones and have actually bought these and plugged them into laptops or Chrome books or Chrome boxes, and they make the calls from hangouts, and so now their computer is pretty much their telephone, but now they're not paying that monthly fee to have a phone number in that room. So that's one great thing about this particular speaker. And we can go on to the next slide.

The Jabra Speak 510 is almost identical to the 410 that we just went over. This one costs a little bit more. It's $100 to $115. But the reason why it does cost more is because it's got -- it's a Bluetooth enabled device. Now your' kind of getting into the cordless type of features. With this particular device you can actually unplug it from your computer and put it anywhere in your room and not have to worry about a cable stretching clear across the room because it's got the Bluetooth capability on it. It's got everything just like the other one. It can connect into a PC, a Mac, a tablet. It can even connect to a mobile phone because it's Bluetooth capable. You can actually Bluetooth your phone to the speaker and now you're using the speaker and microphone on the Jabra as your speaker microphone rather than the one that's on your phone, and it's actually a lot higher quality. It's got the same digital signal processing that optimizes your voice and suppresses those

echoes. Crystal clear. Natural sounding calls. As a matter of fact, you would have no idea that you were on this if you were the person they were calling. You would have no idea that that you were on such -- you would think they were on their phone just talking to you on their phone. It's that clear. The reason why a lot of people like this, though, is because of the capability to be able tune plug it from where it's at and still be connected because of the Bluetooth capability.

And we can go on to slide 28. Now, the 510 plus -- it's just the upgrade from the 510. It does everything that we just talked about on the last two Jabra Speakers. It's just a higher quality speaker. This particular speaker is actually certified for those of you who might use microskype for business, but it does everything that we just talked about on the other two. It's just the newer version speaker.

And we can go on to slide 29. Now, when you are talking about conference rooms you're always wondering, on how do I make sure everyone is heard in the conference room? Usually a lot of conference rooms you look at it, they have a very long table. And if you look at your basic conference room setup. So that's why we went to the Konftel 55 or 55W. This particular device does cost about three to $500. Now you are looking at spending a little more to make sure there's proper microphone coverage. This particular conference phone can be used with Google Hangouts which is why we used it. If it works with Google Hangouts, it's going to work with pretty much any of the other web-based features because it's a USB plug and play. This has two satellite microphones that plug into it. If you look at the picture you will see the two satellite microphones. When you plug this those two satellite microphones in that device you are giving it an additional 750 square feet of coverage in

that room. It's the omni directional coverage. It's 360 degree coverage. Now not only do you have the ability to make sure everybody on the same table is heard, but if you have people sitting in chairs behind the table, it's more than likely they'll be picked up as well just because of the bigger change that you're getting. The state of Wyoming uses these in a lot of their conference rooms because it does work with our Google Chrome boxes but we have used them on PCs and they work just as well, they work on Chrome books and Macs as well. There is a website you can go to get more information about that product. The great thing about it is you don't have to buy it from that website. You can go to Amazon or B&H Photo and they have the same product and it's going to be a little bit less if you buy it through them rather than going through Konftel themselves. You can use it for a small conference room. Really not needed because of the amount of microphone coverage it gets, you

don't need it for a small conference room. For these I would recommend for the medium to larger size conference rooms. We can go on to slide 30 now. These particular ones we're looking at now, these are just microphones. The Soundtech CH-1000 USB is a USB based microphone. It doesn't provide audio, but if you need a microphone just to make sure you're getting proper coverage -- let's say you have a good enough speaker source in your room so now you're just worried about microphone coverage, this is the go-to microphone. You can actually get this microphone for $68 to $73. It's perfect for the small to medium sized conference rooms. It provides 14 square foot coverage area. Just that one microphone can give you 14 square feet. It gives you the omni directional coverage. It's giving you the 360-degree pattern. It also has the dual noise canceling element. If you have a speaker source in the room it's not going to create a huge -- sorry, let me rephrase this. It's going to

eliminate the echo of that speaker source to make sure that the people that are listening to you are hearing you clearly. It works with the people that have the older computers, that have -- might have windows XP or Vista. As long as you have any of those up it's going to work great on your device. It also works with Google Chromebox, Google Chrome books and even works with the Mac products as long as your operating system is the 10.4 operating system or later. So this is a great microphone, and if you switch to the next slide, slide 31, this particular microphone here would actually be -- it would work in tune with the one we just went over. The Soundtech CP-1000, we like to call these our extension microphones because if you look on that picture there is a 3.5 millimeter plug you can actually plug right into the back of your CM-1000US about that. So now you have two microphone sources. This particular setup would work great in small to medium size conference rooms.

It's a little less expensive. It costs and $45 to $70. Say, for example, you don't have the budget to buy the USB one, you could simply buy this particular device and plug it into the 3.5 millimeter jack on the side of your laptop or on the front of your PC tower, and it will work as a microphone just as well. But we like to use these to daisy chain them. You could have one to four microphones plugged together and imagine the amount of microphone coverage you're getting in a room. So you're changing yourself from a small conference room to being able to cover a medium-sized conference room just by plugging these together at a very fraction of the cost that what you would be paying, say, for example with the Konftel, but just like the CM-1000, these are only microphones. So it's not going to give the audio source to come out of it.

We can go on to the next slide. Slide 32. So another conference room type of solution that the state of Wyoming is a very big user in is the Chrome Device for Meetings. The Chrome Device for Meetings is a product that was created by Google to make a Google Hangouts as easy as possible for the people that walk into the room. They wanted to create something where people can walk into a room, turn on a TV, pick up a remote control, and join a hangout. That's what the Chrome Device for Meetings is. The Chrome Device for Meetings comes with a web camera, it comes with that table mic, the Jabra Speak 410, and it comes with a hand-held remote control. The only thing you would need to have is a TV or projector that this could plug into so you would have something to be able to see what's happening. Now, the particular cost for this is a thousand dollars for the initial purchase. So now we're looking more at corporate, for people who might be in companies that want to outfit their conference rooms to be conference room ready. This is a thousand dollars. If you look at the legacy systems, the H.323 devices like Polycom or Tandbergs, those were $12,000. This is a thousand to purchase and then a $250 annual fee for support and license renewal. The great thing about this product even though it comes with the Jabra Speak 410, if that's not good enough for the conference room you put it in, you can connect the Konftel into it, you can connect the Soundtech microphones. Just because it comes with this devices, doesn't mean you have to use them. If you have better web cameras you can use them. And the Chromebox is what you see on the picture there on the right-hand side of your screen right above number 32. That's what a Chromebox looks like. Just to kind of refer back to that. So we can go to slide 33. There are additional accessories that can further enhance the Hangouts and that's what we're going to come from here on out. So when we are talking about accessories, we're talking about things that would make it more easy for you to be able to host a Hangout or another virtual type of meeting without having to plug in 100 million different devices. That's what the accessories part is going to be. That's what's going to be covered from slide 34 on. So we can go on to slide 34.

For example, headset or earbuds? We mentioned this before. I'm sure that people who have used web-based services for videoconferencing or teleconferencing might have run into this. You might run into echo. That's why we recommend headsets or ear buds. Most people who join videoconferences will be joining from their PC or their laptop. So when that happens, the speaker -- the audio is coming out of your speaker and its going right back into your PC or laptop's microphone which is going to create an echo. So if you get a headset or earbud, just a plug-in, what you're doing is prevent echo and but you're also preventing your co-workers from hearing what you're discussing as well. So if you're ever in meetings that might not HIPPA compliance, you are the only one that would be able to hear. They range from literally a dollar to $20. If you want to get to high-tech, you can get a really high-tech one for $50. There is no particular brand I would recommend. I've tried them all. As a matter of fact, I'm speaking to all of you right now with a Logitech headset that has a microphone on it. So it's really your choice, whatever you feel comfortable.

We can go on to slide 35 now. Headset splitters. Some people might ask, why would I need a headset splitter. Most of the newer laptops that have come out, I would say starting from about four years ago to now, if you look on the slide of your laptop, if you happen to be next to one right now, there might only be one 3.5 millimeter port or 1/8th inch jack. That jack would be your microphone and headphone connection. So if you ended up buying a headset that had a microphone connection and an audio connection, you would need a splitter to plug into that to get it to work. Most headphones nowadays are just the single 3.5 millimeter plug, but if you were ever to buy one that has the two plugs, you would need the splitter to work in those newer laptops. If you have an older lap Tom or a PC tower that has a microphone port and speaker port, then you would not need the splitter. But just so you know, if you need to purchase a splitter, they don't break the bank. They're only

$7. We have purchased a lot of them because they're so tiny they get lost. So I do recommend you buy a couple because they can be misplaced really easy.

We can go on to slide 36. Another thing I would recommend, the reason I would recommend a wireless keyboard or mouse is, first of all, if you're on your PC, if you have a home PC, or you are PC at work, a keyboard is one USB plug. A mouse is one USB plug. So you have taken up two USB ports already. The wireless keyboard and mouse here that we have on demonstration from ASUS is $50 to $60, but it only takes up one USB poured. There is one dong you will that runs both the keyboard and the mouse. This works on PCs that pit works on Macs but it also works with the state of Wyoming because we can have it work with our Chromebox for meetings, our Chrome Device for Meetings that we use. They do require AAA batteries. That's the one great thing about the USB cat boards and mouses, you don't have to worry about batteries, but if you are running out of USB plugs, this is a great option and all you have to do is worry about your battery. Plus it looks cleaner. It looks really clean not having to have all those cables coming out of your laptop or your PC.

And we can go on to slide 37. These right here, these Cables to Go, these are audio extension cables. They run $3 to $9 depending on the feet you need to get. Those Soundtech CM-1000 microphones we talked about five minutes ago, help extend your microphone range from 3 feet to 50 feet to give you larger -- to give you coverage of a room better. So if you need to put a microphone closer to another individual or group of people, and the cable that comes with that microphone isn't long enough, you can use one of these audio extensions to make that microphone reach those -- that group or that individual. So now you're giving -- you have the possibility to offer more microphone coverage because they're not going to be so close together. You can span them out throughout a room. They're nickel-plated connectors for strain relief. You can find them on Amazon. As a matter of fact, if you are looking at this and you write it down and you Pooh in the(c)(2) G

Cables to Go audio extensions, this is what would come up. We use these quite a bit when we are providing service for larger conferences that we need to extend our microphone coverage on.

And we can go to slide 38. USB extension cables. I really recommend USB extension cables when you're dealing with web platforms in a conference room. The reason why is because most of the cables that come with your web cameras or your web microphones are -- your USB microphones, they're not long enough to get to where you want them to go. Generally with a camera you're putting it on top of your TV that's in your conference room or your projector in your conference room or on a tripod in a conference room. That one you don't have to worry about. But when you are trying to worry getting your microphone source from the computer to the middle of the table and the computer is in the corner of the room, then you will need an extension cable to be able to plug that microphone into or speaker and get it to the middle of your room. They generally range for a high quality USB extension cable $19. That's what we've found. Now if you do look for an extension cable that is 25 feet or longer, we do recommend that you go with an active cable. What that means is the -- it's got -- it's electronically serviced inside the actual extender to make sure that no quality is lost. So there's electronics built into it to make sure no digital quality is lost at all because of the length of the cable. Most conference rooms don't need anything longer than 25 feet. So you can -- we buy them in packs. We buy a three-foot cable, a 10-H foot cable, 15-foot cable and a 25-foot cable. We'll have different options as a just in case whenever we're setting up conference rooms. But the most you'll spend is about $19 for a high-quality. You can go to Amazon, you can go to BH Photo, and you can go to Walmart if you wanted to and get them there. They're not -- they're not something you have to really worry about high quality until you get to the 25-foot or higher range.

And we can go on to the next slide, which would be slide 39, and that's it.

>> TIM FUCHS: Great job, Allan. Okay. So here we are at our final Q&A break. So we'll open it up and take any final questions that you all have for our presenters from today. So, again, you can hit \*# if you're on the phone, or you can type your questions in the chat. We've got 15 minutes left. So there's plenty of time for Q&A. If we don't go until 4:30 eastern, that's fine, but I hope you guys will use this. We've gone over a lot of equipment and information today and I want to make sure you all have what you need to implement this stuff in your states when you hang up.

We'll give about 30 seconds to see if any questions roll in.

Again, just while we're here, you see that evaluation link. Don't click on it now. Want to make sure we finish the call and it doesn't take you away. That is a live link and I don't want it to take you away from the call. That is the evaluation link you can click when the call is over.

Here's a question from the folks at Southwest CIL. Allan, in your opinion, how does Skype compare to Google Hangouts? Allan, are you there? Maybe on mute?

>> ALLAN CUMMINGS: Maybe -- in a particular area like this, this would be like asking somebody what's better, Chevy or Ford. I can give you some examples of what makes Google Hangouts better than Skype. Your basic Skype account only allows you a one-on-one account, one-on-one conversation. To be able to have more people join a Skype video call, you actually have to pay for that service. Google Hangouts, just the basic Google Hangouts for the public, allows you up to 10 people right off the bat. If your company is a Google apps for work company, then you can have up to 25 people. Another thing we like about hangouts that's better than the Skype, the basic Skype version, is the security. It's a much more secure version for videoconferencing. It's automatically encrypted. If you were to ever join Skype on a browser not automatically encrypted, it would not be encrypted at a higher security rate than you would be at. Hangouts normal encryption is 2256 bit. When it hits the cloud it a 2048 bit encryption. We like to use hangouts because of that security. But then once again you're comparing apples to apples. Do you like a Chevy truck better than a Ford truck or at that point -- it comes to convenience at that. So...

>> TIM FUCHS: Okay. Good. While we're waiting for some other questions I just wanted to mention some upcoming events we have. First, through the IL NET program. First of all, you may have seen that we have a housing training coming up in Pittsburgh in just a couple weeks. So starting on August 23rd we'll be doing a comprehensive housing training on both assisting individuals and working to increase the stock of accessible, affordable integrated housing in your communities. So that's an IL NET training in Pittsburgh, Pennsylvania and registration is open until Monday the 15th. Discounted rooms are available at the Sheraton station square through this Friday the 12th. If you haven't seen that, take a look. If you didn't get the announcement, you can email me at Tim@NCIL.org and I'll make sure to get a copy for you.

Also coming up, just advertised on August 30th we'll have another call on uniform guidance for SILCs. So that's August 30th at 3:00 p.m. eastern, and you can sign up now on NCIL's website.

Okay. I don't see any additional questions. And I don't see anyone typing. So, as you all think about making these changes, or maybe changing or improving a system that you've already started in your state, stay in touch with us. Let us know how we can help. That's what we're here for. So, with no further questions, I'll go ahead and begin to close the call. I want to thank all of you for taking time out of your day to sign up and join us. I hope this has been helpful. Allan, Stephanie and Pat, I can't thank you enough for taking initiative, really, to learn from the -- what you all have learned, the positives, the negatives, the frustrations you've had and your expertise and bringing it to the field. It was really great of you all to do that. You guys have really perfected this and that's important for everyone to know. So thanks again for taking the time to do this with us today. We really appreciate it.

All of you on the call, I hope you'll click this evaluation form here on slide 39 and fill it out for us before you go back to what you were doing. And he again, stay in touch, let us know how we can help, have a great afternoon.