
NATHALIE PEREGRINE: Good morning, good afternoon and good evening everybody, and welcome to the At-Large Technology Taskforce call on 30th of March 2015. On the call today we have Dev Anand Teelucksingh, Olivier Crépin-Leblond, Glenn McKnight, Beran Gillen, Judith Hellerstein, Jason Hynds and Joly McFie. Our guest speaker is Josh Baulch. We have apologies from Gordon Chillcott, Gunela Astbrink and Chris Gift. From staff we have Gisella Gruber and myself, Nathalie Peregrine. I'd like to remind you all to please state your names before speaking for transcription purposes. Thank you ever so much, and over to you, Dev.

DEV ANAND TEELUCKSINGH: Thank you Nathalie. Welcome everybody to the Technology Taskforce call. On this call we're focusing on the ICANN remote hubs, on some of the technical benefits and challenges. The remote hubs are something that have been happening at ICANN face-to-face meetings fairly recently; within the past year, since 2014 I believe. Remote hubs allow for applications to be sent for persons to follow various sessions at ICANN face-to-face meetings, and also to interact by asking questions. It features a lot of use of video and so forth.

A request came in during one of our Technology Taskforce calls to understand the technology behind the remote hubs and get a better understanding of how they work. With that in mind, we have Josh from ICANN staff, who's involved in the running of the remote hubs. Josh, thank you for this time, for being on the call. I know it's very early in the morning for you. Can you give an introduction to the remote hubs? Thank you.

Note: The following is the output resulting from transcribing an audio file into a word/text document. Although the transcription is largely accurate, in some cases may be incomplete or inaccurate due to inaudible passages and grammatical corrections. It is posted as an aid to the original audio file, but should not be treated as an authoritative record.

JOSH BAULCH:

Thank you. My name is Josh and I'm ICANN staff, with the IT department. For the hubs, it's been cool to watch the hubs. The very first time we did it was with Net Mundial in Sao Paulo, a little over a year ago, and that was the first time we'd put forth the idea to get people in remotely. One of our challenges was to try to keep it at a low cost way to be able to do it, because it's not like a broadcast where you have another TV crew on the other side. We wanted to do it, and we really have the technology now to be able to do that.

So from a technical standpoint, what we have set up is we actually have twelve Mac Minis that we set up, and we use a multi-viewer so each of those Mac Minis is tied into this multi-viewer, so on two or three screens we can see all 12 of the hub locations. With each of those, what we do then is we have another audio console that is adjacent to us, that has all of the auxiliary mixers. So each of the hubs is able to have any of the languages that they need for that particular one.

But it does require a second audio test for that to be able to happen, because when you look at the matrixing to actually make that happen, it's pretty complicated. That's the one thing that takes a lot of testing from our side, which is why we always have to do the test beforehand with the hubs. So usually they say before we'll do all the tests, if that's available. For the most part, I'd say about 90 or 80 per cent of the time we have English as the primary language, but we have quite a few that have done Spanish as well as French.

We haven't gone too much beyond those three primary languages at this point, but we do have all of the seven languages available for that. Glenn, no, we're not using Wirecast for anything. What we do is we try to keep things as simple as possible for the hub; so using applications that most anybody would be able to have. In this case, the primary one we use, about 99 per cent of the time, is Skype. We do have available Google Hangouts and Face Time.

The challenges we had with Google Hangout though was that the video time would only stay connected for about an hour and then would eventually drop off. Back to the technical layout, we have these 12 Mac Minis. We take the audio in and out of each of the 12, so at that point we can do 12 of them. Then from that point the video goes into a processor. We have a switcher, so we take that signal from the switcher and send that up to the big screen that's in the room, but we also share that video feed with Adobe Connect as well, so that people would be able to see whoever is speaking on AC as well.

Then we just use basic KVM switches to get in between them. We use remote desktop a lot for all the applications that we do, so we don't have 12 people at the mic standing out on the table. We just KVM them in and remote in to them and are able to control them and able to test them. The other reason for the audio console is that when we have a hub that is queuing up and wants to ask a question, then what we can do is talk with them or have a Skype chat and say, "After this next question you're going to be up." So we can either verbally talk to them or type with them, for them to be able to know when they queue up.

Because it's really important to have that communication with those hubs while this is going on. Unfortunately, no I don't have a diagram of it. This is something we've been evolving for each of the meetings, and so for each one we've tried to invest something into it more, each time, whether it's a different software or a different application. So for us it's an ever-growing task. From the hubs themselves, the requirements are pretty minimal to be able to be a two-directional hub.

That's to basically have a webcam or video camera, depending on the location, but either way the one limitation we've run into is that you have to have a pretty decent Internet - whether it's Wi-Fi or just some bandwidth that is at least a couple of MBs. Especially in the big rooms, high definition video looks the best, so that is probably where we come into the biggest limitation, because you get into some of the more remote regions, and it's a little tougher for them to have that reliable Internet, but even in those cases, if they want to be connected for an hour or two - or some people are connected all day for six hours - if they drop off we just wait until they get their connection back up and then reconnect back up with them.

From our standpoint it takes two technicians just to monitor. One technician is just doing the video switching and queuing up, and interacting with either the RP in the room, saying, "Hey, this hub wants to ask a question," and the second technician is just communicating with the hubs themselves. Then there's a third technician that's not part of my team, but is part of the AV crew, and that's just the audio technician, so between the three of them they're all communicating on headsets during those. The question is [unclear 08:24]. Yes, I can email that to you when we're done here.

How do I feel about the local video backend [unclear]? Okay, what we do is we either take the... We provide either, in some days - it provides on which day of the meeting - but in some days we provide the video with our camera kit, or sometimes we have IMAG, which is the cameras that take shots upon the stage podium and that type of thing. So we just provide that feedback into AC and vice versa. We have a switcher there that we're able to decide which view is being seen. Sure, I have. I did take quite a few pictures. I should have been more prepared. Let me see if I can find some real quick while we're talking, and I'll send you some.

DEV ANAND TEELUCKSINGH: Okay. Thanks Josh. I'm very impressed. It sounds like you've got quite a few dedicated persons to monitor the hubs. You mentioned two or three persons. I guess I'm fascinated by how the hubs handle the interpretation, because what you're saying to me - if I understood you correctly - is that you have a mixer that takes the video from the remote hubs and then you are able to overlay the various audio from the interpreters and so forth back to the remote hubs? Is that correct?

JOSH BAULCH: Yes, you're correct. The audio console we use has 128 input and outputs on it, so for the hubs we do 16 channels in and 16 channels out. Yes, that's exactly right, so then for each of the languages we have available for that console. So if somebody speaking English in the room and the hub wants to hear French, then what we're sending that hub is the French interpreter. So the only thing that we have to be cautious about,

that takes some time, is that if we have a Latin American hub that was speaking in Spanish, when they come up on screen they start speaking in Spanish.

What we have to do is we route that Spanish into the Spanish interpretation booth and then that Spanish interpreter starts speaking English, and then the English is what's actually heard in the main room. But when you actually start doing that process you have up to a 5-10 second delay, between when the person started speaking on camera to when you start hearing that, because of the routing. That language is routing throughout the world just to get back. So sometimes there can be a delay on that, but yes, exactly right, how you described that.

DEV ANAND TEELUCKSINGH: Okay, Josh, thanks. I think Glenn has his hand raised?

GLENN MCKNIGHT: If we can go back to the background, I think it's the third hub you guys have been operating, on looking on the Wiki page I think there were 19 or 20 names. How many actual hubs operated in each of the three remote hubs?

JOSH BAULCH: That's a great question, and I'll be honest with you guys - this is something we're struggling a little bit with. There's a lot of interest initially, but when it comes down to actually having people show up it's a little bit lighter. I think for Singapore on average we had about six hubs. The cool part about it is the way we have it set up is that a hub can

pop in and say, “Hi,” and just sit in on an hour meeting and then pop out. That’s why we have 12 machines up and running; is that we’re able to connect and disconnect them at will, with the audience never knowing how many hubs are on there.

We are working to do for this next meeting to have it a way that we can show all the hubs at once, but the Singapore, Toronto, New York... To be honest, Glenn, I don’t remember off the top of my head which ones they were. I can get that information. We had those ones show up. One of the challenges we’re facing internally in ICANN is to have one particular group manage that - whether it’s the Global Stakeholder Team - but somebody to really manage that. Right now what it is is we’ve switched between who is providing the hubs - whether it’s ISOC or the At-Large group - so really trying to find what the best avenue is within the community of where to interact in and be able to do it.

I think that the prospect and the ability to be able to do it is amazing, and I hope we continue to do it. It’s just one of those things where we definitely need somebody to manage it a little bit more, and formalize the process. Yes.

DEV ANAND TEELUCKSINGH: Okay. Thanks Josh. The question that comes to my mind is, this set up you’ve described with the mixers and video and audio and so forth - that’s only available for certain sessions, correct?

JOSH BAULCH:

Correct, and that's definitely where we run into a technology challenge. Our investment of money into it right now, just to do the main ballroom, is probably about \$30,000 in equipment, to do the Mac Minis, all the cabling - I do have a picture here I'm working on getting sent to my email so I can show you guys. Just in that investment alone, it's not something we've been able to simplify enough to be able to do it in the smaller meeting rooms and that type of thing. However, the question has come up before, and the ability with even AC to be able to do it - we have the video webcam pod - is to be able to have people remotely join out with.

It's not necessarily as graceful as doing it in the main room or anything like that, but one of those definite things would be to manage that to where you just have the webcams and multiple people. A webcam can handle up to 30 webcams, so 30 remote people can all share their video. It does get a little cluttered on that side, but there is some features on that side to be able to do that.

DEV ANAND TEELUCKSINGH:

Okay. Thanks. Because I'm thinking probably that you can replicate it for the smaller meeting rooms. To give an example, for the ALAC, since I've been a remote participant for the Singapore meeting, I realized some of the challenges there. For example, when I joined via AC to the room I can hear audio, but it's literally the raw audio, meaning that when somebody speaks a language I don't hear any interpretation. Also, if I was to make a contribution and I dialed in, I don't think the interpreters will be able to hear my audio when I dial in.

I can imagine the huge challenge, especially for those that don't speak English, when there is a lot of dialogue that's in English, and of course for somebody whose primary language is French or Spanish it would be a huge challenge. Any ideas of how that could be overcome?

JOSH BAULCH:

It's interesting you say that, because we have run across this before, when there's a bit of disconnect. The language that's in Adobe should actually be the English interpretation, meaning that if somebody's speaking English in the physical meeting room you'll hear the English, but then if somebody switches to Spanish in the meeting room you'd then start hearing the Spanish interpreter speaking in the AC. Now, going back to that matrix, every once in a while there's a mistake that happens, and a technician will route the floor audio into the room, rather than the Spanish interpreter.

The way we have the matrix set up is that anybody who speaks a language, if any of the interpreters come back into the room. So if you had a Chinese speaker in the room, that we'd then hear the Chinese interpreter on the line. In that case, if you come across that, let me know, because every once in a while it does happen, and we've come across that when in an AC room all you hear is French for example. So it's a mistake in the matrix thing. As for the question online though, that is more a challenge. If you wanted to ask a question, if you were on the phone-bridge we could route that through the interpreters with no issues, based on the matrixing.

However, the challenge is that AC is only meant to be a single language platform. What they'd envision is how we did it at Net Mundial where we had seven different AC rooms and you joined the room that was your respective language. So if you wanted to work in Spanish then the AC would be all in Spanish and we routed all the audios in that way. So in that case, yes, you'd be able to answer and ask a question if you were in the Spanish AC.

The way we're currently running this, if you were on AC like we are interacting here, we would have to primarily speak in English, however if somebody wanted to, on a phone call or something, just like the audio bridges, you'd be able to ask a question in Spanish, if you were on the Spanish bridge. It really just comes back to the audio matrixing; how the audio is routing. Otherwise we have to be careful because people will be talking on top of each other and nobody would be able to understand it.

Let me catch up on the questions here. Yes, that's a good comment, Glenn, talking about the Working Group for the main meeting. Sorry, I was talking in the main meeting there. Yes, the Net Mundial though, with that challenge, for every AC that you're adding, you're also adding a technician for that or somebody who's monitoring that room too, because the rooms do not communicate to each other. It would be like having this meeting in English and then having this exact same meeting in Spanish. There are two different meetings.

We can talk amongst each other, but the visual, the chat, everything else is all dedicated just to that meeting room, which is why we've chose at ICANN to stay with one AC, because it keeps everyone focused on the

same thing. It was a logistical challenge for us to be able to manage all of that. Let's see...

DEV ANAND TEELUCKSINGH: One question that comes to mind is that is there a way within AC that people can select a different audio stream? This also goes into a remote meeting, where for example LACRALO have a conference call with interpretation. What happens is the AC room only has, say, Spanish as the primary audio and for English speakers they have to dial in. Is there a way of switching the audio so that when you join the audio to the room you can select the audio stream, for lack of a better word?

JOSH BAULCH: That's a very good question. It's something we've actually explored for at least the last two years. Right now it's a limitation of technology, because AC is all Flash-based, and there was a piece of software I was excited about that originally tied it together. It was a pod that you called [Key phone 22:41] that you'd put into AC, and we were thinking we could treat them like a breakout room - that say you wanted English, you'd select the English bridge, and if you wanted Spanish you'd select the Spanish bridge. Unfortunately, the product was not very good at all, and so that was the challenge we had.

We haven't found anything yet that's able to do that. The best workaround on the AC that we have on the left right now, would be the web links, that we could post the streams there. The challenge though is that that's really only providing access to the interpreted line, but it's not a two-way stream, it's only one-way. You'd be able to listen to it but

you'd still have to dial in to be able to do that. Right now, the voice technology is increasing every year, so we're hoping at some point that this will be something that does get resolved. With AC, I've heard that rumor for the last couple of years about switching to HTML5.

I've yet to see it. I'm hoping it's soon because we find Flash very frustrating to work with, and the updates that we get every 12 hours from Adobe. So I believe it was called [Key phone]. To be honest, I'm not even sure it's on the market still. One of the reasons that we actually switched with ICANN, we started to use a product called GlobalMeet. You'll get an invite that has a "connect me" button in the invite. We've been slowly pushing internally over to that. One of the reasons is because of the integration into AC and the ability to control calls and stuff.

I'm hoping that as voice technology gets better we'll be able to do that. I've done a lot of research on this and I've yet to find a good solution that will work for this. Yes, we do have requirements refined for the remote hubs. I'll have that sent over to you guys after. We do have criteria for that. It's pretty basic from that standpoint of just what the requirements are. Really we just have the bandwidth requirement and then some sort of audio system, whether it's microphones or something tied into your computer.

DEV ANAND TEELUCKSINGH: Murray?

MURRAY MCKERCHER: I normally get a call over my cellphone for audio, as opposed to using audio on the AC. For whatever reason it's just easier for me. I find it works. That's one quick technical comment! But Josh, I think I saw the basic requirements, but it sounds like there are more ways of skinning the cat, so to speak. I'm really interested in getting a larger set of those requirements set out, and then we could probably find the appropriate technology, which of course is changing every month, but nevertheless, I think there is some really good stuff out there. Thanks.

DEV ANAND TEELUCKSINGH: Thank you Murray. Olivier?

OLIVIER CRÉPIN-LEBLOND: Thank you very much Dev. I was going to ask Josh whether there has been any collaboration or even looking at the setup that the Internet Society is using for many of its remote participation options. In particular the web casting that they performed for many of the more recent events that have taken place. It seems that there might be a few, but maybe not that many, because I see the advancement so far, but a few lessons learnt, especially in some environments where the network connectivity might not be optimal.

JOSH BAULCH: Yes, that's a great question. The last time I spoke with ISOC they were still using Web Ex, so if they've moved on I'd love to know what they're using. Yes, I can reach out to them and find out what they're doing, because that's great.

OLIVIER CRÉPIN-LEBLOND: I think Joly might be able to share a few thoughts on this, because he's been working a lot on the backend with this.

DEV ANAND TEELUCKSINGH: Joly, I know you had some questions. You have the floor.

JOLY MCFIE: I did have a question about echo. Firstly, locally, what I use on the remote hub was an audio mixer, because we had a PA in the room. I used an audio mixer that allowed me to send back up to the screen what was happening in the room, to prevent echo from coming into the room. I've found with remote meetings this is important, when you've got the PA in the room and a number of people, it's important to switch your audio. You've got to have two mixers, or you've got to have one mixer that allows for a monitor-out, so that you send what's coming down from the net onto your PA, but you don't send it back up again.

I also noted that when I first logged in I was getting an echo coming back from the other end and then they messed around and resolved it. I was wondering if there was any information about the procedures they used at the central hub to avoid echo? I do know that there is some manner of built-in echo cancelation within AC, but beyond that?

JOSH BAULCH: That's a great question. From our perspective, we don't rely on any echo cancelation from AC or anything, because it's the ongoing battle of

it just takes one person to accidentally connect up and not have headphones on or whatever and suddenly have tons of echo on the line. From our standpoint we try to put in limitations on communication; to be able to limit that. When we have the hubs, that's why we have a complete separate audio console for that; because if we do have a hub, we keep each of the channels separate so that if we have an English speaker we don't dump them all into one pod.

We control it. For the main room, we don't push the hubs in until they're ready to speak, because otherwise we'd hear all kinds of stuff of them walking around, banging things on the desk - whatever you'd hear on those types of calls. So we just manually do that, so we let them let us know when they're going to talk, and then we bring their audio up. From our standpoint there's no technology solving that issue right now. I'd say of the computers that do the best job, I'd say Mac. We find the Windows machines, the echo cancellation is pretty horrific on them sometimes.

One of the things we recommend people do is that if you use a headset, like I'm using now, it really does reduce the amount of ambient noise, because now the audio is going right into your ears and you're only hearing what's coming out of my mouth. But it is a challenge. There's no good answer. In every room we have audio consoles in each room that we manage. There are two technicians in every room - one that's just focused on audio and one just focused on AC. That's actually one of the reasons that we have been slowly migrating everyone over to GlobalMeet.

Because when you logged into this, you had to pick whether you were going to be on the phone or use your microphone. Well, what it does when you pick the telephone, it automatically mutes your AC because it knows you're going to be on the phone. So there is some things Adobe is doing, but the challenge is getting everybody migrated over to that, and really changing habits of how many people automatically dial in, and then bring up their AC and only listen only. If you don't start the process with AC and say, "I want to do this," so that it knows what you're doing, it can go from that point.

One of the things I wanted to show you guys is a picture that I uploaded. This is not something I typically share with a lot of people, because this is one of those tabling nightmare cases - where if you look at a data center this is one of those things people should be ashamed of! All these cables, the biggest challenge we face doing the hubs is between the audio and the video, because we have to do a lot of converting of video to be able to share one image among all the hubs. On the left hand side, you're seeing the pink page.

What those boxes are doing is converting HDMI video into FDI video - so basically doing a conversion on the signal for us, because when you get into the broadcast level video it's all done via FDI, which is a different component for video, so it's less than consumer grade, like HDMI or a [unclear 33:55], it's just a higher quality. On the top half you see, underneath the monitors here, you can see all the blue, green and red cables, so those are splitting the signal. Everything that's happening in the main room, this is how the video is feeding into that.

Then below, all the black cables for the most part is either audio, or also the KVM switches for us to be able to get in between the machines, so that we can use one keyboard mouse between them all, to be able to view that. You get an idea. This takes us about three hours to set up, from our standpoint. It takes about another two hours of testing with the audio technicians of just going through each channel. We send a tone down each one, we do a phone call on each one. So you do it all for English and then you go back and you have to do it for each of the languages to make sure everything is coming through properly.

Yes, it's a bunch of individual converters taped together. We originally started out with six hubs and then it gradually keeps increasing. So for each of those adaptors, it's \$500 a piece, and so each machine has to have two adaptors, so you're talking \$1,000 right there, just in doing those adaptors. So from our standpoint, to be cost effective, instead of having a broadcast matrix, was just to do it on demand - so as we need them, we add them. We talked about the echo problems with remote audio. Yes, it's something we're definitely working on, but there are no good answers right now for that.

JOLY MCFIE:

I'll just come back on that. When it's for remote hubs, you have a bunch of people so you're basically running through a PA. I think there has to be a map of how to do that, and you've got to have either two small mixers, one going back and one going into the hub, or you've got to have that has a mixer with monitor-out.

JOSH BAULCH: That's a great point. In those situations, in a sense I was thinking people would know this, but you're making a good point. A lot of time we usually use your auxiliary send, so you have your PA in the room, and then most consoles with anything like 12 channels or more should have an auxiliary send, which then you would be able to put into Skype, which is what we use most times. Those are some great points, some dos and don'ts. Great ideas.

DEV ANAND TEELUCKSINGH: Thanks. Yes, perhaps we should make that an Action Item, to put together something on the Wiki with these dos and don'ts for the remote hubs. Murray?

MURRAY MCKERCHER: Thank you. Having run the remote hubs, I want to thank Josh because I thought the last one was really well setup by all the staff. The fact we were using Skype to coordinate calls was probably good. It's the lowest common denominator to connect with people. I guess everyone has more of an appreciation of how much work it is to set up one of these remote hubs technically speaking. I brought a technical person into Toronto hub, and I realized audio is a tricky thing to do. From my perspective, it was fairly successful technically speaking, so that all went well.

To share one of the challenges that I had, it was having enough advanced notice to do promotion to get people interested to come to the hub. The technical issue there is just engagement with the community, and I guess the second issue is technically running the hub,

which can be more challenging that most people appreciate. I just know from my film and television experience that you're effectively producing a show, and if you ever look back behind the curtains at the Oscars, there are a lot of people doing a lot of things to make sure those things to well. I think this is a great session, so everyone can appreciate what's required. Thank you.

DEV ANAND TEELUCKSINGH: Thank you Murray. I just want to ask the other remote hub operator, Jason Hynds, you ran the remote hub from Barbados. Can you share with us your experiences?

JASON HYNDS: Thank you. Similar to what Glenn said, one of the major challenges was knowing in a timely manner we were going to do it for sure, and getting the promotion out and getting people into the hub. The actual hub itself, we worked with the local university, so we had some of their technical operations available, which made the on-day operation a bit easier, and the coordination with ICANN staff and testing went well. But I think it would be good to get dos and don'ts, as mentioned, and equipment recommendations so you can move from perhaps having a [central hub 40:30] when you first start, to having a better operating hub in terms of the audio stuff you've been talking about.

I'm hoping our hub evolves from where it started to being better on the equipment side, better on how we display stuff in the room and everything, but my experience is so far, the greatest challenge is being able to promote and get the local community out, and get them out for

that extended amount of time that we need them. But I love the remote hub concept, because it's a way of getting more people to participate at low cost, and sending each of those participants virtually to the meeting.

DEV ANAND TEELUCKSINGH: Okay. Thanks Jason. Joly, do you have any comments as a remote hub operator?

JOLY MCFIE: Well, as I just said, I really needed two laptops - we had a group of people in the room - one to have the AC and one for the video in there. We could have done with a third one, to have the Twitter conversation going on. So those were the things, and apart from that, there was the comment I already made as far as having an audio mixer. As far as promotion went, in New York there's a lot of people, but we used Meetup.com.

DEV ANAND TEELUCKSINGH: Okay, thanks Joly. Any comments or questions from the floor? Glenn?

GLENN MCKNIGHT: It was great that you guys took the ball and ran with it. I'm just wondering if any of you guys have any suggestions on other hubs on what to do. What did you learn from the experience?

MURRAY MCKERCHER: I ran the Toronto hub. Glenn, just asking about experiences, technically we didn't have too many difficulties. I had some great technical assistance. At one point I wasn't sure whether we were going to go ahead or not, with budgeting and what not. So there was a delay in getting the word out. I think Jason mentioned that it's important to get the word out. Joly's really well connected in New York. You mentioned Meetup, which is a good way to engage and get people going, or to try to integrate the Internet into existing other activities going on, sponsored by ISOC and what-not.

I'm working through some of those details of how we promote things more. The other comment is if someone's new to our entire process, joining in on a remote hub without a briefing in advance to explain what room people are joining, it's part of an ongoing engagement process. It's the icing on the cake, to get in and listen to the whole world in one time, for those people who are interested. I think it's just one piece of the overall puzzle. Thank you.

DEV ANAND TEELUCKSINGH: Thanks Murray. That's a good suggestion; to link the operators that have operated hubs so they can be used as a resource for newer remote hub operators doing this for the last time. It could be a challenge to sort this all out. I think that's a great suggestion. Jason, Joly, any comments?

JOLY MCFIE: I'd respond to Glenn's thing about maybe having specific [proofs 45:42]. If the idea of could you make a virtual hub using something like Zoom or Hangouts or something, which is where there's a group of people who

are together online, forming a hub. That's something that could be thought amongst ourselves as a way of doing things. What's good about the hub is when you have a group of people who are sharing the experience of participating, rather than participating individually.

Anybody can sit at home and be on AC, but when you're all in a group examining things - whether it's possible to do that in a virtual way online, as well as with a physical thing of the whole idea of what a hub is, against normal remote participation. It's something we can still develop.

GLENN MCKNIGHT:

I'll elaborate a little bit on my comment. One of the [unclear 47:06] that I [unclear] were at, we were recently at the NTEN conference, which is a technologists from the not-for-profit sector throughout the US and Canada - there's a really significant group of people that are being educated on the importance of net neutrality, on ICANN, on many of the issues that are important for not-for-profits, and a platinum sponsor there was .org. So .org was very big at that event.

I think there's a significant group of people within that community that would be very interested in bring their membership, which is throughout North America, to a hub. They're not going to be physically in one location. I want to get back to what Joly's saying. How can we get these remote participants involved, if they're not going to be sitting in the same room?

DEV ANAND TEELUCKSINGH: Joly? All right. Thanks Glenn. Murray, go ahead.

MURRAY MCKERCHER: On Glenn's comment, I see the value that Joly suggests in that we can get a group of people together on a platform like Zoom or Go To Meeting, or integrate it somehow, but I think there's also a huge value in having everybody in the same room. So we're listening into the discussion, and we can tune people in for a while and have our own little discussion within the group - so it involves spontaneous communications. It's a lot easier to do around the table, even if it's five or ten people. I still think it's important.

Remote hubs themselves, to almost use this as an excuse to have an event to discuss these sorts of things. That's probably how I'd do it next time - to make an event around this fact, and then tuning into the remote hub is just one part of a larger engagement effort. My two cents. Thanks.

DEV ANAND TEELUCKSINGH: Okay. Thanks Murray. Just an observation - perhaps the group chat solutions like Slack could work. Slack is an instant messaging system. One of the benefits is that you can separate conversations by hashtags and you can have channels or rooms so you can have ICANN Public Forum Rooms, or based on a particular topic, be it WHOIS or IDNs or whatever. You can set up those channels, and adding accounts can be more centrally administered, rather than Skype chats with that kind of ad-hoc thing, which means you have to know somebody within the group to add you directly and so forth.

Whereas in things like Slack, it can be controlled by staff that, “Okay, these are the remote participants,” and they’ll get an email notifications. And of course the group chat things can work on mobile as well, so you get push notifications when somebody reads a comment, and you reply quickly and so forth. Maybe that’s the way to do it - bring the remote hub participants together. I agree - it feels like a collaboration, when they’re all interacting in the Public Forum and not interacting at the edges. I’m seeing no comments or questions. We’re coming towards the top of the hour.

Let’s have some updates of what’s been happening with the Technology Taskforce since our last call and this call. I have to thank Beran for taking the lead on helping test [Lumio]. [Lumio] is a system that’s supposed to help in collaborative decision making. It’s ongoing at this point. Perhaps we can do a more thorough report on our next Technology Taskforce call.

Also, I think there’s been a request for a conferencing solution by Olivier, on [24 51:52]. I think perhaps you can start that, as well as the one that was mentioned on this call, GlobalMeet. I started the conferencing solutions to evaluate and test, and of course update the table. Those are two of the key things. Any other thoughts or comments or questions? Okay, I know there are a lot of calls starting at the top of the hour. Murray wants to add Zoom and Go To Meetings. We’ve done Go To Meetings already Murray. I’m not sure about Zoom. My mind has gone blank as to whether we’ve done Zoom.

We’ve done a lot. There’s a whole list of conferencing solutions we’ve done that you can find on our workspace. Josh, thank you so much for

attending this call. This was very informative and very interesting. I think we'll continue this conversation regarding having this Wiki page of dos and don'ts. I think that's a great Action Item to come out of this meeting and to improve the remote hub experience for future face-to-face meetings, not just for ICANN but for the remote hub participants; to bring the ICANN Meeting closer to the edges.

I'd also like to have a proper conversation on how we can do this for the smaller ALAC rooms, in terms of them having interpretation but not having such a complex set up as the Public Forum. With that, I'd like to thank you all for the call. Have a good afternoon, evening, morning. This call is now adjourned. See you on our next Technology Taskforce call next month. Bye.

[END OF TRANSCRIPTION]