Internet DURING Shut-Down: Do we need 'more' Internet?

2020.3.26 - https://livestream.com/internetsociety/moreinternet

Sivasubramanian Muthusamy
Good evening everyone. We welcome you to the Internet Society virtual roundtable. The idea of setting up this roundtable meeting arose hardly about two days back, and we wanted to put together a very informal roundtable, and it has taken a very good shape with a lot of our Internet Society leaders, and many from the business side of India, from TiE and from the government, from ISOC chapters joining this call. The basic idea is to look at the current crisis, and in the current crisis side, it appears important that we have to have better connectivity. And also, apart from discussing internet connectivity, we'll also look at how best we can collaborate in the efforts be of help to government, and to relief agencies, in reconstruction. So this is approximately the topic for today's discussion. It's better explained in the PDF document sent to all of you. We have with us, joining in a short while, the Internet Society President and CEO Andrew Sullivan. He said that he'll join us late. And we also have with us Jane Coffin who's Senior Vice President of Internet Growth. And we have representatives from government, from ICANN, other leaders from the Internet community like Wolfgang, Yrjö, and Olivier Crepin Leblond, Sébastien, so many others, and some charter members from TiE as well.

Sivasubramanian Muthusamy
With this brief introduction, I think we can get started. This is very much an informal roundtable discussion. It's an informal conversation. After we get started as we go along, Sébastien Bachollet and Olivier Crepin-Leblond, from ISOC France and England, who are very much involved in ISOC India Chennai, they'll also informally step in to run this meeting. So, we will get started and we'll probably begin by asking Yrjö Länsipuro. to share his views on the topic. To you, Yrjö.

Yrjö Länsipuro
Thank you very much, Siva. Good afternoon. Good evening. Good morning, wherever you are. I'm in Helsinki. I'm from the ISOC chapter in Finland. And right now it's a sunny afternoon here. The park outside my window, in normal circumstances, would be full of people walking. Now, not so many. It's not completely empty. The confinement measures are not quite that strict in Finland, as they are in other places, but still, we are in a completely new situation. And, of course, everybody in the world is in an unprecedented situation where, all of a sudden, the Internet, and all the applications and possibilities it offers, they are now what remains for us to keep the function and the fabric, the connections with family, and the businesses, and the business ecosystems, and even societies, or even contacts

between governments, like in the European Union, where all the dozens of meetings that should take place face to face are now taking place online. So, it's a situation where all of a sudden the Internet which, of course, we who are participating in this conference, we are used to it, and we use it normally, but for millions of people at this moment, this is something new. And the question is, how can we can we help? What could be the role of the Internet Society chapters, for instance, locally in helping people in this situation? I stop here, and Siva, please.

Sivasubramanian Muthusamy
Thank you, Yrjö. Next, we'll ask Olivier to outline the topic better and share his views. And then we will proceed to invite some of the charter members of TiE to share their views on the topic from a business perspective. This is just to get started and to lead the conversation. And after a few minutes, we'll have the entire room joining the conversation. Thank you.

Olivier Crepin-Leblond
Thank you very much. Olivier Crepin Leblond speaking, and thank you for organizing this roundtable, which is interesting because we're all, I think for the majority of us, confined in places indoors, in our own space, and are asking ourselves many questions as to whether the very means that we're using today for this conference is going to continue working, and be able to work as more and more people around the world end up in the same situation of having to work remotely, and who's only access to the outside world is indeed a camera, a laptop, a mobile phone, a phone, the telephone itself a device that resorts to, that relies on worldwide communications. We've read a number of reports, alarming reports in the press, that there are questions whether the Internet is going to be able to sustain this added number of people that will, not only, be at home to work, but also at the same time with the children being at home, with the rest of the family, being at home, use the Internet for streaming services for their daily life, purchasing things, etc, and therefore putting so much more strain on the resources that we have. We are finding in some countries the effects firsthand. So, rather than just having predictions, we're now seeing exactly what happens in that specific scenario. And irrespective of the amazing challenges and heroic work of the emergency services and the hospitals and the medics to try and contain this crazy virus that is going through the world and that is affecting everyone, irrespective of this, we are seeing that some networks are behaving better, and some networks are behaving worse, and that there are localized problems in some networks, there are more general problems in some networks, and indeed, the diversity that we're seeing is very normal because Internet is a network of networks, so there's not a one single problem that one is faced with in today's performance of the Internet. The question really, that I have, is okay, we're seeing the problems. We are, of course, I'm sure you know, technicians. Thousands of people are working extremely hard right now to resolve problems where there are problems, and where problems have been encountered. But, at the same time, I really hope that the lessons that we are learning today firsthand are going to be learnt, and that there's going to be acting on those and certainly if things cannot be fixed right away that next time we get faced with such a situation, we don't have the same challenges recurring, so that we learn from what's happening today. So, that's my opening thing, is what can we learn from what we have today, and how can we make sure that we are better prepared in the future? Thank you. Back to you, Siva.

Sivasubramanian Muthusamy
Thank you Olivier. Before we move on, we have a caller with a phone number may request the caller to identify himself or herself.

Wolfgang Kleinwächter
Well, this is Wolfgang. Yeah. Thank you for organizing this, and collecting, bringing a number of people together for a first reflection about what we can do. You know, I thank Olivier and Yrjö for getting started with this, and I have also, you know, first some very general remarks. The first one is what we see now is that the real world and the virtual world, which has been discussed the last 20 years, are now coming together and it's only one world. I think this is what we have preached for a couple of years. The Internet community, always with One World, One Net, and things like that. But, you know, the reality was that we did have two worlds, but now we see that we live in one world. And we see, living in this one world, that we live in a divided world. And my fear is that, for the moment, the fact that 4 billion people are online, and 4 billion people are offline, because of the crisis will even deepen the digital divide. So, that means we see, on the one hand, if we live in one world, we have to reach out to everybody, but the reality is that we live in a divided world. And I think this is a fact which now has been recognized by everybody. This is my first observation.

Wolfgang Kleinwächter
The second observation is, this has really a human rights dimension in some other ways. One is that -- it's clear now more than ever -- that access to Internet is a basic human right, like all the rights we have in the Human Rights Declaration from 1948. Without access to the Internet, you cannot manage such a crisis anymore. Even you know for very simple daily things, you need connectivity. And I think this is probably one of the biggest lessons from this crisis, that there has to be much bigger efforts to bring everybody online, under all of the human rights perspective. So, that means, when we come out from this crisis, we have to look for new ways for investment in infrastructure for building networks, so that we reach out, not only to the next billion, but to the next 4 billion. But the other aspect with human rights goes more to the connected people, because the connected people live in societies where governments now have to take care on all the big problems, as they introduce very exceptional procedures to meet the challenges, which is needed, which is also good. But, the flip side is that very often this goes deep into individual human rights, tracking of mobile phones from all people, to find out who is infected or not, has a good element in it because you can more efficiently fight against the virus. But the flip side is that you introduce a surveillance system, which, if this is not under control, and if this is not removed after the crisis is over, this will have deep negative consequences for the societies, and I think it's one of the responsibilities for ISOC, and the ISOC chapters, to have a very flexible and dialectical approach to this issue. So, there to be a work stop, although for the time after the crisis is over, that established procedures, which in normal times would violate human rights, are again removed and not continue to work. I think this is really a big challenge.

Wolfgang Kleinwächter
And the third observation is we will see a new system of global diplomacy. Yrjö has mentioned that already, the dozens or hundreds of meetings only within the European Union, has now moved to online meetings. And the question is, indeed, what we learned probably from this is, do we need all these thousands of face to face meetings, or how much can be done, really, online, and how much where we

need offline meetings. I think the ICANN planned meeting in Cancun was a good example. So, it worked quite well. Even the Governmental Advisory Committee was able to produce a communique. So, my proposal after Cancun, or the video, the online, meeting was: Is there a need for three ICANN meetings, or could we have two face to face meetings and one virtual meeting in the future. So, this would reduce also travel costs, this would be good for the environment. And with more value for the face-to-face meetings, if we have less face to face meetings. But, what I see, and this is the end of my intervention, is that we probably move to a hybrid format of global diplomacy, where much more things are done online, and only for very special requirements you will have then face to face meetings. This could be also one of the consequences in a post-corona time. Thank you. Back to you.

Sivasubramanian Muthusamy
Thank you. Thank you Wolfgang. Wolfgang brought some very interesting points about connecting the unconnected, which would be a topic for the second part of the session with Jane Coffin, who's here. And, to the participants from India, I just want to make some brief remarks about the manner in which the meeting is proceeding. You might have found that we've started without an introduction of the participants present here, and I just mentioned names very casually, I said, Wolfgang, Yrjö, and that's the way we work, and some of the people present here are top leaders from the Internet community, and they all work very quietly, and very informally, like Wolfgang here, who is a professor from a university in Germany who has been associated with a World Society for Information Services, WSIS, which started the Internet governance process. And, we have many participants who are not formally introduced, and that is true on the other side, the participants from India. We have many business people, and please accept this method of working, being very informal. And, we also have now, Andrew Sullivan, CEO of Internet Society, who has joined us, and he was to make some opening remarks, and I'll invite them to give his thoughts on the topic, about the need of the hour. Thank you, Andrew.

Andrew Sullivan
Thank you very much. I won't talk for very long, because I think it's important that we get to the discussion. And anyway, other people are more interesting than I am. But I wanted to point out just a couple of very quick things about the current crisis, and how the Internet Society and chapters can really contribute to that effort. So, one of the things we're seeing, of course, is, as as other speakers have already mentioned, the Internet has turned out to be critical in this function, and it's really weird how certain policymakers have responded to this by saying: Oh, heavens, the Internet might be 'over-demanded' now as though, like, there's a fixed quantity of internet to go around, and if we use it up at four o'clock in the afternoon, it's not going to be there later in the evening. So, this is a sort of conceptual error that is built into many of the ways that people are talking about the Internet in this, as though it's a single monolithic thing. And that is the critical thing that I think the Internet Society and Chapters need to keep reminding people, particularly policymakers. Chapters are one of the best ways for us to engage with policymakers in various countries because they're on the ground, they've got the local relationships. Policymakers need not to interfere with the Internet, and its proper functioning, under these circumstances, because it is designed to be so effective, and so resilient, and to be able to scale under these kinds of under these kinds of conditions. But, and this is the other critical part of it, this ability is not not universally distributed. I guess it was the speculative fiction writer William Gibson, who said -- who has had attributed to him anyway -- the saying: The future is already here, it's just unevenly distributed. And that's a critical thing about the internet, right? That access to the internet is

not well distributed. We have a number of people who -- the basic functioning of the internet is fine, but there are lots of people on substandard, or underbuilt, local access regimes, who are stuck behind connections that are not particularly resilient, who are dealing with Internet service providers who have always been overselling their equipment, and now they're discovering that it won't scale under the circumstances when everybody tries to use it at once. This is entirely predictable. People have been pointing this out for years. And the critical thing to do now is to take advantage of this situation and to say: Hey, look, if you want a resilient system for your society, as the society grows, and as we have to face these kinds of crises, whether it's this crisis, or various issues related to natural disasters, that might be related to climate change, or any of the other things that might befall human civilization over the next many years, the Internet is a marvelous technology to help with that, but it's only going to work if we collectively build the various pieces of it adequately, and that means avoiding tendencies towards central control. It means avoiding underbuilding and provisioning too many people on a given piece of kit, and it means avoiding regulatory intervention in areas that don't need it, when, in fact, those areas are being provided for adequately by the internet technologies we already have. That doesn't mean that regulation is not ever a good thing. But it means that the places to put the efforts are not to solve the problem of whether Netflix has enough bandwidth in order to serve everybody's videos, or whether Facebook has a business model that is going to allow Facebook to scale to deal with all of the levels of demand on it. The problems here really have to do with the underlying infrastructure, and most of the problems in the underlying infrastructure are in access networks. So, Jane Coffin from the Internet Society staff is going to talk in a little bit about about community networks, and how that is one approach to solving some of the of the access network problems that we know are part of the part of the challenges facing the Internet. So I look forward to that, and I look forward to the rest of the conversation today. Thank you for inviting me.

Sivasubramanian Muthusamy
Thank you, Andrew and I'll invite two of the charter members of TiE who are with us, by name Rahul and Sriram. I may ask Rahul to make some observations. And please keep your comments to a maximum of about two minutes, so that we have many other people in the room who will join the conversation after your intervention, and have three rounds coming. Thank you.

Rahul Nehra
Good evening, everyone. Pleasure getting connected to so many people at the same time. We, as a company, essentially work in the semi urban in the same semi-rural areas, making small theatres, giving education etc., and that's what our organizational startup is about. I dare say that this crisis has given a solution to the development problem which is faced by all emerging markets, which till date continued to be underserved in education, underserved in health awareness, and underserved in entertainment. And the reason why I say this is that the amount of collaboration I've seen over the last four days with my people who work in the bigger villages, in the small towns, there is no need for setting up large broad infrastructures there. It has proven that education can be performed in a very, very positive way in places where education was not reaching in the true sense of it. So, for me, this is probably one of the single largest events of my life. I'm 48, seen a few things, but for me, it really solves a development problem and infrastructure problem for the emerging markets, for the developing markets, nd for the semi urban and semi-rural areas across India, Africa, and Southeast Asia. I think that's all I have to add from... Why spend money?

Sivasubramanian Muthusamy
Thank you. Thank you. Thank you Rahul, and I'll just ask Sriram to briefly talk, please keep it within two minutes, and then we have many others. I can see Mike Godwin, and many others from Internet Society with us. And so, we'll open up the discussion after you briefly talk. Thank you.

Sriram Sanjeevi
Thank you, Siva. Good morning. Good afternoon. Good evening, ladies and gentlemen. It's a pleasure connecting with every one of you for the first time, and amid all this scare that's going around with the corona, I think, perhaps, this is some some kind of a good thing to connect and discuss. So, I represent the consumer CPG retail industry, and I work for a company, an instant coffee brand from India, and we make instant coffee we sell in the market. What the Internet has done in India? I've been in retail for the last 23 years as well for some very large coffee as well as consumer brands in India, and I've really seen how ecommerce using the Internet has grown over the last 23, 25 years or so in India and, especially, every time there is a crisis, I think it's so nice how more and more new first time consumers are lapping up ecommerce and online shopping. And the COVID is no different at all. I've been talking to various friends, as well as associates where our products are listed, as well as where we are not listed. And we have seen a huge spike in terms of consumer uptake, in terms of first time consumers trying to login, trying to order, transform online, experiment with ecommerce, and people who thought that this is probably a very dangerous thing -- your country, I think, coming to believe, one click at a time, that it's not that bad at all. And finally, I think ecommerce has been projected as a dumping yard for discounted products, and I think with this emergency kind of situation, I think it's going to be pretty clear that ecommerce is all about convenience, and not about discounted shopping. And that's how I think the internet is trying to perhaps rewire our minds to say that we need to make the best of what is available, and perhaps the best thing to save is not money, but perhaps our time. So that's my opening remarks.

Sivasubramanian Muthusamy
Yes, and now we open the room for discussion. And the topic is before us, one or two simple questions. What do we do now? What do we do as business people, as civil society, as participants from the Internet community to help the government in their relief efforts, not only in India, but around the world? And the second question is, what next? How do we recover in such a way that, it's not just a recovery, it is a renewal, it's a better life, a better world? How do we do that? And towards that end, is there something that we can do, by collaborating online, on the developmental aspects, while being at home? So these are the two questions The floor is open and I've requested Olivier and Sébastien to informally join us. co chairs, and so I'll ask Olivier to do this part. Thank you.

Olivier Crepin-Leblond
Thank you very much Siva, Olivier Crepin Leblond speaking. I am currently scrutinizing the queue. So, if you have a question or comment, want to intervene, you can click on the hand up icon which is on your screen, and then I'll give you the floor one at a time, and then you'll have to unmute, and, of course, if you are not speaking, please keep yourself muted. If you're on the phone and you're unable to put your hand up, please just shout your name out, and then I'll put you in the queue on this.

Olivier Crepin-Leblond
So first, let's go to Samiran Gupta. And then I'm also seeing Venkatesan also in the queue. So I'll put you in the queue afterwards. I've got Samiran Gupta, Mike Godwin, and Meket Hassan with their hand up. Thank you.

Samiran Gupta
Thank you, Olivier. I hope you can hear me.

Olivier Crepin-Leblond
Yes. I can hear you.

Samiran Gupta
Thank you so much. At the outset let me thank Internet Society and all of you for organizing this conversation at very short notice. And, because I represent ICANN, I am going to speak about a couple of things that we are doing, and we're looking at, and it kind of also resonates with what you were speaking about, Olivier. So, my colleagues at ICANN are actually looking at the impact of increased traffic on the networks, given the lockdown that various countries have had over the last few weeks, and whether that increased traffic is having any detrimental impact. While that work is still a work In progress, what we do know at this time, that I can share with you, is that, while there has been a detectable effect on DNS traffic, and we are looking at the ICANN-managed root server for for this research, we also realized that even this increased traffic is well within the capacity of the DNS ecosystem, and the root server ecosystem, to handle. So, in other words, there could be issues which could be related to infrastructure, which is deployed locally, but as far as the ability of the root servers in dealing with queries, and the traffic, we are not in a bad place. I'm going to stop here, because I see Siva saying [in general to all participants in the room] it's a one minute max intervention, but the report that my colleagues are working on will be published soon, and you'll get to see more specific results. Thank you.

Olivier Crepin-Leblond
Thanks very much for this Samiran. And next we have Mike Godwin.

Mike Godwin
Now it works. It just took me a minute to unmute. I'll try to keep this under a minute. So, if I talk fast, please forgive me, I'll repeat anything necessary. One is, I think we're going to spend the rest of our lives thinking about the fact that we have populations of billions right now, acting in a fairly coordinated way, partly facilitated by governments, but also on the basis of individual and group action, and especially in terms of mobilizing and using the internet, primarily in positive ways to share information, to stay in contact, to coordinate resources, and to coordinate response. I think that is really important. And it's something that should feature in how we talk about the iInternet, you know, forever going forward. We need to really underscore this, especially in a time when many cultures, many people are anxious about the changes the Internet brings. The second thing is, I think, I want to underscore this idea of internet access as a human right. Obviously, the United Nations and other multilateral bodies, and multinational bodies have said this already, but I think we need to keep that front and center

because, obviously, we have billions of people who are not yet connected, and we need to find ways to get them online humanely, affordably, and so on, and we need to prioritize that. And finally, I think the thing, trying to keep it at least close to a minute, is that the particular need to develop a very conscious framework for protecting individual privacy and autonomy is also a thing that we have to underscore at a time when more and more people will default to Internet communications to coordinate. That's key, and to me, that will involve setting a framework not just between citizens and government, but also between citizens and companies, and between companies and government, and so it's at least three-sided problem if not more complex than that. So, that's what I think the priorities are, and I expect us to be working on these issues for the rest of our lives.

Olivier Crepin-Leblond
Thanks very much for this Mike, and I was hoping that we weren't going to have that much work for the rest of our life, but It looks like we've got our work cut out, not as only a community, but much everyone involved in this. Next we have I think it was C. Venkatesan first. And then after that we'll have Saira Banu and Brandt Dainow, so C. Venkatesan, you have the floor.

Olivier Crepin-Leblond
Doesn't work. Alright, let's continue to the next person while you try and work out the unmuting. You were unmuted for a moment, and I'm not quite sure why it got muted again. Go to the next person. Saira Banu.,
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Saira Banu
Yeah. Now there's the Corona Virus have put the whole world. it's not for your single area, or based on some geographical area, it has made the whole world, and the Internet has become the only way to communicate the people. If there is no Internet technology advancement, I don't think -- we wouldn't have any sort of communication. And still out of this work from home concept, if you are still able to do all your routine work, it's only because of the Internet. But, still, I think that the traffic that we are all using are not taken in the same way. And, because, starting from the school, to the colleges, from the IT companies, everybody is using the same traffic, and I was actually expecting some sort of solution where it can be prioritized. If the traffic can be prioritized, and it can be -- how it can be used for that, it will be,-- because, see, I'm from the educational sector, and I will be dealing with the students, where I have to address 60 students at a time in a conference call, or in a video call, where more traffic will be used. But this is different from a person sitting one to one in the company in an IT sector. So, if there is a possibility where we can prioritize the traffic, it will be very useful for the different communities, and based on the different applications you can utilize the Internet. But, it is also known that the time given for us is very short. Because it is just going to be at 21 days. Maybe for the next crisis, it might be useful -- the solution might be useful -- but to address the challenge over years. Now time has become a very big constraint. So if anybody can suggest any solutions for it, it will be very useful. Thank you.

Olivier Crepin-Leblond
Thank you very much for your comments. Yes, prioritization of traffic, big question on the Internet which treats all traffic the same way, and for a reason. But, is it time to think of multi speed internet, or

prioritize traffic? I leave it there. Quite a few technologists on the call that might wish to address this question. I see that Mr. Venkatesan seem to be unmuted now. Are you able to speak?

C. Venkatesan
Hallo? Good afternoon.

Olivier Crepin-Leblond
It works. Excellent. Welcome.

C. Venkatesan
Okay. Okay. Thank you. Thank you for your patience. I need to talk about that, we are talking about the Internet speed and other things and all. The main problem, since I'm working as a domain expert in an IPR firm, the problem: online brand, online brand is more important. The cybersquatting activities are improved a lot. Daily, I can find out four or five domains. These are by third party cyber squatters, hosted in paperclip trade, and they're earning very good money. We should [unintelligible] all those things. We stop talking about the speed and DNS and other things. Can ISOC will recommend ICANN to get a solution for this. This is my point. I'm not talking about Internet speed or space or any other thing. We should avoid the fraud, cybersquatter activities or third party, Because online is the more important. I'm working IPR firm. That is why I'm keep on insisting Thank you.

Olivier Crepin-Leblond
Thank you very much for this, these points. And yes, DNS abuse and the abuse of the -- while cybersquatting as you mentioned, and also hacking and malware, it seems to be also -- and, of course, I haven't got any figures, and I wonder if anybody on the call has figures, but there certainly seems to be an anecdotal rise in those activities at the moment. I've heard from several corners, in fact, it's interesting, my own company's website were hacked a few days ago, where after..

C. Venkatesan
I will help you.

Olivier Crepin-Leblond
[laughs]

C. Venkatesan
No problem. Just give me the details. My email id is with the Siva, cvenkatesan1990@gmail.com.

Olivier Crepin-Leblond
Thank you. It's things that, you know, I was about to say, after 15 years it's the first time we actually got hacked. And, I was like, well, are we so insignificant that, you know, they went through all the other ones, and tried to hack them, and finally ended up on our website, which was pretty, really silly. But anyway, so there could be some of that. So, that's another avenue. Let's give the floor over to Brandt Dainow, and then I was going to ask Sébastien Bachellet if there was any discussion in the chat, and questions and comments in the chat. And I also invite the technologists among us to try and provide us with some some answers to the points that are being raised here. Brandt, you have the floor.

Brandt Dainow
Thanks very much, folks. I'm going to assume you can hear me, unless I say otherwise. One of the things I'd like to draw people's attention to, at this point when we're at an early stage of thinking about this, is the fact that, generally speaking, any technology that we introduce is used for negative as well as positive effects. So, for example, there's been a great deal of benefit in Taiwan and so on from using tracking apps on people's phones to restrict people from movement, but, at the same time, that gives the government an incredible level of information about the individual's movements, and then the question becomes whether that app will be removed, or will become legally required for the future. So, the technology can be -- it's the same technology, and it's being used for positive and potentially negative effects. Similarly, when we talk about prioritizing traffic, some of you will remember that, a few years ago, there was a lot of attempts by some repressive governments to try to introduce, at a higher level, prioritization of traffic on the basis of, for example, trying to strip spam, when what they meant by spam was stuff that's criticism of their -- of governmental policies. And already, I've had to brief my people about what we now call zoom trolling, which is people logging into zoom conferences like this, and then broadcasting pornography into them, and so on. So, while we're thinking about the things that we can do, I would invite everybody to also think about how any positive step that they can come up with, could also be abused. And I think we need to bear in mind that a technology's not good or bad, it's how people use it. And inevitably, some people are going to want to use it for negative effects. Thank you.

Olivier Crepin-Leblond
Thanks Brandt. Thanks for these points. I see there's quite a discussion going on in the chat at the moment, with some responses to the points that have been raised a little earlier, specifically, and especially, on abuse and malware things. Shall I ask Sebastian Bachollet If you could please take us through some of these?

Sébastien Bachollet
Yes, thank you, Olivier. I guess there are two or three tracks in the discussion. There's one, it's about the quality of service, and what we get as an end user for quality of service. Second, it's about net neutrality, and if there is some link between both because, if you have bad quality of service, is it better to have traffic selection to be sure that you get what you need absolutely, and not the rest? And, the other, it's all around the question of the situation today and how we can get rid of, or when we will be out of that, what will be the point to be taken to come to change the way we are working. I will take this opportunity to say two or three things, if you allow me, The first one is that when [unintelligible] talk about ICANN, we are told it was a great success. Yes. But if you take the people who talked during these five days, it's the usual suspects. And one of the reasons, it's even harder to participate when you are a newcomer, or when you are shy, or when you have a question of diversity of language, to participate in a conference cal than when you are in face to face. Why? Because, for example, in face to face, the chair of the meeting can take care of the people and say: Oh, I don't forget this one. you need to talk. And give him the floor. And, in a virtual world, we were so tight with the timings that it was very difficult. Therefore, my take is that we may work better intersessionally with online work, but face to face will still be very, very important. And the second point, it's just a semi joke, its that do we need to help the government, or do we need to help us, and to help our neighborhood, the people around us?

And I think it's more important to help us than the government. For example, one way is, they say: Oh, you have trouble to get your field manual data and to work, wait for the eight o'clock in the evening. And it seems like they don't consider that there are other parts of the world in the other time zone who will start to use Internet, and therefore it's not an answer. We need a global answer, not just country by country, or time by time, answer. Thank you, Olivier, back to you.

Olivier Crepin-Leblond
Thanks very much Sebastien. It's Olivier speaking. And I see a lot of discussion going on in the chat at the moment, with some examples brought forth by Barack Otieno, for example, about some people that have been arrested in India, but some people having been reported to the Delhi police., Samiran Gupta has shared much of this with regards to DNS abuse. But, in the meantime, and I might call upon Samiran to explain a little bit more what's going on, actually, to fight off this apparent surge of DNS abuse, of fake names being recorded, and cybersquatting, which is one of the things I've even seen that -- I've colleagues that run a registrar in the UK, and they told me it was incredible -- the number of domain names that were that were registered with COVID-19, and with all sorts of claims, already, in the domain name itself. But, in the meantime, at the moment we've got in the cue, Arun Kumar is the next person.

Arun Kumar
Hi, Olivier, Thank you. I'm from the finance field, basically, but how I would like to refer here a few instance on the not for profit sector. So, I belong to Rotary movement, and we expose the costs of trade, of education, apart from other avenues of service. Given the current crisis, there is a shutdown, lockdown across the world, due to which the student community in villages, in semi urban areas, are also put to the inconvenience to study from home. I believe the rollout of 5G has taken a backseat. So, there is no talk about it right now. When we have a big budget for stimulus of trillions of dollars, I believe there has to be some allocation for the speedy rollout of 5G services, which will improve the penetration torural villages and semi urban areas, where we're gonna have this situation maybe extending for three to six months, we do not know, it has just started. So, I would like the Internet Society to take a request on this behalf, and then pursue for execution. There were [unintelligible] on execution of 5G rollout in some countries, and then they got stuck with the Huawei Technologies, and other issues. I hope the time, the need, has come to use this opportunity to allocate some portion of the budget of all the governments across the world to, you know, have this rolled out as quickly as possible. Thank you.

Olivier Crepin-Leblond
Thank you, Arun Kumar for these points. I was going to turn over to Andrew Sullivan for this. We're talking here about 5G. So, faster access. Does that mean that there's going to be some slower access? Does that mean we need to have this prioritization of traffic, those people that need fast access, those people that need slow access? Is this something that the Internet could do? Is this something that the internet should do?

Andrew Sullivan
Well, thanks. I'm not sure that I'm exactly the person to talk about this, but probably given the short time I can talk about this at sufficiently low level of detail that it doesn't matter. The critical thing to see about this is that a lot of policy discussions on about these kinds of issues seem to think that there is a magic technology where, if we just went and got it and sprinkled it over the top of the Internet, the problem would be solved. And it's, sometimes, preferential access and quality of service solutions, sometimes it's 5G. 5G is like the new magic technology, right? It's a floor wax, and it's also a dessert topping. It will wash your clothes and make your dinner. A lot of the time, when you hear those kinds of claims about any given technology, for the internet, or really for anything else, you're going to be disappointed. One of the clear things, though, that we can do is to build the Internet according to the best practices that we know. So that 5g deployment, or LTE deployment in some places, or greater fiber connectivity, or whatever else you like, will always give you the best results that are theoretically possible under the circumstances. And it turns out that the way to do that is good old fashioned, good network engineering, including proper deployment of internet exchange points, so that they're widely spread, and so that they can handle all of the load, and so that they attract the caches that provide content locally, so you don't have to go over a long distance slow and expensive submarine cable, for instance, in order to get something that could be available locally, and that could provide for a lot of speed up. This is a tricky and complicated business. But it's a tricky and complicated business that it is something we know how to do well. And so we should urge, regulators in particular, to encourage that kind of environment to make sure that it that it works.

Olivier Crepin-Leblond
That's great. Thanks very much for this, Andrew, and thanks for reminding us that there is no silver bullet scenario, no magical cure for all of these, these problems that we're faced with. I think it's the right time perhaps to seek into the presentation from Jane Coffin, who is going to be able to expand a little bit on some of the solutions that might be available to us. Is this ready? I'm not sure it can use a share your screen, or how does it work?

Jane Coffin
So to start, while I'm trying to save the doc here in PDF, I am working with a fabulous team of human beings here at the Internet Society on something we call Internet Growth, which is building the Internet infrastructure, working with communities to help support the build of that infrastructure. So, we're calling it Internet Growth. It has three projects in it, and I'll quickly show you some of our other projects so you can see the synergies, and I'll go very quickly through this presentation. Let me pull it up for you.

Jane Coffin
And we've been speaking with the chapters consecutively across the -- well, we've we've had a chance to -- and next week we'll be with the APAC chapters. Yesterday, we spoke with the LAC chapters. Next week is -- today is the Middle East after this. it's quite a busy day. And then we'll be working very closely with all of you to see what things you can do with us to help us carry out the mission that we have, because you're very important to that. I think this is it. Let me see.

Jane Coffin
So, one quick note, obviously this is about connecting the unconnected, something that we've all been talking about on this call. And, sadly, this point in time is also a great opportunity for us to continue to promote our vision and mission, both of the Internet Society, and many people we know around the world, to connect the unconnected, and to look at better connectivity across the planet. I've been on calls this week with the ITU D. We have the chapters call today and yesterday, and we've been talking to a lot of journalists, David Belson, who's on this call has been doing quite a lot of really good work with -- to talk to journalists and others to help explain, as Andrew was saying, that the Internet's not going to break with all this traffic. The traffic has congestion issues down at the last mile, and obviously in places where there is very poor bandwidth. I come from a rural area in the United States where, often, my parents and I have to go take mobile phones at the end of our driveway to get a signal because the connectivity there wasn't so great. We really have to push harder, as Andrew was saying also, with policymakers, and I think we should have a brainstorm on that, on another call, perhaps, on some of the top things we can all work together to ask them for, because we have been asking for them to look at complementary solutions to connectivity, which community networks are part of that. We have been looking at ways that we can encourage more Internet Exchange Points so that you have more local content exchanged locally, cheaper, better, faster traffic, and you've got caches, both DNS caches, or instances, and you've got more CDN caches at home. So, the Internet Growth portfolio has three big projects, its Community Networks, IXPs, and Measuring the Internet. David is part of that Measuring the Internet project, very important to look at ways that we can talk about Internet health, come up with better ways to show how data can support some of the policy things we want to ask for. You know that we are grounded in our action plan. The team that is part of the Internet Growth team is, I'm running the teams with the Community Networks projects, which are Max [Stucchi] and Juan [Peirano], who are not on the call, but they are key people that you've been talking to in different regions. Michuki Mwangi and Naveed [Haq] are with us on the infrastructure side of the house, which is the IXPs and the Network Operator Groups, and Measuring the Internet is Matt and David [Belson]. The eight projects we have tied to the action plan really interconnect with each other. We're on the community networks, infrastructure and community development side and measurements., but we support the MANRS project through the infrastructure project. Time Security is critical to the underpinning, and the Internet way of networking. Konstantinos who was on the call earlier is part of that team, and those are the Joe Hall projects -- Time Security, IWON (Internet Way of Networking), Open Standards Everywhere (OSE), Encryption, MANRS. So it all works together. We're working globally and regionally, which means we work with institutions at the higher level, whether it's the UN, through IGF, and others, to promote this Internet way of networking, building more infrastructure, and making it stronger. And regionally, obviously, with different regional groups, whether it's CITEL in the Americas region, to work with regulators, policymakers and companies to talk about complementary solutions, and to encourage more Internet Exchange Points, and to promote the uptake of v6 or other, and to strengthen the DNS in those regions, as you were saying, Community networks, as you know, are a way to connect the unconnected. They are not the magic bullet, as we say. They are very localized solutions, where local people can come together, build an infrastructure. We help do the training, the deployments, the community building with government and regulatory bodies, as well. It's really important that they're not violating some of the local rules, but we're also convincing regulators -- and when you said 5G, my radar went off in a way, because when 5G comes up, I get a little excited because I don't want to see the spectrum grab that's going on just for those 5G networks. Because, by

the way, in the 6Ghz band, we need that spectrum for Wi-Fi and in the 2.4 and 5Ghz bands. So, it's really important that we're talking to regulators and policymakers about opening up change, to licensing, to funding, and to spectrum. And a key ingredient here is all of you the local champions, and some of the other local people in the communities of interest. There are different stages of development and deployment that we look at with CNs. It's that engagement that I was just speaking about, the community building, the policy and regulatory work, the training that we can do with you, and some of this online now. Andrew's asked us to take a look at how we've virtualize some of what we do. The teams are taking a big step back. And, if you think of it as a big boat, we're taking the boat out of the water. We're taking some of the barnacles and things like grow on the bottom of the boat, I'm from a sea town. So, pull the boat up, scrape some of the things off the bottom of the boat, repaint the boat, get some of the lines ready, and the ropes on the boat, so that we can sell that boat better with all of you. And that means some of the deployments as well. And this is where you can help us in any of these four pieces of this puzzle together. Pillars of the community networks, as I mentioned, there's a policy/regulatory, there's backhaul, which is a very important part of -- if you have your connectivity in a village, how you get that connectivity moved across networks, backhauling it to the middle mile. The knowledge -- there's knowledge sharing, working with all of you to grow that knowledge. The end users -- working with them in those communities to make sure that they're getting digital skills, training and other, which is more a component of the Foundation, which we work with very closely, too. And the sustainability: how the funding comes in, whether we turn the models over to a grant-based model, to a for profit model, which does happen in many of those networks that we've been working with. So, it's local champions, people like you, who are making a difference in communities. It doesn't have to be a highly technical person involved. It can also be people who are very motivated to create change. We have very successful examples of CN's we've worked with around the world, Tusheti, Georgia, and George Gotoshia. So, on this call, I saw him. George is someone we've worked with on Internet Exchange Points, so it's exciting to see George here. Sussamyr in Kyrgyzstan, and Sarantoporo, believe it or not, right below Mount Olympus. I've been to this beautiful area. But this is a place where connectivity has not gotten because the incumbent did not find the return on investment. Many big operators will find that in communities of 5000 and under, particularly mobile operators, that they don't get a return on investment. This is due to the way that they arrange their models, based on CAPEX and OPEX. And so it's very important that our models which are much lightweight, much cheaper, using new technology and more innovation at that quote, endpoint -- I don't like to call it the last mile anymore, I'm calling it the first mile from the village out. You've got the Asia Pacific where this all started, by the way, in your region with Rajnesh [Singh], who could not join us. But 10 to 12 years ago, he sat down and did a back of the napkin, just like the internet was born, and said, How can we bring more connectivity? So we've got great projects right now in your region, South America, Africa, and North America. And we've a big focus on indigenous communities in the North American context. Some of the challenges -- I'm not going to get into all of this because we don't have time, but I will send this along to Siva so he can share it out -- but here are some of the big things that we look at, the support, the licensing, spectrum, backhaul, cash flow, power -- power's a big one. a lot of these networks are solar powered. And a really interesting byproduct we've seen in some of the communities that we work in is that, in addition to those solar panels running the networks, they're also charging stations for local communities. It's become a really cool thing for kids to help manage and oversee in their villages, particularly in a place called in Zenzeleni, which is in the Eastern Cape of South Africa. Special challenges? We've got those barriers, we've got to pull them apart. And so, part of our development

project is in the NOG work, and research and education networks, and IXPs, to bring in that second layer.

Jane Coffin
So, I'm going to end here, and going back up to sort of some of our challenges, and let you know that this is part of where you fit in. You can help us remove some of those barriers to provide better connectivity, bringing community and, as Andrew has said earlier, let's figure out ways we can work with you to get messages out to your local policymakers and regulators, so we can push a little bit harder for change. I was on a call with the ITU-D's, Development Sector director on Monday, and we're really looking at how we can bring change together. There were people who are pushing really hard against community networks, as they saw them as a challenge to the old way of working, the old regulatory regimes. What we're saying is that they're a complement, they're not a threat. When you're looking, and there were people speaking earlier on the call, we are finding gaps in connectivity, we've got to close those gaps. Something that may surprise all of you is that we have major tracts of land, here in the United States, where there are indigenous communities without connectivity. Those communities didn't get what they needed from our regulators and policymakers. Our North American team is working really hard to put forward some suggestions to the FCC. One thing they did recently, that the FCC did take up, was they extended a comment period for spectrum for tribal communities. It's called EBS. It's an educational spectrum allocation, where some of the big carriers were allocated spectrum over their lands over the tribal communities lands, and it's not being used by the tribe -- by anyone, not by the providers, and the tribal communities are now putting in requests with the Federal Communication Commission in the United States to look at that. And I will tell you this too, because I see many of you who are from the IGF world, the Dynamic Coalition on Community Connectivity in the IGF context was put together by a community network in Argentina, Alta Mundi, and someone you all know very well, Luka Belli. Many of us were part of that coalition, the Dynamic- - the DC3 -- and the DC3 had put together a book that went to the IGF in 2019 in Berlin. The Brazilian regulator took a look at some of the suggestions, and recently put out a new change in the regulatory regime in Brazil to recognize fully community networks, the importance of deploying them, and working to support them at the regulatory policy level. And I'll finish with this picture to put in your heads, in the New York City Mesh community network in New York, an urban area, as you all know, the team there has been running around like crazy over the last two weeks, both on the ground, where they can, where they're allowed, and on the rooftops. They have been connecting people that did not have connectivity before, whose kids need now to stay at home and learn, and whose businesses need to continue from a business perspective. So, we're not just talking about the isolation of just bringing in more connectivity. We're looking at what that connectivity does, and the impact it has. So I'm going to stop, turn it over to all of you. But if you need more time with us on community networks, on IXPs, on measurements, David's got a great presentation he can give you it another time, to talk about the impact and what we're seeing as far as traffic, and the resiliency of the networks, because the internet was designed this way, not to break when more traffic came on it. So I'm going to stop, turn it over to all of you. If you have any questions, we're happy to answer them.

Olivier Crepin-Leblond
Thanks for this, Jane. It's Olivier speaking. I have a quick question for you, actually, The hurdles to community networks, and this? Are they mostly technical hurdles, like the equipment isn't there? It's difficult to set it up, or are you looking mostly at regulatory hurdles?

Jane Coffin
It's a really good question. Olivier. It's both. Mostly, it can be regulatory, and policy in some places. It depends on the community. In others it could be teaching the community, who may not have a higher level of education. We've worked in many communities to do training at different levels with pictorial training. And then we've done the on the ground training with them, to literally showing them how to put the equipment together. In some of the hurdles can also be just interference at certain levels. New York City mesh found that some of the equipment they're using from a certain manufacturer wasn't modulated correctly. And, actually, it was interfering with some signals near the airports in New Jersey and New York. They quickly have worked with the FCC. I actually just saw the letter they sent to the FCC saying, we did the test, we see what you're talking about, we're ramping back the power levels here, here, and here, so that there's no interference. Because you don't want that. But it is often, Olivier, the mindset of change. And, right now, we're seeing the stress test on the infrastructure, and on our political and regulatory infrastructures, as far as what we put forward. So, we do have some suggestions we can we can push out to all of you on how to change that. But the technical really isn't as problematic. Some of the other really great networks, like Alta Mundi, are looking at ways to do plug and play, both from server perspective, and some easy to install routers. And there are videos for all of this, so it's not as if we wouldn't be there standing with the community. It's a beginning phase, a middle phase, and an end phase, where we want to make sure we're not the single point of failure as well. This is really important from a sustainability perspective. One barrier could be us. If we created ourselves as the only -- and the community itself -- as being the the sole point of information and knowledge. We have to share that across the community, and with all of you, so that it's pushed out, and others know what to do.

Olivier Crepin-Leblond
Thanks, Jane. Next we have Saira Banu, and then I'll go to the question in the chat. Saira, you have the floor.

Saira Bamu
You are talking about the policy framing. Can you please throw a few more points on how we'll be coming up of the policy, of what are the parameters that we'll be considering? Where the importance has been? For our clarity.

Jane Coffin
Sure, absolutely. One thing is regulatory delay. We had a project ready to go. We thought the regulator was with us in one country, and they said stop, don't go, we need a three month review of the -- and we need to give you a license. We worked very closely withthat regulator, we were happy and lucky to have a good chapter in that country, and also staff in that country that went in and walked them through the process, and a Regional Bureau director at that time who helped us. Really, it is about whether or not a government believes there needs to be a license. In the country of Georgia, where George, who's

on this call comes from, the regulator said, We don't need to license this, we don't need to authorize this, no one's using the spectrum, go, go go. They're in a very high mountain village. Sometimes policies can get in the way. So, government often has to step past themselves, look at what they can do to make things work faster. If we take a look at this, and I've been doing this for almost 18 years, talking about connecting the unconnected, it really is up to people right now to get out of the way to make this happen.

Jane Coffin
And to work together, obviously, with positive policy change.

Olivier Crepin-Leblond
Thanks, Jane. There's a question in the chat from Glenn McKnight, and his question is as follows: I know that ARIN had policy changes with their Regional Internet Registry. Have the other ones made adaptation to permit community networks?

Jane Coffin
That is a great question. And Glenn they're working on this right now in different regions. I could reach out and find out actually through some of our teams to see if they've had changes in LACNIC, APNIC and others. But ARIN had a particular, more complicated, policy at that point, because they wanted to put a very tight boundary around the term 'community network'. If you look at Guifi in Spain, they're fixed fiber and Wi-Fi. So, if you have incumbents in the mix, they may try and limit the availability of numbers, but we've put actually, New York City Mesh in contact with ARIN, and they're working one-on-one to see what they could do. So, good question, we can take that back to some of the team, and see if that's coming up elsewhere.

Olivier Crepin-Leblond
Thanks for this. Jane, I have another question for you, actually, that just came up. You mentioned you've been in this in this field for 18 years, so you've seen the attitude of governments and of players, commercial organizations worldwide, not only just in the United States. With the recent events which are exceptional, so unprecedented, with commercial operators losing their own employees to teleworking on one side, and also people that are going in partial unemployment for the time being, or shelving operations, do you see a shift in the attitude towards community networks? Or are we still not there?

Jane Coffin
I'm seeing a little bit of a shift, in the sense that no one's challenging. New York City Mesh and others to operate. We're seeing some regulators lift barriers that had existed before. I'm holding my breath, because you're seeing of course data caps being lifted, you're seeing plan costs, sort of pricing, coming down, you're seeing free service to some kids in certain age ranges, you're seeing more content being allowed online quicker. I hope -- what I think we can do, Olivier, is that I'm hopeful. But what we need to do is take this short term window, and create a long term advantage, not let the pressure down. At the Plenipotentiary and 2018, we really got our toes kicked on community networks. We had a really rough time with some of the governments, because they thought these were unlicensed, uncontrolled things, and that's not what we're saying at all. There's a way to make this all work, and I think, right now, we

have a great opportunity to keep the pressure on. And you're going to see more content coming out from us in blogs, and from the community as well. So, if any of you want to give us some ideas, let us know, and we'll get more content out there. The chapters, this is a great opportunity, Olivier. And OFCOM, by the way, in your country -- well, I know you're in two countries usually -- in the UK OFCOM has done amazing work to open the floodgates to help community networks, on the spectrum side, and on the licensing side. And one thing I would press with all of you is universal service, we have got to change the way universal service is allocated, it needs to go to IXPs, community networks, to smaller operators that may have quasi-commercial models. We can't continue to keep the old telco model controlling licensing and USF as well.

Olivier Crepin-Leblond
Thanks, Jane, for mentioning OFCOM, it's Olivier speaking. On paper, it's great, but it still requires a huge amount of paperwork, and only those in the know, know how to navigate the whole path. We've had a couple of our members running, or trying to set up a community network in the UK, and it's not as simple as as its laid out, when you actually have to deal with the bureaucracy that is still lingering around, which in some way is there also to protect, as you mentioned earlier, the stability so that no unlicensed equipment ends up being there, and taking down a whole airport's connectivity, which something that's tricky.

Jane Coffin
You know, we could give ourselves a challenge, too, to see if we can get some of the governments online with us in a conversation, where we scope out the importance of what we're seeing, the change that we've seen, Mexico did a social purpose license just in order to get a community in Oaxaca, an indigenous community, online, and they actually gave both spectrum, a licensing fee for the services, and for the facilities, which is old telco, yeah? But we can actually come up with a really positive agenda for a webinar with with different governments. I know our LAC team was really excited. We had a great workshop planned for CITEL in April, and that actually fell apart because of the corona virus issues, but we're trying to work with a team right now, and this is something that the leadership inside ISOC is working across the organization to try and shift the mindset to: Let's do what we're doing right now and bring some of this online. Let's work with the regulators and policymakers in this crazy interim. So that, when we do get back to face to face, the conversation isn't as new, and we can have a more robust debate.

Olivier Crepin-Leblond
Mike Godwin?

Mike Godwin
So, I just wanted to add, and I've said this in the comments as well, Jane, I know the InterNews Network based here in DC has been running a -- in maybe as many as 20 countries or more -- Internet policy program, Internet policy advocacy program, whose goal was to educate and empower local NGOs, in different partner countries, to be effective advocates for good Internet policy. And this typically includes both things like access, and infrastructure build out, and also humane policies as to freedom of expression and privacy. I'm still in touch with the people there, I'm happy to facilitate

connections for Internet Society, or between Internet Society and InterNews, and just let me know if I could do something helpful.

Jane Coffin
Mike that would be great. I think this is Eric, yeah?

Mike Godwin
Well, I haven't dealt directly with Eric, but the other people, you know, Haley and other people who are there.

Jane Coffin
Okay, let's do that because they they'd be a great team to get activated.

Mike Godwin
Yeah, I think they would love to and, in fact, they are position -- they'd like to engage in certain kinds of partnerships, and often need to get feedback about evaluating projects, and so on. So, I think it would be useful.

Jane Coffin
No. Mike, this is a great example, and Olivier of what you're doing right now with Siva, bringing this community together, and Mike bringing those -- connecting us to those other communities. Because that's really, really important for us. It's almost an inversion formula, where we work with communities, we're building that capacity, we want the pyramid base to be so broad, of different actors and stakeholders, so that, eventually, some of our work is being transmitted to them, and they continue to transmit it, and they are the ones advocating out with less and less support from us. So, it's almost a concentration in the beginning, and then we taper it off. We stay in the game working with them, so that they ramp up, and are the ones advocating. So, that would be really cool. I think it would be a great way to connect. As the network connects, you sometimes may see me on twitter say, It's the human nets that connect the net nets. So, if you can help me get that connection, that'd be great.

Mike Godwin
I think so because, Jane, I've been promising the InterNews team a lunch for some time now. So, I think we need to rope you into that, and get...

Jane Coffin
Excellent.

Mike Godwin
into a face to face meeting back when we start having them again.

Olivier Crepin-Leblond
Thank you to both of you. And that certainly is a call for the Indian Internet community to get involved, and we've got quite a few representatives here on the call. I was going to ask the last question, but I think we're probably running out of time. My question was really, and I'll just send it out there and you

can follow up by email later on, or think about it and discuss it in your communities. But, we've heard for some time, in some parts of the world, that governments are concerned about the Iinternet being more of a disrupting factor to both their economy, but also political systems. And, for years, there's been this whole battle going on in various places regarding the Internet, and not seen as the opportunity for change or, actually, more for innovation, and so on. And, right now, we're seeing the Internet take on an entirely different sense, different outlook, and that it might be the only thing that holds us together, and that keeps us sane as a community, and with the added emphasis that there are some that don't have access to that. Do you think that in India, this mindset is changing? Or, are we still in the same mindset of being concerned about the Internet being, not so great, and being more of a disrupting factor than something positive?

Olivier Crepin-Leblond
No one's going to jump on this one, but you can think about it. Siva. I'm going to give it back to you. I think, you know, maybe you can wrap up on these things. I'm sorry, I've kind of jumped in for a bit too long.

Sivasubramanian Muthusamy
Thank you. Thank you, Olivier, and thank you, Sébastien. You have been great friends to me, and to ISOC Chennai, and thank you. Thanks to Andrew, Jane, and Wolfgang, Yrjo, Samiran, charter members of TiE Chennai, and the partner, TiE who came forward to reach out to their member, and from TiE we have about seven participants, so that's a good start. And I have a very big question to Jane, and I think I'll post it publicly in an email thread that I'll open for the participants, so that this conversation also continues in a way. One possibility is that we can have another meeting, maybe even a week or so, we'll sit down and think over the next 24 hours, and see if we can put together a meeting, and we will continue this conversation. Some of the points we can go into depth, we can go into depth on community networks, we can go into depth on quality of service, we can go into depth on whether the Internet can be over-flooded, or whether it's technically unlimited, and so on. So, we can dispel some of the misconceptions by having conversations like this. On this note, I want to thank everyone. Like I said, this is a very informal meeting, and we don't introduce people by their name, title, and their importance, and almost everyone present in this room are people who work very silently, and they are practically the people who decide the Internet policy, and run things, run the Internet. Thank you, thank you all. We'll continue. Thank you so much.

Jane Coffin
Thank you very much. This was a pleasure, Siva, and anytime, let's do it. It's really -- it's great to see all of you. It kind of feels good to see the team here. Take care. Bye

(unknown)
Bye, everyone. Bye