YESIM SAGLAM:

Good morning, good afternoon and good evening to everyone. Welcome to the fourth APRALO Policy Forum fireside chat on the topic, let's talk about Internet fragmentation, taking place on Thursday, 7th of December, 2023 at 6:00 UTC. We will not be doing the roll call for the sake of time. However, all attendees both on the Zoom line and on the phone bridge will be recorded after the call. I would like to remind all participants to please mute your lines when not speaking to prevent any background noises. Also, please make sure you state your name when taking the floor for transcription purposes. With that, I would like to thank you all for joining and now I would like to leave the floor over to Justine Chew, Chair of APRALO Policy Forum Working Group. Over to you, Justine, thank you.

JUSTINE CHEW:

Thank you, Yesim. Thank you very much. Thank you, thank you. And I also would like to thank everyone for giving up their time this afternoon or morning or night, wherever you are, maybe, to join us for hopefully not more than 60 minutes in a conversation with Mr. Jia-Rong Low.

I wonder if I really need to introduce Jia-Rong because everyone in this room should know who Jia-Rong is. But in case you don't, Jia-Rong is the Vice President of Stakeholder Engagement and the Managing Director of the Asia Pacific Office of ICANN. So he's based in Singapore. He's a very interesting character. If you have a chance to have a chat with him and find out things about him, you'd be surprised. So I'm not going to let cat out of the bag and let you do it on your own. I certainly had that privilege of that experience.

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.

But Jia-Rong leads Stakeholder Engagement for ICANN in the Asia Pacific. And obviously he works very closely with his counterparts in the Oceania side of things as well. But today he's going to talk to us about Internet fragmentation. And this is interesting because when I asked Jia-Rong in a previous conversation with him, I said, "Hey, Jia-Rong, can you nominate someone who can talk to us about, talk to APRALO about Internet fragmentation? You think who would be good? Who's good?" And he says, "Me?" And I thought, "Oh, what on earth? I did not think of that to begin with." So I apologize for that, Jia-Rong. But anyway, enough of the banter. So let's get into the substance of the thing.

Now, today I'm going to play the uninitiated, uneducated game because I am going to treat myself as someone who knows absolutely nothing about Internet fragmentation, except that when I look at Internet fragmentation, I may have some ideas in my mind. So I'm going to ask Jia-Rong to clarify what Internet fragmentation actually means, because I think a lot of people also would have the same kind of impression that I have when you talk about Internet fragmentation, what do you actually mean.

Now, I also would like to Jia-Rong, in the course of our conversation, to tease out the different layers of Internet fragmentation because from my minimal understanding Internet fragmentation is a large area. Just like Internet governance is a large area. And you have facets within Internet governance, you also have facets within Internet fragmentation. And the reason why I would like him to tease out is I often want to know what is it about Internet fragmentation that ICANN, and the community in ICANN can do anything about.

So if you talk about Internet governance, for example, because this is such a huge topic, it covers from A to Z pretty much. But what is it within Internet governance that ICANN actually controls or ICANN can actually do anything about? So in the similar kind of scale or similar kind of way of thinking, I'm hoping that he will unravel Internet fragmentation for us as well. So Jia-Rong, if I ask you, if say someone like me don't know anything about Internet fragmentation, I come up to you and ask you, Jia-Rong, can you explain what Internet fragmentation is?

JIA-RONG LOW: Thank you, it's great to be here. And first of all, I do apologize because I'm a bit under the weather. My voice is a bit off and energy level is not there too. But the good thing is we're doing this remotely, so I don't have to talk very loudly and I can keep my, save my voice a little bit. I do apologize, but usually I'm more energetic than today.

But anyway, back to Justine's question. So first thing is what is Internet fragmentation? So actually to do that we have to first define what is Internet. So I always talk about this. We have to have a common understanding what Internet actually is, because from, you ask 10 different people what is Internet, they will give you 10 different answers. So some people will say, oh, Internet is 3G, 4G, it's wifi. Or some people will say, oh, Internet is Facebook or Google, the content that you see. So exactly what is it?

And interestingly, since we have more time today, I can take my time to tell a story. The Cambodian government, a few years ago, they did a survey to their citizens in the Arctic. Do you use Internet? And most

people checked no. Then they asked, do you use Facebook? And most people checked yes. So it's quite interesting that different people understand Internet quite differently.

So first of all, we have to come to the same page and understand and agree on what actually is Internet. So I'll share my screen to just show you some basic content. And it's easier since, instead of just a talking head, you have some visuals to refer to.

All right, so first of all, is to understand what actually is Internet. And Internet actually is not 3G, 4G. Those are the modes or the carriers. It's also not Facebook, Google, or the content that you see because it's the content that sits on top of Internet. Internet technology is actually the technology that enables my device to connect to your device. So is it like, oh, you use a wire? It doesn't matter whether you're using a cable or you're using Wi-Fi. It doesn't matter because the key thing that enables the technology are three things. The first is that our computers or devices, they speak the same language. We code them to speak the same language. In other words, they all use the same set of protocols.

Second is that they have to have an address so that I can find you. The address in our communities, in technical speak, are IP addresses. So IP is not intellectual property, but Internet protocol, Internet protocol addresses. So every one of us, we have a device, you actually be able to see IP address. Usually four sets of three numbers, but today there's also version six of the IP address, which is six sets of alphanumeric numbers. So second thing you need to have IP addresses.

The third thing is that you have to have a name because humans cannot remember a device by its number, unless maybe you're like a math whiz or something, but most normal people, including myself, we cannot remember the IP address in terms of numbers. So you remember by name and these are domain names. These three things put together is the technology that enables your device to connect to my device. And these three things as a set are called unique identifiers. When we all use the same set of unique identifiers, we are using the Internet. And in some ways, we are all using the same set.

It's kind of like an accident of history because it actually goes against the typical economic drivers of wanting something proprietary, wanting something for economic gain. But the founders of the Internet, they decided, "Oh, we'll make it open and free for anybody who wants to join, they can join." So long as we use the same set of unique identifiers. Now you can choose not to use the same set, then you are using your intranet, not the Internet. So we're all using one Internet right now because we are all using one set of unique identifiers. But if you want to use another set, then you're actually using your own intranet that does not connect with the Internet that we're all using.

So when you define Internet in this sense, the glue that holds the Internet together is this same set of unique identifiers that we're all using. So when you define Internet fragmentation, it means that we stop using the same set of unique identifiers and everyone's like, "Okay, I've stopped wanting to be in the same DNS as you." DNS is the domain name system. I've stopped wanting to be on the same set of DNS as you. I will move to a different set of DNS, which I will call it myself, like

whatever name you can call it, DNS 2.0. You can call it whatever name you want to, or you can give it a different name entirely.

Then when you use a different set, you essentially fragment. But actually, there are many intranets that exist today. But the power of what we are sitting on right now in terms of the Internet is that everyone who wants to join can join, and all of us in some ways are connected. 5.9 billion users in the world are all using the same set of unique identifiers. So if there is fragmentation, it is that maybe 1 billion people chose to, "Oh, we will use something else." Another billion people say, "We'll use something else entirely." Then all of us are no longer connected on the same Internet. That's why we have fragmentation. So that's how we define Internet fragmentation overall.

JUSTINE CHEW: Right, so what are some of the reasons why people might want their own Internet, get out of the Internet and have their own Internet?

JIA-RONG LOW: Yeah, so a lot of it is actually about, for lack of a better term, control. So in the context of governments, for example, I want to make sure that my citizens only can access content within my own realm. And because the Internet was not designed to be contained within borders, like I said, it's actually an accident of history that anybody can join, anybody can benefit from it. One area is really about control. So governments may feel, "Oh, this Internet that anybody can join is bad for us. "It's so bad that we don't think we should be on it anymore." So that's one way that we can do it. But actually, that's what some governments are

already doing, but they're not breaking the Internet at the level that I described, at the unique identifier's level. They use blocking, but it's blocking on application content layer that's above this unique identifierss. So they're blocking at that layer so that their citizens cannot see certain content. But have they broken the Internet? Not really, because we are using, the content still exists. It's just not accessible somewhere else. But when we are talking about Internet fragmentation, that's at the unique identifier level, it's something that cannot be put back together again if it's broken.

So I'll explain, for example, if I block a certain website today, tomorrow I can unblock it. It's a very easy thing. But if I've decided to move one business to another DNS, and there's no way we can bridge, we cannot fix it. So that's the level of complexity behind the two. So one is just blocking, and you can just block today, and you can remove it tomorrow. In fact, even if you block today, this website, if it's another actor who is smart, they can always change the IP address and they cannot be blocked again. So you can always go around it. But if you break it at the DNS unique identifier level, it's something that is going to be really hard to fix.

JUSTINE CHEW: Great, yeah, thank you. Before I take the question from Nabeel, I was just going to relate back to what you were saying. I mean, like in my country, in Malaysia, I know that the authorities here, the one that controls the communications, the MCMC, they do have a policy of blocking certain websites that they deem unsavory, so to speak, for lack of a better term, bad for the citizens. So that's what you're talking about

NABEEL YASIN: Thank you, Jai-Rong. My question is regarding the infrastructure of the Internet. As you know, it's based on the TCP/IP, which is working on the best effort. There is no quality of service or type of service. So it means that now the Internet is being used also by huge companies and telecommunication companies. So they cannot rely on the Internet, on current Internet. Maybe they are going to, like as you know, there is an IPX, which is the infrastructure network between the telecommunication companies. Do you consider this a type of fragmentation on the infrastructure level for the Internet? Thank you.

JIA-RONG LOW: Thank you. So infrastructure also has layers. So the infrastructure we're talking about is at the unique identifier level. So what we have, what you're describing in terms of TCP/IP protocol, that still remains. So we're still using the same protocol. It's when you want to move above that into a different layer. So that layer is not what we are describing here. So between ISPs, maybe what I will do is I'll share another slide, which happens to also be in part of my deck.

JUSTINE CHEW: Great, yeah, this goes back to the thing about, I was saying that we have different layers of the thing that we're talking about, the Internet, as

well as Internet fragmentation. So we have to be very clear about which level or which layer that we can actually do something about, or who is the actors in those different layers.

JIA-RONG LOW: So this is a typical slide about the domain name system, and it talks about the different actors that's in there. So the question here from Nabeel ties in with ISPs. So at the DNS, again, just use this slide to illustrate how the domain names, IP addresses, and protocols come together. So usually when you want to access the Internet, you want to go to a page. So you type a domain, like www.domain.org. And when you type that in what happens is that your ISP, they would have this server that would go and look for the address for you. The address is the IP address. So what it does, is the system will go and ask the nearest root server first. If they don't know the answer, they'll go and ask the root server, where is the IP address for www.domain.org? And the root servers actually don't know. They know, I don't know where it is, but I know where .org is. Go and ask .org. So then after that, it goes to number two. It goes to the .org server and say, do you know where is www.domain.org? And the .org server will say, I don't know, but I know the domain.org server's IP address. Go and ask them. So then you go to number three. Then you have the domain.org server.

So it's actually a series of graph rules to help you find the IP address of that server. Then after that, eventually, once you've found the answer, then the recursive server then can connect you to the actual server of the webpage, which in this illustration is 192.0.2.0. So the domain

system does a translation of the domain name into an IP address. Then it allows the computer system to connect to one another.

Now, why I show this is because, if you talk about this, just this process, there are different players here and they all do different things. So the one that manages the recursive server that goes around to ask people, hey, where is this IP address for this website. It's managed by the ISP. So the ISP needs to deploy various things, including at the technical level, the coding, the hardware infrastructure, including the kind of connectivity, whether it is fiber optics or otherwise. They need to deploy all of these things in order to provide you with the service of giving you the recursive server service. So the ISPs are one player, but they only do that. And then who manages the root servers? So there are 12 organizations that manages the root servers, including ICANN, ICANN is one of them. And we place root servers all over the world so that when the ISPs need to query the root, they have the answer. So ICANN, we place hundreds of servers all over the world and you probably have one in your country. If you don't have one and you don't know, you can reach out to me and we can put one in your country. So the root servers are maintained by these organizations that provide the answers to where are all the IP addresses of the top level domain servers.

Then next is the top level domain servers like .org. .org is managed by this company called PIR and .com is managed by another company called Verisign. So every single top-level domain is managed by an organization. So each organization then has to deploy and put their servers somewhere in the world so that people can find them. Then again, it's managed by the, we call them top level domain registry, TLD registry.

And then after that, then you have the second level. So for example, like facebook.com. It's owned by Facebook, the company, and usually they host it themselves, but to buy the domain name, they actually in our community called registrar. So they have to buy the domain name and then keep renewing it. And the people who sell the domain names are actually registrars. So there are different players all involved in this whole ecosystem.

So in some ways, indirectly answering Nabeel's question is, the different players have to do different things to do their job. But when we come back to fundamentally talking about Internet by how I've just defined it, the Internet only breaks if we all stop using the same set of unit identifiers here.

So if we stop using the same set of unit identifiers, this resolution process no longer works because when I search for domain, www.domain.org, there could be another set of domain names that's out there that cannot be found because it's not sitting on the same unit identifier system now. So then it breaks. But if you're talking about amongst ISPs alone, if we're still using the same set as long as they are querying this domain, you will be able to find it. So that's the key thing. But the technology they use to deploy, to do resolution, to increase the speed, or to make sure you can connect faster between two machines, that sits at a different layer altogether.

JUSTINE CHEW: Thanks. And while we come up with more questions. So this particular chart is very interesting. And insofar as the ICANN, the larger ICANN

community, so to speak. So we have things like contracted parties and non-contracted parties, so to speak. So all these players that you have on the chart, apart from registrants and hosting providers, all somehow represented in the... Well, actually registrants is true. So, sorry. And users. So everyone's actually represented somehow in the community of ICANN, which is very interesting in itself. But when you come to like, trying to make one of the parties do something that they're supposed to do. Some of the portions of the community would be so-called out of reach. Did you want to comment on that in terms of how that might break the Internet? Or if it does at all?

JIA-RONG LOW: Okay, so actually even for end users, it's here. The end user is the person who typed www.domain.org. Yeah. So actually the end user is there too. Yeah. Absolutely. So the thing here is that this structure is completely decentralized. It's like if you want to be part of this network, you join and be part of the network. If you don't want to be, you're not on the network. That's just what it is. So in some ways at the ICANN level, we actually cannot control people to do something. Like we don't actually tell ISPs what they need to do. We don't tell them that you have to install this or that. The protocol is there. You choose to use it or you don't. But if you want to be on this Internet, you have to use the protocol. And actually the protocol is not defined in ICANN. There are actually three groups, which I think would be a good segue. I think it's on one of my slides later. I'm going to come to that in a minute.

Yeah. So actually there are different groups that manage the different unique identifiers. So for domain names, it is ICANN. And Justine

mentioned already, like we have registries and we have registrar. And the top-level domain registries, if you want to operate like a, to operate a top level domain, you have to have some kind of relationship with ICANN. If say you're a .com, you have a contract with ICANN. Verisign has a contract with us. If you're .org, you have to have a contract with ICANN too. And in some ways, that's why some people call ICANN the regulator of the domain name industry. It's because in order to operate a top-level domain, you have to have a contract with ICANN. That's in the generic top level domain space. In other words, .com, .net, .org. Now we have new top level domains, like .microsoft, .xbox, .shop, and so on. But always, you have to have a contract with ICANN.

And as an extension of that, to sell a domain name for these generic top level domains, you also need to have a contract with ICANN. So like most of us know GoDaddy. GoDaddy sells .com domain names. And they also have a contract with ICANN. And it's this contract that allows ICANN to, in some ways, control the registries and registrars, but only to the extent that's defined in the contract. And actually, what's in the contract, a lot of them are based on policies that's defined by the ICANN community, which includes many of you. So many of you participate in ICANN working groups in terms of policy development. And the outcomes of those policies, many of them go into the contract. And that is the lever by which ICANN controls domain names. Now, that's only one side, because it's only generic top level domains.

But actually, there are country code top level domains too, like in Singapore, it's .sg, Malaysia, it's .my, India, it's .in, and so on, those have no contract with ICANN. We just have a relationship, because to put the top level domain into the root, there is a department in ICANN that's

called the IANA function that actually does that. So we have that relationship. So a government that say, "You know, there is a new government." Then they want a top-level domain that is recognized in the UN. They reach out to ICANN, and the IANA function would put it in, because the UN recognizes a certain country. The most recent example for our region is Timor-Leste. So Timor-Leste had their country code top level domain later than most other countries. So that's another example. So that's just the domain name side, but actually, our IP addresses distributed around the world, and they're actually managed by regional Internet registries.

So it's a different community altogether, and some of us may be part of both, and that's the beauty of it, because it's open for anybody to participate. And within our region, the regional Internet registry in the APAC region is APNIC. So APNIC manages the distribution of IP addresses in the region. So if you're an ISP, if you need more IP addresses, you reach out to APNIC to get the IP addresses. And who determines the policies of the IP addresses distribution? Again, it's an open community of people interested. They want to join, they will go there, and then they will develop the policies. So it's another group of people altogether.

Now, the third one I mentioned, using the same protocols. Who develops protocols? It's not ICANN, it's not the regional Internet registry. It's this group called the Internet Engineering Task Force. And also, it's open to anybody. So if you're interested in developing new protocols, one, the easiest to relate protocol for a lot of us would be IP version six. So IP version four, in terms of the addresses, when it was put together, no one thought that the Internet would grow to where it

is today. So there was like, there's something like only a few billion IP version four addresses. Then we now have like 50 billion devices. There's not enough IP addresses. So within the IETF community, they came together and they're like, oh, okay, we need to have a new system because we are running out of addresses. So the people who came together, they discussed and they came up with IP version six, and they agreed, instead of six sets of numbers, you'll double it and make it alphanumeric as well. So there's like more IP addresses than there is probably send in the world. So that's the number of IP addresses that's available now.

So again, it is a different group of people that manages these. So the different stakeholders manage the different unique identifiers, such that there is no one who actually controls everything in the Internet. So coming back to Justine's question, it's a pretty long answer to a short question, is that in some ways, this is the beauty of Internet because it's so decentralized, that no one can control somebody to do something specifically. And because of that, no one can take over the Internet directly.

But the flip side of it is because no one can take over the Internet quickly. When you want people to do something, it takes forever or it may never happen. So it sometimes makes people feel very uncomfortable, especially when you feel, I need to control something. For example, like we're talking about government's feeling that they need to control to protect their citizens. So they may feel, oh, the Internet being so decentralized is harmful. But the flip side of the same coin is the Internet itself is just the tool, it's the technology. You have, we have so many examples of a technology being neutral, and it's just

up to the actor who decides whether this can be used for a force for good or a force for bad. But most of us who use Internet can all agree that having a unified Internet has more benefits than one that's broken up, because I can connect to you, all of you today on this call, without having to go through a gateway. But if we don't have Internet, then we actually rewind several decades back. And I remember when I used to work overseas, and at the time I wasn't married yet, so I have to call or SMS my then girlfriend, it costs hundreds of dollars to do that, because you have to cross borders and you have to pay. And the same structure could happen to us if we have a fragmented Internet. And that's provided if people are willing to agree to bridge the different unified systems. But if people cannot agree, then we are completely cut off from one another.

JUSTINE CHEW: Okay, so ramifications for Internet fragmentation is quite dire for end users. So coming back to just ICANN itself, we're talking about ICANN [inaudible]. Although we appreciate, or at least I appreciate that you have different parts of the Internet, as you say, and you have different players and different frameworks that run the different parts of the Internet. Just coming back to ICANN and names, and I suppose a little bit of numbers as well, I suppose. But I mean, in terms of, we all say ICANN is a multi-stakeholder model. In fact, some people would think that ICANN is the multi-stakeholder model. It's the best one that we have in the world. So when it comes to talking about multi-stakeholder model, and the fact that the At-Large community is part of that multi-stakeholder model, what do you think, what is ICANN's perspective on protecting and promoting the multi-stakeholder model in keeping

Internet fragmentation at bay? So trying to, as much as possible, to keep Internet fragmentation away. We don't want Internet fragmentation. How does this MSM model, the multi-stakeholder model, play a role in that from the ICANN's perspective? And how do you see the At-Large as being one of the communities in the multi-stakeholder model can assist ICANN with that?

JIA-RONG LOW: Thank you. So to talk about that, we have to address a couple of things first. So one of them is what aspects of fragmentation will we see? So that's where the risk is. Then when you identify where the risk, then you can identify what are steps that we can do and who plays a part. So I think these two pieces have to come together.

So the first portion really is, I alluded to it firstly, is about governance. I wouldn't say governance is the main issue. Actually, the issue is about borders. So one dimension is about, first of all, is borders, but governments control the borders. So in some ways, governments have a role to play. Like if a government feels that they should be on a different domain name system, using different set of unique identifiers, then that is one dimension of fragmentation.

Another problem is exactly as what Nabeel is putting here on the chat, is that of new technologies or emerging technologies. So an alternative name system also could potentially fragment the Internet. So you might have already heard in our community, we do talk about this emergence of blockchain domain. And it sits on a different system. And actually you can already buy them. But the problem is if you want to access them, if

you use the current system, you can't access them. So you have to use a plugin or you have to use something else to bridge for you to access those domains. And it doesn't connect back to the current Internet we're all using. So that's one other potential. So largely it's two places. So one is government and the other one will be new technologies. So blockchain domains could be one. It could be something else. It could be, nobody knows. Everybody's talking about AI today. We don't know whether there could be a system which is AI dependent that people want to move into.

Now, when it comes talking about working with At-Large and how At-Large can play a role. So the first of all, the first thing is that your networks really help because you know what's happening, what are the discourses that's happening in your country, where you are, and you know your governments too. So when they talk about policies, you have a role to play in explaining to them actually what is the Internet. And maybe some of the policies that they are working on, they could be targeting something else, but there could be an unintended consequence to the unique identifier system that we're talking about. So we tend to talk about the system that we are at as the technical layer. So you have the hard infrastructure, which is the 3G, 4G, fiber optics, et cetera. Then you have the technical layer, which is in the middle, which is the unique identifier. Then you have the content and applications layer. So broadly it is these three. So there could be certain regulations that target the content layer, and a lot of that's happening today. And again, one of the most famous examples is that of the European GDPR, because they were targeting actually Facebook and

Google, but that privacy law unintentionally had an impact on our system as well. So there is a bit of that.

So At-Large, it's knowing that these conversations are happening, and if you can explain to your stakeholders, which would be your government, how I explained to you about what is the Internet, that would be really helpful, because a lot of regulators, when they come in, they don't really know what Internet is. But if you don't know how to explain it, or you feel that you're not ready to explain it, you can always rope us in, and we can help to explain it to your government in the policy discussions.

Now, another area also is in the area of emerging or new technologies. So, in your country, like now we talk about Asia Pacific, one in 10 unicorns come from India, and they could be working on a new emerging technology that's such a huge technology, it's going to be a huge breakthrough, that everyone wants to move into the new technology. Now, if that's happening if there is going to be this kind of emerging technology that could be such a huge breakthrough, frankly, we don't know what will happen, but if all of us want to move, we better all move together, rather than some Internet users move, and the other half of Internet users stay, then we're going to have a huge problem.

ICANN has no control over that. If users prefer a new technology, and they find the current DNS to not serve Internet users anymore, if there is a better one, then I really don't know whether we should stay, but if we want to move, then we should ensure that all humankind moves together, rather than just having a group move, because then that will potentially affect the Internet.

So again, it's better that we be part of the conversation, and know where things are going, and agree that we all move together, than to not have the conversation at all. So if you are aware of new technologies coming up, again, it's that network, the network with you, you know what's happening in your country, you know what's the next big thing, then we be part of that conversation together.

Now, a third one is also, how do we have this conversation? So of course ICANN, from the regional office, we can come to you, and we can be part of the discussion. We would also like to invite your stakeholders from your countries, or your community, to come and participate in ICANN, because if the work they are doing, like a new AI that touches on domain name system, for example, and is moving very fast, then we should invite them to come to ICANN, and tell people what kind of technologies they are working on, and how that will have a new breakthrough, or new impact. So we are all part of that discussion. So it's a two-way kind of discourse.

So in many ways, this network that we have is very powerful, but we have to use it. So we have to make sure we get in touch with one another, because what I think we would all regret is if we heard of a conversation that would have an impact on the domain name system we are using today, and then we didn't talk about it early, then later on, if the Internet really gets fragmented, then we realize, "Oh, actually we were responsible for it too." And in some ways, within the ICANN community, we have a bit of that regret, because we had some stakeholders in the community that talked about, "Oh, the European GDPR is coming. It's going to have an impact on us." But we didn't know how to react, how to talk about it, how to have a discussion about it.

And our response was, I wouldn't say too little too late, but it is quite... We rushed to the finish line, and to this day, we don't have a really good solution, because the solution that we came up with was, "Yeah, we have to redact the registrant information." So now law enforcement cannot use our system to fight cybercrime. Then to compensate for that, we have to then create a new centralized system to help law enforcement be able to get the information they want. And even then, we are still years behind. So that's where we are today. So I think that's what's very important for us as a group, is that we keep each other informed and updated, and also, where you are in your own conversation, be able to share with people what Internet actually is. And I'd be happy to do a training session with everyone, just so that you can explain, similarly to the slides that I used just now, what Internet is actually.

JUSTINE CHEW: All right, thanks, Jia-Rong. I'm going to read a question from Gopal later in a bit, but I think what you say is very interesting and very true as well. I mean, we all, as individual persons and as At-Large community, we have our fingers in a lot of pies, so to speak. And we have our friends over in the GAC who can also build that bridge if you want to talk to the governments. So that's already a starting point there. And we have friends across the border from, I won't say border, across the constituency border in GNSO and ccNSO. So it's a community, it's really a community, and we need to make the best use out of the community and the relationships between the constituents and the communities. And I would encourage people to ask questions if they have, just feel free to put up your hand. But in the meantime, I'm going to try and post

a question from Gopal to Jia-Rong, which is, he says, "A vendor of service can locate the service they sold. The buyer, for their own reasons, like to fragment this possibility at a higher level. How is this requirement better managed than resorting to such fragmentation?" I'm actually finding it hard to unravel the question. So maybe I would suggest this. We can take this offline, or maybe [inaudible] can try and break it down for you or something. And then we can come back to it if—or I can ask Gopal, if you don't mind, can you just put in the chat and try and simplify the question? Just get to the point about what you're asking. In the meantime, let's go to Amrita.

AMRITA CHOUDHURY: Thank you, Justine, and thanks, Jia-Rong, for the presentation and kind of demarcating the mandate of ICANN and the fragmentation from where ICANN looks at it, as well as the common fragmentation, the majority of the fragmentation which is being discussed these days. I think from the ICANN perspective, another thing is possibly what the end users could do is keep a tab on the discussions. For example, we do have the GAC members. Unfortunately, the GAC members come from one ministry and the discussions, say, for in the protocols or the others happen in another ministry. And most of the ministries, though they have communication, they don't really talk to, and when someone is asking for comments, say, for example, we had it in India for the new IP proposal, it came from a different ministry and the ones from GAC were not even aware of it. So that's how it is.

I think what the end users could do is possibly keep a tab on these, and many times the domain name, the people from the industry come in, I

would say they fire fight, they don't come in proactively because typically, domain name industry person will not go to a telecom ministry unless and until they have an ISP license also with them because many of the ITU discussions happens there, where these proposals creep in, not IETF.

So I think the end users have a role to play and possibly alert others also who have the technical experience, for example, even the GAC staff or others who can kind of help them to explain things of that proposal because, for example, I can have people who can explain these stuff that, look, this is how it works, this is how it doesn't work. So I think alerting that these conversations are happening is something which the end user communities like us can do, that's one thing. And also then understanding and trying to connect the dots and sharing what are the concerns and how the gaps can be addressed because sometimes there are gaps which needs to be addressed. And so I think those are things which the end users can do and perhaps having these kinds of conversations or even communities coming up and saying, look, this is the kind of conversation which is happening or some, if they're involved in IETF, saying these are the kinds of proposals which are coming in or working groups are discussing. I think that's something which we could work. And I don't know, Jia-Rong, what are your thoughts on that?

JIA-RONG LOW: Yeah, I totally agree with you, which is my point about leveraging on this network. So we have to find a way where we can share information. What are you hearing? What are some conversations that are being had at your local level, within your communities? And what potential impact

would there be? So if we can leverage on this network that we have, then that's how we can see potential risks, especially when it comes to documentation. So totally with you. And I think we already have a very strong community and we have the people. So it's finding a way for us to have better conversations with each other.

JUSTINE CHEW: Yeah, absolutely. I know we're kind of towards the end of the call, but I still want to take the opportunity to welcome all the people who have joined the call after it started. I think we have a few newcomers as well. So welcome. Hopefully this conversation is helpful to you and you're not getting too lost. But I also want to reinforce what Amrita and Jia-Rong have said, in terms of, even in every community within ICANN, you have different people with different levels of knowledge. So the beauty about this community is that we can support each other. We can talk to each other, we can teach each other. If you have certain access to certain skills or knowledge, feel free to share them. That's what the network is about.

And in terms of like new technologies that are coming up, if there's something popping up in your country and you wonder how it might affect the Internet, there's nothing stopping you from bringing up to APRALO if you're an APRALO member or to your RALO if you're a RALO member, or just even contacting GSE in your region and say, "Hey, this thing is coming up. How does this affect what we're doing? And does it break the Internet? Is it going to cause harm or whatever?" And then, invariably, if I did something like that with Jia-Rong, invariably he might say, "No," or he might shoot it up to CTO, the CTO office, and say, "Hey,

this is something happening. Can we do some investigation and find out what are the ramifications of that?" So this is all about the power of the network and what you do with the network. Suhaidi has a question.

SUHAIDI HASSAN: Hello, everyone, Jia-Rong. I'm just concerned about the new development in the academic domain, in the research domain. So we have new architectures that have been researched for quite some time, so-called information-centric or content-centric named data network that has different way of doing things, different way of actually operating. So how do we face this kind of development? I do not know which part of ICANN is looking into it because I know the IETF is represented in ICANN somehow, but I do not know whether this has been discussed in the context of Internet fragmentation. Thank you.

JUSTINE CHEW: Okay, thank you, Suhaidi. Before Jia-Rong answers the question, I'm just going to make an announcement to say that I'm going to get Yesim to run the poll and we can still continue talking, but the poll is important for us to get feedback from you guys. Okay, so I apologize if it's sort of a distraction, but it's necessary. So please go ahead, Jia-Rong.

JIA-RONG LOW: Thank you. Okay, so Suhaidi, I'm actually not aware of what you mean as next generation Internet architecture, but I can answer your question more generally. So when there is a new architecture being discussed or experimented on, so actually there's quite a few. So blockchain domains

might be one. These current discussions about using quantum. So you can actually encrypt your data when you want to send to another location. Then you use quantum communications to do that.

So the thing would be when there is a new technology being experimented on, being talked about, then the key thing here would be, let us know that this is happening. And if there's any papers or articles that's written about this, then share it with us. And I can be our first point of contact within the region.

So within ICANN, who looks at it? It's the office of the CTO. So the CTO now is led by John Crain, and they would actually go and do a study. So they will look at all the papers that are published on this area. And then they will talk about whether it has impact on the DNS or not. So if it has an impact on the DNS, for example, alternative naming systems would have if all of us or half of us decides to move into the new alternative naming system, and the other half doesn't, then we potentially fragment the Internet. But there could be others. So in the case of quantum computing, it's a mode of encryption. So in theory, it wouldn't, but we don't really know yet because it's still very early days. So there are different ways of looking at it. But the important thing is that we do want to look at it. So if you come across something, then let me know, and I can always share it with our CTO office, and we'll look into it.

JUSTINE CHEW: Right, thank you very much for that. Okay, great. Did I miss any more questions? I don't think so. And yeah, if I miss any questions, please feel free to put up your hand and ask a question, or if you want to make a

comment, by all means, this is supposed to be a conversation, but it's not actually supposed to be a conversation between just Jia-Rong and I.

Right, yeah, and also the comments in the chat, some things about, like Nazmul has said, he's expecting a course on ICANN Learn on Internet fragmentation. So that's something that we can look into if there isn't one already. I mean, I have to confess that I don't keep up with whatever's in ICANN Learn. I know that they're introducing new things, but that's something that we could look into and propose if it's not there already, okay?

And in terms of like, you've noticed in the poll, question seven, we are also asking participants here, if you think of any other topics that you want to be discussed freely, like this is an open session, not just somebody speaking to you for an hour kind of thing, please feel free to give us your suggestions. We're always looking for topics to discuss. And try to keep it narrow so that it can potentially fit in 60 minutes because even Internet fragmentation, like Jia-Rong could probably speak for hours on end on Internet fragmentation alone. So we try to carve out little manageable size bite-sized topic. And it's not to say that we have to cover everything in one call. So Jia-Rong and I, before the call started, we were talking about this potentially as a conversation starter, and then we monitor if there's anything dire or immediate, requires immediate attention, we could have another conversation or another part two conversation on the same topic. And we would have more information by then to talk about really, you know. Okay, great. Adebunmi, thank you very much for sharing a topic. We will have a look at the results of the poll later on. In the interest of time, we're not going to share it. You know, it's more or less for the organizers to take back

and see whether we're doing anything badly or whether there's anything else that we can do to help.

And does anyone want to have a last question or a comment? And please, I would encourage you to verbalize it. Oh, Shita had quite an interesting comment here about, and she says, "But the push towards Internet fragmentation is mostly political. Perhaps the feedback should also touch on political." Did you have an immediate response to that, Jia-Rong?

JIA-RONG LOW: Yeah, so it is actually. That's why I kind of talked about the Internet being an accident of history, because how we tend to act tends to be either political or economic. So if you get the economic incentives, like if I develop a new technology and I can make tons of money, it's that incentive that makes me want to develop a new technology. And naturally, I want to make it proprietary so that I can control, for example, I want 2 billion users to be on Facebook, which is the case. And I want to make sure I keep the 2 billion users using my platform instead of any other platform. And in many ways, the Internet is not like that. It is counter human intuitiveness in some ways, because we tend to act based on economic or political incentives. And even political incentive is the same. I want something I can control for my benefit. So there is that natural nature.

And this is the funny part, because Internet doesn't have this. It's not proprietary. Anyone who wants to join can join. It doesn't have any borders. It's not controlled by anyone in particular. And it breaks away

from all these things. And because of that, because of this accident of history, we are enjoying the benefits of being able to connect with one another wherever you are. So the fact that we actually sat on an accident is a good thing. And we should try to find a way to keep it if we can.

So like what Shita is saying, there will be political motivations. And the thing would be, how can we ensure that the political motivations, whatever they're targeted at—And most of them are targeted at content. That's the reality. It's actually the social issues that we've been, as humankind, we've been grappling with. So we're still fighting criminals, there's things like child pornography or scams and selling bad medicine to people and so on. So there's still all these things that's still there. There's social issues. And it just happens that the Internet is the platform for it.

So the thing would be when you have political motivations or economic motivations targeting these things at the content layer, it doesn't go down into the Internet layer and then break the Internet that we're all sitting on. So that's really the key thing.

And the important point behind this is that we must be able to explain to the policy makers what actually the Internet is. And whatever the targeting, if it hits down into the DNS or unique identifier layer, the technical layer, then we have to tell them, because they may not actually have intended that to be so. It's just because they are really desperate to want to protect what they want to protect. And then as a result, impact on the technical layer. But there might be other ways to go around it too. So that's the thing that we need to watch out for.

JUSTINE CHEW: Yep. Great answer. Okay. So it's 3:00. I don't really want to keep Jia-Rong from his rest. He looks really, really tired. And I really appreciate you joining us, taking time to come and join us for an hour, even though you're not feeling well. So I'm going to give you an applause. And I hope people are joining me in thanking Jia-Rong as well for his time. And I'm really happy to see a lot of people outside of APRALO as well on this fireside chat. And hopefully we do our part in also trying to bridge across the RALOs. So hopefully we are interesting enough to have people from other regions come and join us and listen to our conversations.

Okay. So in the interest of closing the call, I think Yesim, you can stop the poll. And I would wish everyone a good morning, good afternoon, good evening, or good night, wherever you are. And please look out for announcements for the next fireside chat. I don't know when it's going to be. I don't know what topic is going to be on. Depend on the feedback that you've given us. So thank you very much for being here. Have a safe day or night. Bye-bye.

[END OF TRANSCRIPTION]