
SIRANUSH VARDANYAN: Thank you Gisella. Hello everyone. Good morning, good afternoon, good day from different parts of the world. From my part, it's good morning. Welcome to the policy development webinar. This is the starting of the initiative of capacity building. I hope that it will be a set of webinars, so it's one and I would like to introduce Adam Gosling, Internet policy development consultant from APNIC.

I don't know much more than that about Adam, so I will ask Adam also to introduce himself in more details. I would also like to thank Adam for agreeing to run this webinar for APRALO members. This is really a very important part of learning about how APNIC is doing for policy development, and how APRALO members can be involved in that policy development in the future.

So this is also... And without further ado, I would like to give the floor to Adam. Adam, please. I know you have a very detailed presentation for all of us, and our vision of APNIC, and about the details of policy development. So please, the floor is yours.

ADAM GOSLING: Yes, thank you very much. Yes, it is detailed and I hope it's not too detailed for you. But I think it helps to give context to what we're trying to achieve with our policy organization in this region.

So introducing myself, I didn't have enough words in my title before, so they added one and so, I'm Internet policy development consultant, and I work in the development division at APNIC. The name I like to go by,

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the title I like to use is “Policy Dude.” So, while that’s my official title, if you think of me as the Policy Dude, that will kind of give you some idea of where I’m coming from.

The presentation is quite long. I think it’s 50 odd slides. I’ll pause every now and then for questions, but please feel free to jump in and ask me a question at any time. I’m quite happy to get back on my flow and I don’t want you sitting there kind of not understanding something while I bow forward.

Today, I want to start by giving some background. Siranush mentioned before on what APNIC does, and why I’m trying to contextualize that by talking about some of the Internet organization it interacts with. And some of these interactions are directly to do with policy, but they’re also to do with Internet governance, which I guess by definition is what APNIC does.

Then we’ll take a look at the APNIC policy development process, the PDP. I’ll be using that acronym a lot, the policy development process. It will be a pretty quick look really because it’s a very simple process. The procedure is very simple. And even it’s simple, it’s one that serves the [inaudible] community in the Asia Pacific really well for over 10 years.

We’ll look at how the policy is implemented, what it means, why we have policies, and a bit more detail about the policies that we have. And whatever time to achieve the goals and objectives of the policies. And then finally, I’ll have a quick look at some of the recent policy changes, and maybe talk about consensus a little bit, because that’s a kind of key function of the whole process.

So what is APNIC? So APNIC is an Asia Pacific Network Information Center, but we only refer to it as APNIC when we're speaking, and it's not app-NIC, it's APNIC. And at a high level, I guess you're probably aware, it's one of five regional Internet registries, and I'll show you a map on the next slide.

We celebrated our 20th birthday last year. Although the organization has kind of morphed and changed over those years, which I'll get into as well. It's a registered not for profit company under Australian law, and that company was formed in '89, 1989. The function is address distribution registration and that function have already been going on for six years by that time, so back in 1993, APNIC was established as an experiment, which then became kind of a pilot in 1994.

And towards the end of the 90s, as we the organization grew and became more important to the running of the Internet, it became apparent that Japan corporate law and tax wasn't really well-suited to what membership wanted to achieve at that time. Although I guess they weren't members at that time, they were participants in the kind of pilot program.

Anyway, and so they got KPMG Consultants, the global consultant group, to do a site survey, the Asia Pacific, and they settled on Brisbane as a location. So finally, the decision was made that would relocate the organization and establish it as a kind of formal, legal entity. And David Conrad, who you probably all know, had been director general of the organization, and he decided not to follow APNIC to Brisbane. And so, our current director general, which is Paul Wilson, was appointed to run the Brisbane operation.

We've been in Brisbane since. In range of premises up until about two or three years ago, where we bought our own building and moved just a couple of miles away. At that point in 1990, there was still only a handful of staff. And virtually, when we set up in Brisbane, it was kind of almost entirely new staff.

And when we set up in Brisbane, that's when the kind of formal membership program was established with [inaudible] to give it a financial base. And the first Executive Council was established. Now the executive council is basically our Board, and they're volunteers, and they're elected by the membership.

So, the organizational structure of APNIC, and I haven't got a diagram of this, but it's the members, who elect the Executive Council, who appoint, who appoints the Director General, who runs the Secretariat, it's all under Australian company law, with single shareholding jointly owned by the membership. And the Director General is basically the Chief Executive Officer.

He has an executive team, which includes Director Deputy General, and Directors of each organizational division which includes member's services, technical division, my boss development, strategic engagement, finance, that sort of thing. And Jeff Houston's research... So in total with 70 people. I think it's 26 languages. We've got a very proactive HR policy to try and employ people from around the region, partly that's because we have member's services and we need to talk, so we've got a variety of languages along those lines in the help desk and host masters.

They actually do the direct face to face with the members. One of five RIRs, Regional Internet Registries, as you can see on the world map there. RIPE NCC in Europe, is kind of not the official areas, but Europe, you can see North America from AARON, APNIC for Asia Pacific. Those three were established first, and I think RIPE is the first, probably about 25 years ago now.

And then LACNIC and AfriNIC came a bit later, as the size of their communities kind of warranted it. I think AfriNIC was last one in about 2005. That five regions has been pretty stable since then, so 18 years or so, but ICANN has a procedure for the evaluation of requests to establish a new RIR. I won't go into it, but there are a number of dependencies in that end relationship with the NRO, which kind of as the ASO can advise as well.

But basically the idea is that they serve large, continent sized regions, and have support of the community there. That's basically it, but that's ICP 2, you may have heard of before. Moving on. So in a communication sense, it's sometimes hard to tell whether I'm talking about APNIC the community, or APNIC the Secretariat.

Actually when I was doing this slide, I spoke to someone in the [comm] area, and they may that same distinction. Again, I was talking about APNIC policy and they said, "Well, it's community policy, isn't it?" So, if I'm not clear about whether it's the Secretariat or the community, please try and insert the correct one there.

So basically the community is the stakeholders, it's broader than the membership. And the Secretariat is the organization that I work for,

that provides the services to that community. So as I say, it's a broader set of stakeholders than the members, and you don't need to be a financial member or an account holder to be counted as stakeholder, to participate in the PDP, etc. which we'll kind of get to later on.

There are some things like the election of Executive Council members that is reserved for the membership. There is another mention on there of NIRs, National Internet Registries, and I'll talk a little bit more about those a bit later. But basically, APNIC, as I say, it's got its memorandum of association and its own bylaws which govern its own activities. It's kind of the dry version of it.

The infographic, you probably can't see it. It's probably going to be way too small to read. Sorry about that. Never thought. But basically, the graphic starts with the little white dot in the top right hand corner, which represent Internet users, the end users. And they're served by the blue circle, which then enables the content and application providers, and the access providers, the ISPs.

And then in turn, the purple circle represents the organizations that support those enables, one of those is APNIC and another of those is the At-Large organization, but there is also network operated groups, the governments and regulators, and standards body of ITF, that sort of thing.

That kind of purple circle is how we see the ecosystem, and then that little circle there, comes out of the green circle is the part that APNIC plays. And that green circle is kind of divided into three areas. So the support and collaboration. And I'm going to run through those so I

won't go into too much detail at this point. But what I'm doing now is outreach, and it would be part of the green circle Internet community collaboration, it says there.

But the support that I give to the policy development process, is in the blue circle, so that's the member services part. I hope that makes sense. So, as Siranush mentioned, I'm going to right back to basics, APNIC mission, our vision statement. So this is our stated official mission, and it's basically to provide registry services, such as the RIR, steward trust, neutrality, and accuracy. I've highlighted them so they're easier for me to find.

But also its broader than kind of just handing out addresses. There is a lot of development of capacity building for training, but capacity building for infrastructure as well. And also there is that kind of leadership and accuracy roll. So the mandate I guess for a lot of those functions are not strictly related to the policy area. Every two years, we survey our members, we survey the stakeholder rather, it's a stakeholder and membership survey.

We've just completed one, although results haven't been announced. There was 1,000 respondents to that. And we asked them what we should be doing, what the Secretariat should be doing, what's important to them, how we should spend the money I guess. It's a valuable input to kind of strategic planning cycle. So this is kind of a representation of the circles, that the green was in it.

On the right hand side there, you've got the vision, a global, open, stable, and secure Internet that serves the entire Asia Pacific

community, and we're not focused on addresses. We're trying to build a community and build an Internet in the region. So we do that in the three areas there, those in the circle.

Service members, which is the main operational function, which support development and collaborate with the regional and global community. We're going to go through those individually. So serving the members, this one is about the numbers. It's IPv6 addresses, IPv4 addresses, autonomous system numbers. More recently, there is a transfer market, which is the result of IPv4 exhaustion, and then these kind of more technical services we provide, WHOIS, reverse DNS, and RPKI for example.

When it comes to supporting the Internet, we put policy development in that. We have an IPv6 program, that is kind of being morphed at the moment to something kind of broader. We are currently undergoing... We've got a new development director who is not actually with me today because he's actually presenting his new vision for the development department to the executive team off site. So I'm here by myself, and they're working at what the organization is going to do in the future.

But a lot of is about training obviously, and infrastructure capacity building. I'll just quickly point to the ISIF there. Some of you may have heard of ISIF. I'll talk more to it later, but that's a kind of a small branch program for the development of ICT development, Internet for development. Drilling down into that training area, well last year, I checked the number.

In 2013, we had over three and a half thousand participants at our training event. Most of those, two and a half thousand, were face to face courses, 37 location on the little map there. And then another 1,000 who participate in our e-learning sessions. And we run e-learning every Wednesday. It runs for most of the day. And we've kind of scheduled and rotated to allow different parts of the regions to accommodate their time zones.

The training is always evolving, but it's generally pretty technical, and includes hands on labs, experience kind of virtual and physical training labs exist there. Kind of in a broader sense, [inaudible], we've done quite a lot of infrastructure building, assistance with building infrastructure. This is an ongoing thing, maybe not quite so much in the last year, but I think this is something that our development director is looking at.

We've actually got kind of two staff members who are much more involved. It's things like setting up root servers, setting up ISPs, and the network operator [inaudible]. Our experience is that these things, when they are brought into an economy, have the greatest effect in kind of kicking the Internet off and helping it grow.

So those are kind of capacity building that's less about human capacity and more about infrastructure. I promised to speak about ISIF. So it's a small grant program. It's primarily funded by Canada and Sweden. It's part of what's called the seed alliance, which is APNIC, LACNIC, and AfriNIC got together to bid for this money from Sweden, basically, and so they work as a team on that.

But ISIF Asia, it has its own website, and I should have put the URL in there, sorry. Not actually my slide. But these tend to be up to US \$30,000. It's a small, very kind of local project. And I think the idea is, they're quite high touch, and so it's not just about handing out the money, it's about bringing the people along and giving them the training they need, and helping them collaborate with other organizations or amongst themselves.

In the area of collaboration, we've got our labs there, this is Jeff Houston's area. Strategic engagement and what we call Internet cooperation, I've got a couple of slides on that so I'll just move along. The labs, you may be familiar with, it has got the URLs there, labs is the blog part of it. Labs and APNIC dot net have a lot of experience [inaudible], and you can kind of drill down and see what IPv6 deployment is like in economy by economy, or kind of sub by sub region.

Labs used to do a lot of work in the current IPv4 exhaustion. I guess it's kind of, we've moved on from there. So when a RIR is going to run out of space, it's kind of not so important. Now most of us virtually have. But Jeff and George kind of turn their attention to monitoring IPv6 deployment, and DNSSEC, and IPKI use. So, if you're interested, the blog is great.

It's probably a little bit broader focus than the actual kind of numeric research that they undertake, so it's some interesting stuff. Strategic engagement, I do a little bit of this in my spare time. We kind of have this broken down into technical community. I talked about [inaudible] and technical organizations, the ISTAR organizations of this.

Government has been an increasingly important the last couple of years.

I've been doing a lot of work with APT and ITU. And obviously, you know all about the IGFs, and APNIC is a big supporter of the IGF. What was Holly saying before about the next slide? I won't spend any time on this. [Laughter] Yeah, the IANA oversight transition is something that's very important to us, and Paul Wilson, our director general, is very active in working towards that.

The URL there will take you to our kind of consultation page and the mailing list for APNIC involved in that. [Inaudible] Can everyone hear me all right? Let me know if I'm talking too softly.

Does anyone have any questions before I can get into another section there? So if anyone is trying to talk to me on the chat, I'm not looking at it. So maybe you'll have to speak up.

So the policy ecosystem, this is not a very pretty slide. But it simply shows the immediate ecosystem that APNIC finds itself in. So the five RIRs as I've showed you before. So each independent organizations, but they have this kind of umbrella MOU organization that is the NRO. And it's the NRO that has the relationship with ICANN, and a MOU with ICANN, to define the relationship and responsibilities around the IANA functions.

The, as I say, each of those organizations is independent and they're all similar but have their own kind of individual idiosyncrasies, especially when it comes to policy, and I'll talk about that a little bit. Particularly, I guess, the idea of this diagram is to show what we call a hierarchy of

resource distribution. And it shows the resources flow down from IANA via the individual regional registries and into local Internet registries, which tend to be ISPs, and not with network operators, but actually if you think it ISPs, it's kind of nice [inaudible].

And those are the people who generally are account holders, our members. You can see there is one kind of green square that jumps out there, and that's the NIRs. Not all regional Internet registries have NIRs. APNIC does because a number of these country based registries were in existence before APNIC came along, and so when APNIC was formed, they didn't want to give up their autonomy. And so it's kind of this structure built around them, I guess, in some respects, and I'll go into some detail about that because it's kind of policy.

I think LANIC has a similar one, I think Brazil is an example of a NIR. I'm not exactly sure how they structured and how similar it is to ours. But we have seven RIRs in the region, India is the most recent, Korea, Japan, Taiwan, Vietnam, Indonesia, and China, in no particular order. And, as I say, I'll talk a little bit about NIRs because it's very interesting case.

As I said, the relationship between ICANN and IANA, I'm sure you all understand that, so I don't need to go into that. And I guess you probably understand the relationship between ICANN and the ASO, the Address Supporting Organization. Not so sure you understand the relationship between the ASO and the regional Internet registries, which is kind of by the NRO.

It's kind of relevant because global policies flow up through that way, as you'd expect. The address supporting organization is, let me get this

right. The number resource organization, which is the group of RIRs, perform the function of the ASO according to a MOU with ICANN. The probably speaking ahead of myself, it's on the next slide.

Sorry, just taking my notes. Global policies I'll come back to. So, the RONC and the ASO AC, I guess in, that's the same organization, it's the same people, right? We call them, looking from our point of view, we call them the number council, the NRO number council. And it performs a function of the address council in the ICANN space, but it's the same people.

Similarly, the NRO EC, which is the chief executives of all of the RIRs, perform a function of the SO EC. I hope that makes sense to everyone. [Laughter] It is all explained in the MOU, but I guess the... If I move along, it might become apparent and we can always come back.

So the NRO AC slash ASO AC is a group of 15 community members. Most of them are elected. Each RIR contributes three people to the group. Two of those from each community elected, and one of those each is appointed by the Board. Generally for an one year term. I think some of the RIRs may have a slightly different mechanism for appointing them, but ours is just chosen by the executive council and appointed for one year.

Those that are elected, their term lasts for two years. So, the it's the ASO AC's job to track global policies. And global policies, these are there, sorry. Global policy as in IANA policy. So the IANA has certain number related policies that we require it to perform, or to guide its

management of the global free pools. The mechanism by that is not so difficult to explain, but it's very difficult to execute.

What happens is that the, because of bottom up, but it's bottom up from five different communities. So when we kick off a global policy process, it can sometimes seem ad-hoc. You've got kind of two options. You can kind of say, "I'm going to start... I'm going to put forward a global policy proposal," is one way.

The other way is to put forward a policy proposal and get it accepted in your RIR, and then say, "Okay, I'm now going to take this to the other four RIRs and turn it into a global policy proposal." And what needs to happen is that exactly the same policy needs to be approved by each RIR, independently. But it has got to be kind of word for word, exactly the same policy.

Then, once it has done that, it has been approved by five regions, it then goes to the ASO address council. At the beginning of each year, the address council [inaudible] covers taskforce, I can't remember what they call that. But that group is a representative from each RIR, and its job is to keep an eye out for the global policy proposals coming along. And if there is one in the works at the moment, their job is to kind of track it and make sure they understand what is going on.

And once the policies agree in the five regions, the ASO Executive Council notifies the Address Council, who then says to this taskforce, "Review the proposal, make sure it's word for word the same. Make sure that the PDP in each region, has per the region requires, has been

met and properly executed.” And basically ratify that proposal as all of our five communities have reached the same policy proposal.

And then the [inaudible] AC, gives it to the ICANN Board for ratification, and the Board then asks IANA to implement it. I hope that made sense. Fortunately, or maybe because of that, there is only three actually at the moment, and those are the ones on the screen at the moment. At different times, there are more but they become obsolete. At the moment there is just three.

One for IPv4, one for IPv6, and one for autonomous system numbers, and those are the three numeric resources we can manage. So those, if you need to read them, are linked there. So I’m going to the other, that’s kind of APNIC up in that hierarchy diagram. That’s the relations, those are the policies that govern how IANA distributes address space and the autonomous system numbers to the registries.

Going the other direction, we have NIR, we have NIR [inaudible]. We don’t have separate, let me get this slide. The, as it says on the screen, the NIR must comply with the global policies, less effective at that level, but all of our regional policies. So if there is an APNIC policy that says such and such, the NIRs has got a little bit of wiggle room, I guess. But generally, I suppose, not do anything that contradicts or in conflict with any of those policies. But they can have slightly different flavors to allow for regional, sub-regional country level differences, national level differences.

If a NIR, the community of a NIR wants to do something a little bit more, then they’re expected to bring that to the APNIC or through process the

discussion. I guess an example of this, if you see some of our proposals, that require a lot of examples of this in the area of resource transfers, where it will say the effect, one of our fields in our proposal document says, “What effect will this have on the NIRs?”

And sometimes people will say, “The NIRs will have a choice of whether or not to implement this policy, or when to implement this policy.” And that might happen because implementing resource transfers is actually an organizational and technical freaky thing to do. There is quite a lot of implementation and they should be able to do that in a timeframe that suits them rather than having it forced on them by the rest of the region.

So it gets a little bit fuzzy. So in our transfer space, there are a number of different statuses, I guess. Some of the NIRs will allow transfers in and out, some will only allow them in, some will only allow them out, which is always kind of documented on our website.

The, I guess before I do that, there are... Actually, no, I’ll come to it later. There are a couple of policies that are specifically NIRs, but I’ll talk about them later. This is just a reference slide. Why do we have policies? It might kind of seem like a foolish question, but the short answer is that IP addresses and AS numbers are shared resources, as you are aware. They’re finite resources, even though IPv6 is an extremely large address space.

[Inaudible] shared global resources that have to be managed carefully. But they have to also be available to anyone who can demonstrate the need to use those resources. They’re business inputs. They, since most

of our account holders are ISPs, these are something that they need to do business, and the more that they can get, the bigger their business can be sort of thing.

So they've got this kind of special interest in getting as many as they can, and so they have to be limited and they have to be able to demonstrate how they're going to use the resources. And this is what a lot of the policy is about, is how will their current and future needs be evaluated, the criteria for them to give space. This is really important in IPv4, which has high demand and obviously a dwindling supply.

So the important thing is that the policies regulate who can, under what circumstances you can get access to more addresses. And that is not so much about who you are, it's about demonstrating that you've used resources, for example, from an upstream provider, if you are a new member. So you've got the only IP addresses you're using at the moment, it might be from your upstream ISP.

And that's one of the criteria. You have to have used addresses from an upstream provider, and you want to give those addresses back to them and have your own. If use one of the criteria for a new address allocation, for example. And then you've got to demonstrate, usually with a network plan or it can be with invoices for equipment, and that sort of thing. And a business plan on how you're going to use the resources going into the future.

And there are some requirements that you've got to keep your registrations up to date, and stuff like that. Because that's how we measure how many resources you've used. I'll talk a little bit more

about some of the policies later, depending on how we've got for time, but there are some other things, I guess, around registration, which kind of interesting, but don't often change much.

There are some kind of incentives or some are mandatory. And I think that maybe this is something that we see more in the future around the registration, but I'll get to that. For the most part, the policy is focused on this kind of distribution of resources, and about how APNIC manages the free pool. And actually, sorry the last point there, policy dictate how policies are developed. So our PDP is a policy community derived policy.

So I guess you know this, that policies that we're talking about are community driven, they're bottom up, staff completely objective in it. We kind of do play a role, but not in the deciding of the policies and it's my job to kind of ensure that the communities intentions are met in the implementation of the policy, because some of the language issues in this region, there is probably more pressure, more responsibility put on the Secretariat.

Quite often our policy proposals won't give specific language, where if you go to ARIN, there will be very, very specific language. The policy will say x, y, z. Our policy proposals quite often a generic thing that we want to achieve is, and then I'll go away and write the kind of detail into them. I'm going to talk a little bit more about our role, the Secretariat's role in that, just to kind of list them off.

We provide a venue and support basically. Venue being the mailing list, the face to face meetings. Administration being support for the chair,

support for the documentation, support for remote participation, that sort of thing. And I guess you can read what's there. There is one little bullet at the bottom there, that I'll talk about again later, which is a new innovation that we're about to try.

It has been in kind of discussion for a couple of years, and it's electronic consensus measurement. I've got a little screen for half of that. It will only be a pilot at this stage, but we're kind of hoping that the community will warm to it [inaudible], so I'll talk about that. The policy, the resource policies are developed by [SIG], special interest group, which is just your average working group.

It's two chairs or a chair and some co-chairs, and it has a mailing list, and it has meetings at each APNIC conference, which is twice a year. The charter is really simple, develop policies and procedures which relate to the management and use of the Internet address resources by APNIC, the NIRs, and the ISPs.

So that's the global Internet registries within the Asia Pacific region. That's just actually reference there. So as you probably expect within an organization, the policy development has kind of three principles outside of that, misspelling of principles there. I didn't realize.

I'm going to run through those [inaudible]... Open. Okay. So the PDP policy development process, which is a community derived policy itself, explicitly says anyone can participate in the formation of policy. They can participate as equals, and the [SIG] chairs make a decision about whether the communities reach a consensus. In our PDP, there is no appeal mechanism.

So if your proposal doesn't reach consensus, and you still think it's a good idea, you can resubmit it for the next meeting. And you can resubmit it either changed or unchanged. And have another go at it, and keep trying to convince people on the mailing list and at the meeting. And I've seen this happened.

If a proposal gets knocked back continuously, the chairs might kind of give you the hint that you should give up, but you don't have to take their advice and you can just rewrite it and put it back in there. So there is no appeals process. The chair's decision is kind of final. [Inaudible], I guess.

So it's transparent, that's kind of self-evident. The mailing list is open. The meetings, all of the conferences are archived. The website has a list of all of the proposals and a status for each proposal it's in, or when it was implemented, when it was abandoned, whatever. The EC minutes are always documented, that's kind of a lot of what I do.

It's bottom up. So I guess you kind of get that idea. I made this slide a while ago and I just kind of dragged it out, and I don't actually remember where ICANN mandates this, but ICANN, as you'd expect, says it must be bottom up [inaudible]. Although those kind of principles are mandated by ICANN, each RIR is free to choose the same policy process. And they really are quite different.

I'll be, in the next slide, talking about the APNIC process, but our other RIRs have kind of slightly or very different approaches to their policy development. So you've kind of got to learn the ins and outs of each PDP to participate in it, which kind of makes it difficult, I guess, but it's

designed to allow the community to work in a way that they feel is appropriate for them.

So at APNIC, the open policy meeting, which is held at each of our conferences, these are kind of February, August, and September, that open policy meeting, the [free] meeting is the kind of key decision making point where it's face to face, and remote participation, and the chairs go, "I think we've reached consensus on this." And then it kind of triggers a whole bunch of other stuff. That's kind of different in the RIPE NCC region for example, where the meeting, the physical meeting, doesn't play any particular role in the PDP.

It's there as informational. And consensus is reached on the mailing list. And in ARIN, it's different again, where the advisory council plays a really significant role. Once you put forward a proposal, then the ARIN advisory council appoints one or two of its members who become the shepherd for that, and they become the champions for driving that proposal forward. Again, the APNIC space, if you put a proposal forward, you're going to end up on stage, explaining why it's a good idea.

And the chairs will say, "Look, I think that the community agrees with you or disagrees with you." And I'll talk about consensus [inaudible]. Go ahead without talking about consensus. That's kind of a slightly shaped circle, that represents the APNIC PDP at a kind of high level, and the circle indicates that once a proposal or a policy change is kind of implemented, the community can then review it, revert it, evolve it into something else.

That's a little purple arrow there that says, "Can a policy be improved?" And so, the idea that it's a constantly evolving set of policies to reflect the constantly evolving environment we find ourselves in. You can't read it there, but basically it is going around from the purple circle, up – and all of the proposals for policy change, which is then has got to be discussed on the mailing list, four weeks before the physical meeting, the policy meeting.

Then the chairs, as I say, determine whether the community has reached consensus. And then next phase, that's always on a Thursday, a Thursday of our meeting. If they reach consensus in the policy [inaudible], they then have to go back to the member meeting, which is on a Friday, and reach consensus at that forum as well. And this is something that is being debated again recently, and some people are, don't understand the reason for it.

It's kind of a bit of a circuit breaker. I guess at the end of the day, it's the member's money, and while stakeholders in the broader stakeholder community can participate in a PDP, there is kind of another opportunity for the members of the organization to say, "Well, hang on, that's going to bankrupt the organization," or something like that.

It would be kind of worse-case scenario. So you've got to kind of reach consensus twice, within two days. And it's not quite a rubber stamp. At our last meeting, we reached consensus on a proposal, which I won't go into, but this actually happened. We reached consensus in the open policy meeting, then the next day in the ANM, a different group of

people where there and said, “No, hang on. We don’t think this is a very good idea.” And kind of knocked it on the head.

And so it didn’t progress to the stage, which would be a final call. So if you get past the ANM, then it goes to a final call on the mailing list, and if consensus is maintained after that final call, then it goes to the Executive Council for ratification and implementation. Sorry, did I hear someone say something?

So, this is the same thing again with a little bit kind of detail. So there is a proposal submission, anyone can put in a submission. A call goes out on the mailing list, the deadline is the 8th of August. You can put in just your problem statement, or you can fill out as much detail as you like. It has got to be a minimum of four weeks, it has got to reach consensus twice, it has got to be confirmed for, that’s in green because there is a recent change.

We’ve only had one change to the PDP in a little over 10 years, and that was to reduce this mandatory eight weeks to four weeks. Quite often, people would have something to say about the proposal in the first couple of days, and then there would be silence for seven and a half weeks while we waited for that comment period to end, so that we could progress it.

And the idea is to be a little bit more reactive in the response of that, so now it could be four weeks. Then at the end of the comment period, if the chairs feel that we have still have consensus, no one has come up with any objections, they’ll call for the EC to endorse it. And I’ll prepare a document for the EC that outlines what happened in the PDP process.

Depending on the complexity of the proposal, that might be a longer document or a shorter document.

And they ratify it and kind of negotiate it with the Secretariat when that will be implemented. Then, as I said before, I quite often do the language in the policy document, and we have a policy that says that must go out for a comment period, just for [inaudible] comment period. And then when I first implement it and start doing it.

This goes without saying, participation is the basis of this. It's, the more people that get involved, the more stakeholders involved, the more representative it is. It's kind of straightforward [inaudible]. And we try, part of the job of the secretariat is to try to encourage people to participate in the process. I'm sure you understand all of that, I won't go into it.

And you probably understand consensus decision making, but I'm going to go through it anyway, just because APNIC has its kind of own definitions. And I guess this is the tricky part for the chairs. We have a document, which is APNIC guidelines, it's not a policy, but it's a community managed document. And it has advice for the chairs. It also has advice for the community about what it means to reach consensus at APNIC.

The chairs kind of free to interpret those guidelines calling to what they're comfortable with obviously, they're chairs. And so the example I've got on the screen here, the [inaudible] of ATF, the current chairs, will be more of an ATF person. I thought this was a very good way to describe what we mean by consensus.

And that's a very large majority of those who care must agree, and strongly held objections must be debated will happen, or that are proven to be wrong. And I'll be talking a little bit more about that. A different chair might take a different view, a different approach to that. The chairs are elected by the community. They serve two years, so the chair serves two years, and the chair chooses to appoint, [inaudible]...

The chair says, "I think workload means that I should have one co-chair or two co-chairs." And regardless of how many co-chairs they have, they also elected by the community, hopefully in alternate years, so that we have an election every year for either a chair or a co-chair. In the upcoming meeting, a chair is actually unavailable. He has been working in Europe at the moment.

And he's allowed to do that. The chairs have to attend at least one physical meeting per year. And so our co-chair will be acting chair for this meeting, and he'll go be by himself. Interestingly, he is also up for re-election. He is nominated, so I can say that. Even if he's not elected, he will still be allowed to chair the meeting, because of some stuff we've put into the guidelines, a couple of year ago, that an outgoing chair should continue to see the cycle through, the current policy through the end of the cycle.

So, regardless of whether he is kind of continuing, he'll have to continue with his current crop. Okay. One of the things the three guidelines talks about is, if there are minor or major objections, and I'll try not to give examples here, because it's really none of my business. It's for the chairs to decide whether an objection is minor or major. But the chairs are expected....

They are sitting in a room at a physical meeting, and there is a presentation, the proposer makes his proposal, PowerPoint, explains his rationale, and then the community discussion about it. And the chair then kind of goes through this process. He'll generally open the floor, and say, "Are there any comments?" And people will line up and have their say for or against.

And try and get the debate going. And if people have got objections, some are, [inaudible], well, it doesn't really suit me or my business, others, I guess I will give an example. A minor objection might be, "It's a bit inconvenient for my business. It is going to make it harder for me to get address space." Or something like that.

A major objection might be, "This could break the Internet. Don't do it." So, the chair will kind of try to elicit some discussion around particularly major objections, and because you've got to deal with those. And as it says on my slide, they have got to work together to resolve this, or identify whether it really is a significant objection. And the reason is that a single participant with a strong, valid, major objection, can completely block consensus.

I've seen that happen as well, and it's just one person in the room that really believes that this is going to do severe damage, significant technical disruption, or something like that, or significant impact on one of the goals, the overriding goals. And if they make their case strong enough, and no one has a counter argument to them, the chairs kind of can't say we've reached consensus.

So a single objection can block consensus, as you've probably seen in your own communities. And that can kind of... One of the things that the chairs do, and I'll guess I'll move onto the next slide. They, we have... It's allowed in our guidelines to have a show of hands, which is kind of taking the feel of the room, I guess.

The... It kind of looks like a vote, which gets some people confused. We don't count the numbers. The chair might say, "Do I have strong support for this proposal? Do I have strong objections?" And it's a negotiation that can kind of happen through this repeated questioning of showing hands, that... So the chair can say, "If the proposal took part D out, would people then support the proposal?"

Or if the author would have changed part A for x, y, a, would you support the proposal? Would that change your opinion? And so, we can have multiple kind of showing of hands, and multiple versions of the proposal actually in the physical meeting. Which is why you've got to then go back to a final call because people have been reading it on the mailing list maybe aren't present in the meeting, and maybe aren't remotely participating, and then they get back to work the following Monday and find out that we've reached consensus on a proposal that's changed since they last saw it.

Because in the process of kind of negotiating an agreement on this, the proposer will say, "Okay, I'll take this section out." And that's got to be edited and republished onto the mailing list, and then show in a meeting so that people can see what it is that they are agreeing to. So this can be quite an iterative process. And one of the things that we have anecdotal information on is that, some of the cultural factors in

the Asia region. It's not polite to aggressively argue against someone else and say, "No, I don't agree with this."

Some people have reported that, "Look, I didn't agree with the proposal, but my boss was there and he did agree, and I completely conflicted with him and so I wasn't willing to come to the mic. I wasn't willing to put my hand up and participate in that consensus." So this kind of cultural and power reasons. And so the idea of this electronic, it's a browser based tool, and we say, "Okay. Go to the website and open up the relevant proposal."

In this example, one, two, three, four, five, and indicate whether you agree or disagree with the idea. And again, this is an irritative thing. The tool is built so that you can make new questions on the fly, and so it could be, "Would you support this proposal if it had section D taking out?" That sort of thing.

We'll be, as I say, we're talking about it for a little while, and we've had a little bit of trial and error, well not so much error, but we've had a couple of trials, and people kind of said, "Yes, it sounds like a good idea." In the last meeting, I did kind of a much more detailed community consultation to understand what people's reactions to it might be, and some people argued that this was a bit like voting, and this was a bit of a blunt instrument, I guess, because the purpose of reaching, or the approach to reaching consensus is this is negotiated settlement of objections, I guess.

And that this might kind of short circuit that, and this kind of becomes voting, and people say, "I agree." And the green bit would be bigger

than the orange bit, and so the chairs would just go, “Okay, well it looks like we’ve reached consensus.” And so, we’re running it as a pilot in the next meeting, in conjunction with the traditional way we do it.

It will be up to the chair how he does this, but basically try it the old way, and try it with the electronic way as well to see whether it creates a different... It should be interesting, I guess. So it means speaking about chairs, and finally, so the current SIG chair is Andy [Link-ton], and the co-chair who will be acting chair of the next meeting is [inaudible], and the ASO/AC members are there.

[Inaudible] is up for election at this next meeting. The election for the NRO AC is slightly different from the election, actually we’ve got kind of three kind of different types of elections. So an election for a Board member and an Executive Council member, each member organization gets a certain number of votes according to their size.

An election of a SIG chair is a show of hands at the beginning of the meeting, of the people present in the room. The NRO NC slash AC is a little bit, it’s kind of in between those two. It’s a formal process with a ballot box and formal counting and people to oversee it and such. But, it’s a much broader one in that the rules are basically you will be present at the meeting. You can be a member and do it online, or an account holder, or if you’ve been present at one of the last four APNIC conferences, you can get a vote.

So the idea is it’s a broader set of community voters rather than the kind of strict member slash account holder voters who vote for the EC. I guess the EC are the corporate organization, whereas the ASO AC is

[inaudible] ICANN and IANA. So, I guess, the ASO AC has a number of functions. I'm not sure that maybe you are not kind of aware of those.

The address council appoints two Board members to ICANN. I think it's six, 11, and 10. They appoint people to different kind of working groups, like NomCom and other working groups at ICANN. And they are also there to provide that global policy process that I just discussed before. But also to give kind of general advice on numbering to the Board, and to IANA for kind of interpretation.

There has been a couple times in the last 12 months where IANA has come back to the ASO AC and said, "The policy says this, and while we're reading a little bit, we're not quite sure what it means, I guess, and can you interpret it and just confirm that it's either this or that." And so the AC might go back to their communities and say, "The IANA asks this question. They want us to interpret the policy for them. What do you feel?"

And then feed that back up onto the IANA. APNIC policies, anyone, any questions before I move on? So those are references. How many members by APNIC? It's a bit of a rubbery figure because the NIRs are kind of indirect members. I think our own membership, and I could be a little bit out by a couple of hundred either way. I think our own membership is like three and a half thousand, if you include the NIR members, it's like five and a half thousand.

So it's not big. RIPE is a much bigger community. I think they've got 18,000 members or something like that. How long do average global policies take? Look, it can take a long, long time because some of those,

some regions won't agree on the policy in the first round, and so if it's been changed, it has happened before, that one region will say, "We don't like this, we're going to put forward our own solution to this."

And so the prior proposal, basically it's dumped and all of that work gets dumped with it, and the new proposal has to go through the rounds. And so it can take more than a couple of years, not much more than a couple of years, but it usually takes two years to allow for kind of each RIR to look at something twice.

And then from consensus to implementation, that's up to IANA. Again, it depends on the complexity of the proposal. The most recent change in the global policies was currently long and complicated, if I explain it. But in the IPv4 space, there was some legacy historical space that was handed out prior to the formation of the regional Internet registries that would return to the regional Internet registries.

And because we need to delegate them, we couldn't really keep them. We had to give them back to the central registry. And so, the IANA ended up, after we reached exhaustion on IPv4, the IANA kind of ended up with two slash eight's worth of address space, which is 30 odd million addresses. And had no mechanism under its policy structure to redistribute those, and so we needed to change that.

And so the policy that was agreed finally, was that when one of the RIRs reached half a slash eight, a slash nine which is around about 80 million addresses, this would trigger the pool of return addresses from IANA, so even though it's kind of implemented, it wasn't activated. And that process was like a year and a half or something like that.

But some things are very simple. It might be a simple matter for the IANA to change its procedures, and there is no kind of software involved or anything like that, so again, like our own implementation it can vary a lot. An example of a problem statement roughly, this is what my network looks like.

I have a point of presence in Brisbane, and I have a point of presence in Singapore, and I've got no cheap way to transfer data between those two points of presence. If you make me number them under one prefix, it's going to cost me a lot in international traffic charges, and I change the demonstrated need to allow me to get two prefixes to block [inaudible] number them separately.

That kind of has the result in it, I guess. Some, we don't get a lot of these. Some are just more of, I have this numbering problem and the policy doesn't allow me to get addresses under these circumstances. And rather than kind of force people to come up with a solution, because some of the proposals that we have that had solutions written for them by the author, we managed to resolve them by not changing the policy, which is a bit...

So it's kind of a new thing, but it would just be, "Hey, this doesn't work for me. What could we do to change it?" SIG chairs oversee all policy development over a certain period of time, or designated by issue topic. The chairs oversee all policy, all resource policy, which is all policies really, for that period of two years when they're seated, and anything that's left over they need to see through to its conclusion.

Have we got any questions? And all of this is to achieve these policy goals, and these are written into this [forum] into these six policies. And I guess they're kind of self-evident, uniqueness. I guess you realize every IP public address has to be globally unique, and to ensure that they're registered. But they're registered to also [inaudible] troubleshooting, so you know who is using which addresses.

So if their network is causing problems on your network, you can contact them hopefully by the WHOIS. Aggregation, so aggregation, skip the next one. No guarantee of contiguous delegations. It's a little bit complicated, but these are really quite technical ideas. If you get a chunk, and then you go back and get another chunk of addresses, it's best if they're contiguous, so that you can advertise them as one check rather than advertising them as two chunks.

And that is called aggregation, and it's very important for limiting the size of the routing table. Kind of the easy way is a router loads up this database of all of the advertised routes, the location of all of these addresses in the world, and says, "If something comes in for that IP address, send it in that direction." And that's all held in memory so that it's very fast.

If it's too big so that it won't fit in memory, or it's got to be stored in disk, then the router will [inaudible] to disk, saying, "Where do I send this packet?" [Inaudible]... and this was really an issue in the V4 space, but it could potentially be an even bigger issue in the V6 space, which I'll talk about at the end.

So that's aggregation and contiguous [inaudible] delegation. Fairness, obviously we're supposed to be neutral and fair. Everyone who needs addresses should get them. Minimize overhead means you should give me enough addresses that I don't have to come back every three months. So generally we look at one year, two years, timeframes.

And conservation. So conservation was efficiently using particularly the IPv4 address space. But they even IPv6 space, even though it's very large, it's still finite and so you can't really go giving it a way in, a large [transfer that], a demonstrated need. And now the last point there, conflict of goals, is particularly...

All of these goals make kind of conflict at one time or another, but in particular, aggregation and conservation work against each other. So, particularly, and they work the opposite... They're different... They have different importance, depending on whether you're talking about V4 or V6. So in IPv4, conservation was more important than aggregation. In IPv6, if it gets broken up into tiny little pieces, it would make the routing table very, very large, and so aggregation, because it would make it very, very, very large because it's 340 trillion, trillion, trillion addresses compared to four million addresses.

Aggregation could become a real problem if the routing table would blow out. At the moment, the routing table is like half a million, it's 500,000 routes on four billion addresses. Translate that to 340 trillion, trillion, trillion addresses, and the hardware might not be able to keep up with that growth. So that's a big technical...

So we have these goals that are stated in the policy that say, “Any decision that you make about policy, have got to keep these things in mind.” And that’s what we’re trying to achieve with the policy. So, kind of moving on, we’ve got this kind of multiple framework sort of things that are controlling our actions, and the actions of our members.

And there is bylaws obviously. The executive council writes membership agreements. And it’s got proper document definitions, documents, and stuff like that and so it’s important. And these things that are called guidelines, which are documents owned by the secretariat, the current [inaudible]... They say, they add on to the policy. So this is how the Secretariat interprets the policy, and this is how we will act in interpreting and carrying out the policy.

And those are kind of community documents, but we kind of, the Secretariat kind of owns them. If we wanted to change them, we would have to consult with the community to do that, and put it through the editorial process, which is kind of in the next group of policies, which is the PDP policy, and it was proposal number one, as you’d expect. The document editorial policy just governs how we will publish and deal with these corporate documents, these official documents at APNIC.

And then there is the next bunch of resource policies, which is mostly what we talk about when we’re talking about policies. So there is the list of all of them. There are seven, v4, v6, autonomous system numbers, experimental allocations that are very rarely used, transfers, and the historical legacy space documents.

The first one is the policy environment, so that's where the goals and the kind of [inaudible]... it's all kind of explained in that document. I'm in the process of actually, the final stages of taking all of those seven documents and making it into one document, so it kind of forms policy manual, some of the other RIRs take that approach.

So you only have to go to one place. And you've got the transfer policy next to the v4 policy. You don't have to be opening different web pages or PDFs to get from one to the other. And then there are these last little ones. I spoke about NIRs before. There is community policies that describe the criteria for the recognition of a NIR. And those criteria are things like support of the local community, support of the government...

I'm sorry, I can't remember. So other things that kind of, you must meet these baseline or things, stable funding model, it must be a not for profit organization, things like that. And then operational policies, which talk about, you must comply with the APNIC policies and so on. So that's the kind of big policy framework, I guess.

And the next slide is just kind of a screen grab of some of the policies that have changed recently. This goes actually back a couple of years, probably more, three, maybe four years. So the policies don't change that often. The current proposal, highest number of proposal is 111 in 10 years. So that includes proposals that were abandoned as well. So it's not that kind of busy.

It got very busy regarding IPv4 and down the list there, there is quite a few proposals relating to the exhaustion of IPv4 and quite a few relating to transfers. Both of those will be topics for discussion. The objective

of the community there was to kind of create a soft landing for IPv4 exhaustion, and so one of the phases there is the final slash eight. So at last, IANA blocked our, what we were going to do with it, and the community decided that each member could only get a maximum of 1,024 addresses each from that, which I think there is like 16,000 of those, or a bit more, nearly 17,000, 1,000 address blocks.

And we have 5,000 members. The other space is for new entrants to come in, because you need before, even if you're running a v6 network, you need a V4 block to interact with the old V4 Internet. So, as you can see, a lot of this is about management of the addresses, how to get more, I mean under what conditions...

Some of them are less about the allocation of the addresses, [inaudible] pop 102 there, spot allocations, outlines. This was basically an instruction to the Secretariat, how to manage the free pool, which was actually what we were already doing, but the community felt that it should be documented and agreed. Transfers, just kind of looking down there.

The one at the bottom, I guess, is kind of interesting, abuse contact information. That implemented, it's actually not abuse contacted because [abuse-e] was already a field in the WHOIS, but introduced a new contact which is, incident response team, IRT, and made it mandatory. And this was probably more specific than abuse contact.

And as I said, it's mandatory, so what was done was that you can't make any other changes to your WHOIS entry unless you have one of these objects specified. So it's kind of an enforcement thing. APNIC is not

generally a policeman, as you can imagine. But this is a very specific, well thought out proposal about how it must be mandatory that you implement that there. So I can't remember, someone quoted a number, I think we had 70% of the WHOIS entries had one of these.

This is going back a little while. I haven't had an update on that recently, but so there is still some people who have never updated their WHOIS entry, and therefore are forced to have this mandatory object. But this is kind of [inaudible] things you can do there.

We're getting towards the end here...

SIRANUSH VARDANYAN:

Adam, Adam. I'm sorry. This is Siranush. Adam? Just a reminder, we have four more minutes for interpretation, just to keep in mind. [Inaudible] without interpretation, but just keep in mind for the webinar we have interpretation, only two minutes left for that. Thank you.

ADAM GOSLING:

Okay. Sorry, I wasn't looking at my watch. The kind of, this is the last slide. It's the only, the core proposals are only closed last Friday, and this is the only policy proposal that we have to discuss at APNIC 38, so it's very kind of sparse. It just allows for larger IPv6 allocations. I don't really need to get into the technical part of it, because it probably doesn't interest you very much.

But that's kind of explained there, and you can read the proposal online. Moving right along, I was going to mention the regional meetings. This is kind of our outreach to smaller economies, that kind of don't manage

to get, the members there don't get to our conferences, so [inaudible]. And the last slide being the two upcoming conferences. The one next month in Brisbane and the one in Japan, February of next year.

And then I have finished, so that doesn't leave an awful lot of questions with interpretations, but that's all. If there are any questions, I'm happy to keep talking.

SIRANUSH VARDANYAN: Wow. Thank you Adam. It was really impressive and detailed. Thank you very much. Can you hear me?

ADAM GOSLING: Yes I can, I'm just...

SIRANUSH VARDANYAN: Good, yes. Siranush Vardanyan for the record. Adam, no words, it was really very interesting and very educational. Just we have a couple of questions in the chat space. And Rinalia asked similar questions, and I will ask them for you. Just how many members just by APNIC? [CROSSTALK]...

UNIDENTIFIED: He answered them.

ADAM GOSLING:

So it's about three and a half thousand direct APNIC members, and five and a half thousand, I think [inaudible]... So I'll just go through those again quickly. A global policy, how long is a piece of string, it depends on how much difference there is. It can be very irritative, it can take a few years to [inaudible]. And then implementation, it depends on how complicated it is, how much work it is for the IANA.

It's a short procedural change, it would happen very quickly. If it's software development required, as there was in the last one, it could take a bit longer, but they were under no pressure because it was [inaudible] by external forces.

And a problem statement, I kind of try to do that, probably didn't do very well. And such as oversee everything within their allotted time.

SIRANUSH VARDANYAN:

Thank you. The second question is, how long on average do global policies take from development proposal, to consensus, to implementation?

ADAM GOSLING:

Sorry, I just ran through those quickly. It's how long is a piece of string. It can, if it's complicated and contentious proposal, it can take a couple of years. In fact, we have a couple of proposals, if you'll notice on the ASA, dot ICANN, dot org, there is a couple of proposals that have never quite really died, and they can't re-done them, and there is no mechanism to get rid of them.

So they just kind of hang around. But a couple of years, easily....

SIRANUSH VARDANYAN: Okay, I guess... Yeah, thank you very much. I guess you have answered the rest of the questions already, I have them posted in the chat space. So is there any questions for Adam? Yes, Holly Raiche, the floor is yours.

HOLLY RAICHE: First of all, thank you Adam. Second of all, I think because it has taken nine minutes of us, or me appreciating what work you do and how technical it is, it's almost as if you think about ICANN you have very technical issues managing all of the policies around numbers. And then you have probably conceptually all different issues around the ccNSO and the GNSO about names, probably not commenting on it.

But does it make the IANA transition from your perspective, like we've got the numbers, and we've got all of the number systems down, we've got all of these [inaudible] in place, and we're not going to have a problem with the transition because things seems to be, there seems to be plenty of systems in place to manage what are quite technical, complex issues.

And you can probably tell me that you don't want to comment, but I would be interested if you do.

ADAM GOSLING: I'm not the best person to comment because it's not something I work actively on. But yes, I think you're quite right. The position of the RIRs is that we feel that the current arrangements are a very good, they work

extremely well. I guess in a lot of ways, the issues that are based in the policy area are not as continuous as within the namespace. I like to say that addressing is plumbing.

It is kind of below the network, and so it is kind of not so exciting. I understand our position is, we're very happy with the arrangements. Kind of off the record, I would say, the biggest danger is that the changes that are required to accommodate the namespace might impact on our relationship with the IANA. That's probably the biggest threat, because everything stay exactly the way it was. The US government has kind of no role at all in that numbering space.

They don't have that kind of veto that they do in the namespace, if I understand it correctly. So I think your analysis was very accurate, in short.

HOLLY RAICHE: Then it has produced two questions...

ADAM GOSLING: I might have to bail out.

SIRANUSH VARDANYAN: Adam? Siranush for the record. Yes, I think that will, there was a final question from Rinalia, what is the APNIC plan on community consultations? Or over IANA transition, if any? And I think we will close for this.

ADAM GOSLING: Yeah, I've put an URL on that slide that we didn't really look at. It will take you to our IANA transition page. There is a mailing list there. I'm sorry, I'm not really [inaudible], there is kind of a community consultation. There will be discussions at the next meeting about it, but there is a mailing list there. I'm not exactly sure, it's kind of a comments area, and chief executive area dealing with that.

But that URL I put in on the IANA transition page [inaudible], which is, just slide back through my own copy here. APNIC dot net IANA transfer. So APNIC dot net slash IANA x FDR, you can read it on the slides. Is the current place where you can keep in touch about that.

HOLLY RAICHE: Just to note, thank you. This will be posted on our page, thank you.

SIRANUSH VARDANYAN: Yes, thank you. So we are closing this [inaudible], and I would like to thank once again Adam for such an interesting and detailed webinar and presentation about APNIC policy development and about APNIC in general. And I think that you are [inaudible]. Thank you Adam once again.

As a follow up of this webinar, I think that one of the three principles of policy development you have mentioned it being open, so that everyone can participate and taking this opportunity. We will send this information and the record of this webinar to APRALO members, and we will invite them to participate as much as possible to the policy development processes.

So that's all for now. Thank you very much again for participation. And a special thanks to Adam once again. The meeting is completed. Thank you very much.

[END OF TRANSCRIPTION]