
ICANN76 | CF – Let's Talk About Numbers
Wednesday, March 15, 2023 – 16:30 to 17:30 CUN

OZAN SAHIN:

Hello and welcome to the Let's Talk About Numbers session. My name is Ozan, and I will be the remote participation manager for this session. Please note that this session is being recorded and is governed by the ICANN expected standards of behavior.

During this session, questions or comments submitted in chat will only be read aloud if put in the proper form as noted in chat. I will read questions and comments aloud during the time by the chair or moderator of this session. If you'd like to ask your question or make your comment verbally, please raise your hand. When called upon, kindly unmute your microphone and take the floor. Please state your name for the record and speak clearly at a reasonable pace. Mute your microphone when you're done speaking.

This session includes automated real-time transcription. Please note this transcript is not official or authoritative. To read the real-time transcription, clicked on the closed-caption button in the Zoom toolbar.

To ensure transparency of participation in ICANN's multistakeholder model, we ask that you sign into Zoom sessions using your full name—for example, and first name and last name or surname. You may be removed from the session if you do not sign in using your full name.

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.

With that, I will hand the floor over to Kim Davies.

KIM DAVIES:

Thanks, Ozan. Hi, everyone. My name is Kim Davies. I'm the Vice-President of IANA Services for ICANN and the President of Public Technical Identifiers (PTI). I will explain what both of those acronyms mean in just a moment.

Before I start, the origin of this session goes back some years. We were having discussions with the ASO probably about five years ago now, and we really identified a gap in understanding in the community about the numbering services. And we were trying to identify ways of promoting awareness of the work that we all do and how ICANN interfaces with regional Internet registries in its roles and operations.

And so we agreed that it would make sense for us to periodically—ideally one a year—hold a session like this where we just talked about some of the fundamentals of the interrelationships between our organizations. After coming to that agreement, we did it exactly once at ICANN64 in Kobe, and then we had the pandemic. So this is the second time we've done a session like this. I would say that we're looking to see how we can build upon this presentation and other kinds of engagement. So at the end, we're very receptive to ideas on how we can promote the awareness functions in the ICANN space and would really appreciate that feedback.

So with that said, let's talk about numbers. Next slide, please. So for those that are not familiar with IANA or PTI, I'll just give you a brief explanation. The Internet Assigned Number Authority, or IANA—our

main responsibility is maintaining authoritative records of unique identifiers. That is our bread and butter. That's why we're here. IANA is one of the oldest institutions in the Internet governance space. It started as a very informal concept—a man with a notepad, really—but has evolved over time. The IANA name itself has been around quite some time—over 30 years—and has been formalized more recently.

When we talk about the IANA functions, we typically divide it into three key areas. These key areas are not super precise or exact, but in terms of a mental model of the IANA functions, it makes a lot of sense. It reflects the three different key governance mechanisms that we have, the three key communities we serve, and so forth. So when we divide it, we typically divide it into these three areas.

The first one is names but only domain names. Here our key responsibilities is operating the DNS root zone, which is the list of top-level domains.

For the numbers—what we're here to talk about—we administer the global IP address space and AS number spaces. And we'll get into how we do that in a moment.

And then, lastly, protocol parameters. Protocol parameters is a general term for a lot of identifiers that are used in Internet exchange, networking exchanges. Most of them are entirely invisible to people that use computer and devices. Usually the only audience for these protocol parameters are software implementers. And therefore the bulk of our work in this area is really in the IETF. The IETF, or the Internet Engineering Task Force, is the preeminent Internet standardization body. It's where a lot of the technologies we use on the Internet is

conceived. And the bulk of the protocol parameters we operate is in close relationship with IETF standardization efforts.

Next slide, please. So I mentioned IANA. What is PTI? For those that have been around a few years, you might be familiar with the IANA stewardship transition. This was a significant effort by the multistakeholder community here to develop an environment where ICANN could fully detach itself from US government oversight, which had been present since it was first established in 1998. And that effort culminated in 2016 in a severing of that relationship with the US government and, in its place, putting in a lot of new measures—oversight and accountability measures—for ICANN. One of those measures was to create a new not-for-profit expressly dedicated to forming the IANA functions. That not-for-profit is called PTI. So it was created in 2016 as part of that transition.

Now, it is very closely related to ICANN, to be quite clear. It is a separate organization legally, but it is affiliated with ICANN—“affiliation” being a formal legal term here—and fully funded by ICANN. We work in ICANN’s offices. We’re treated as if we’re any other ICANN department. But we’re very closely connected on a day-to-day basis with ICANN. But it is a separate organization, of which I serve as the president.

And so we have a little diagram here that perhaps helps illustrate the relationships. I think the details are not too important here. Suffice it to say, PTI staff, our IANA staff, our ICANN staff—I mean, there are checks and balances. There are important distinctions to be had on an accountability level, but in terms of a day-to-day interaction basis, we work in the ICANN offices as part of the broader ICANN Org.

Next slide, please. Okay, so what is our key responsibility when it comes to the numbering services? So I mentioned that we manage the global IP address spaces, and we also manage the entire set of AS numbers. What does that mean? With almost every registry we operate, by default we operate the entire possibility of values in that registry. But that doesn't mean we give them out directly to customers. We're not in the business of running a big transactional registry. Generally speaking, we only make very high-level allocations. And the way it works for number resources—all three of those types that I mentioned—is predominantly through us making allocations to regional Internet registries. Those regional Internet registries have, together through the ASO, created a set of global policies that govern how we make those allocations. They've also developed a set of service-level agreements, which govern things like timeliness and accuracy in how we perform those services. Again, as part of that transition in 2016, we established a service-level agreement between the five RIRs and ICANN that stipulates performance of these functions to some level of detail. You'll find it online on our website.

Next slide, please. So let me home in on specific allocation types. I'll start with IPv4 addresses. This might be familiar to most here: 32-bit address space, which means there's roughly four-billion-and-change IP addresses, typically divided into 256 slash-8s. Of those 256, 222 are allocated for unicast use. Unicast is the kind of allocations we make to RIRs. So the RIR allocations here represent the vast majority of IPv4 address space. What is in the remaining 14%? Some examples are multicast address space. There is a reversed block for future experimentation purposes and things like that.

Here the story is kind of at its end because IANA has no IP addresses to give. The collection that we had available is essentially exhausted. I think we have three slash-24s in reserve, which is too small to allocate to anyone. We can't even divide it amongst the five RIRs. So we had this small allocation of 768 addresses burning a hole in our pocket. But other than that, that's it. And the last slash-8s we allocated were way back in 2011.

Next slide, please. IPv6 addresses are quite a different story—again, common knowledge, I hope. IPv6 was partly designed to address that deficit of address space in IPv4. As a 128-bit address space, there really is a significant amount of room there. In terms of the way it's allocated today, just a 1/8th slice of the total available address space has been allocated for unicast. That could grow if necessary, but as of today, that 1/8th slice is allocated for unicast. From that 1/8th slice, it's been further subdivided into 512 segments. Each is a slash-12. And slash-12 is the size of the allocations we make today under the global policy.

And prior to that, we had smaller allocations. You see it here on the diagram as mixed. But since we had this slash-12 allocation policy, we've made one to every RIR, and a second allocation to both ARIN and RIPE-NCC.

Next slide, please. So unlike v4, we actually do make allocations of v6, and we can allocations of v6. How do we do that? Well, again, there is a global policy for this, ratified in 2006. And I think the key thing here is it's quite an objective criteria. There's a mathematical formula. And our job is essentially to evaluate requests against the formula, make sure that eligibility requirements are met, and make an allocation based on

that request when eligible. RIRs are eligible to ask for space when their available space, in terms of what they've allocated onward to their customers, is below half of this slash-12 or their projects are that they will exhaust everything they have in less than nine months.

And then in terms of the allocation we make, it must be at least a slash-12 but it also must be sufficient to last at least 18 months. So again—we're clearly nowhere near this right now—should an RIR have such an aggressive allocation schedule that a slash-12 will exhaust in less than 18 months, then we can allocate a larger allocation.

Now, because these allocations are just so phenomenally large, they're not common. We made the initial slash-12 allocations to the five RIRs back in 2006. And it was only in 2019 where we had two subsequent allocations made. To my knowledge—I think I looked at the numbers a few days ago—no one seems to be close to making a subsequent allocation request.

Next slide, please. So AS numbers. These are identifiers that aggregate networks, collections of IP addresses, for simplified routing. Here, it is a 32-bit address space. There's up to four billion AS numbers. Originally, it was 16-bit, which we ran out of there. But there was an effort to expand it in 2007. It feels like it wasn't that long ago, but time flies. But there was a move from 16- to 32-bit. For a time, there was some allocation procedures around preferential allocation of 16-bit, but I think we're past that now. And so now we allocate AS numbers based on demand, but the vast majority remain unallocated.

Next slide, please. Again, there is a global policy here, which also has objective criteria. RIRs are eligible to ask for more AS numbers when

they've assigned or allocated 80% of their previous block or their exhaustion rate will happen in less than two months. And our allocation here is based on a twelve-month projection of need.

Next. So that's in terms of allocation, but for IPv4 and IPv6 addresses, in addition to allocating IP addresses, there's also the reverse DNS system, which allows you to map those IP addresses to domain names. So IANA operates in-addr.arpa and IP6.arpa for these purposes. And essentially we [have] the same relationship we have with RIRs in terms of which blocks we've allocated to them from the unicast tree. We, in tandem with that, authorize them to make changes to these two zones to reflect those allocations. So any RIR is able to manage the associated block with us for the allocations we made to them.

The way we do this is IANA operates a private API with the five RIRs, so there's a lot of automation there. Their systems talk to our systems. And so, in essence, a registrant, a holder of IP address allocation from an RIR, when they request it from their RIR system to make a change, that in turn turns into a request to IANA's systems, which in turn inform the content of the zone.

Next slide, please. In addition to that, we also operate Registry Data Directory Services. That's an ICANN terms. I still just call it WHOIS. So we have a classical WHOIS server, Port43. The IANA WHOIS server is bespoke and unusual because we run domain registries, we run IP address registries. We run all sorts of things on there. So you can do all sort of different lookups to that WHOIS server and get results.

In the context of the numbering services, if you look up an IP address, we'll provide you the allocation that we've made to an RIR. Where we

know the RIR's WHOIS server, which I think is in all cases, there's a referral line there. So an intelligent WHOIS client can look for that line and then, in turn, do a WHOIS query to the RIR's WHOIS.

Whilst ours is structured, WHOIS in general is unstructured. It's plain text. There's no necessary commonality between WHOIS implementations, which leads us to RDAP. RDAP is a structured mechanism, relatively recent, intended to be a successor to WHOIS. It's designed for modern technologies. It's delivered over HTTP.

Our primary responsibility there is managing what's called the bootstrap registry. The way WHOIS works is that you need to know which WHOIS server to talk to. So you might have a client that has a baked-in list of servers that it knows about, but generally speaking, for WHOIS you have to know that, for instance, for us, it's WHOIS.IANA.org, WHOIS.ARIN.net, or whatever it might be. And you have to provide that in your lookups to contact the WHOIS server you want to speak to.

RDAP has self-discovery built in, so in theory you should never really have to know where an RDAP server is. How that self-discovery works is that the clients retrieve a bootstrap registry from IANA, and the bootstrap registry has an index of all the top-level RDAP servers around the world, not just for number allocations but for TLDs and for other kinds of applications as well.

So that's what we do today. We are building our own RDAP server. But because of this bootstrap registry, it wouldn't be used in the context of IP address lookups, except for ... Let's say you're looking up a reserved address. So you can imagine you're looking up RFC1918 address space

or 127.0.0.1. They're the kinds of queries that would probably land in our RDAP server for IP addresses but not unicast allocations.

Next slide, please. I mentioned before that a lot of the address allocation policies were informed before these metrics of projected use, utilization, and so forth. The way we assess is actually through data published by the RIRs. RIRs (all five of them) publish daily statistic reports on their allocation rates. We have a system that sucks in that data and processes it, and we're turning it into an allocation dashboard.

And here, it's on our website. You can find our current allocations rates across all five RIRs, where they're eligible. I know it's a little hard to see on the screen, but you can see that red line on the bar chart, and that's the threshold that, if you cross it, you would become eligible under the criteria. And also time-based projections. We look at the rate of assignments over a period time, and then we extrapolate that forward. I think that might be on the next slide. Maybe not. Probably didn't fit. It's a bit busy there. But there are projections on the website as well.

Next slide, please. Generally speaking, I mentioned that we have service-level agreements and we do report monthly on our adherence to them. This is true of all the IANA functions, by the way, not just those for the number services. So if you go to [IANA.org/performance](https://iana.org/performance), you'll find a rich array of reporting that we do, both on an annual and monthly basis. There's an at-a-glance view. That's something we relatively recently deployed where you can just see high-level figures on how we're doing.

Next slide, please. Another key facet that we wanted to highlight is we want to be trusted in our role that we're actually following the

procedures like we say we are, and one key aspect of this is bringing in external auditors. We do this every year. We've had twelve consecutive years of exception-free audits, which we're very proud of. And we follow both the SOC2 and SOC3 frameworks in doing these. Essentially, we have a number of controls. The auditors look at our control environment, provide comprehensive reports on our adherence to the controls, and then we provide them to key leadership in the community. In the context of the numbering functions, that's the NRO EC. It also goes to the IETF leadership, the naming community leadership, and so forth.

And this is really valuable to us. I mean, it's a lot of work. We are a relatively small team, and this annual cycle of having the auditors come in, collect evidence, discuss everything, pour over records, and so forth is quite intensive, but we find that, firstly, it's an investment the community wants us to make, but it's valuable for us to keep us performing best practices within our [time].

Next slide, please. So that's my tour de force through the numbering functions at a high level. Just to summarize, our key responsibilities here is for the global address space for all of these—it should say v6—v4, v6, and ASNs. For most applications, it's the RIR system that we're working with directly, giving those large allocations of all three types to RIRs, who in turn apply their regional policies to their individual network operators in their region.

For specialty applications, IANA does play a direct role. If you want a multicast assignment, you come directly to us. If you need an allocation for a particular protocol, such as in an IETF RFC, that's where we'd be

directly involved. But for the most part, our job is, when we get those request, which is quite often, is we just shuffle them straight off the nearest RIR for their region.

These function are part of our broader portfolio of registries that we manage. I mentioned IETF. We talk about three registries here: v4, v6, and ASN numbers. If you look at the entire set, there's about three thousand registries we maintain. So three of three thousand? I mean, these are important registries—don't get me wrong—but there is a large landscape of different kinds of identifiers that our team, in the aggregate, manage.

And then our general accountability measures: the performance reporting, the SLAs, the audits. I didn't even mention community reviews. I know the RIR community does an annual IANA review committee, and their job is to review our performance. And there's many other constructs like that as well to make sure we're delivering what the community expects. But they're all applied in this [instance].

So with that, thank you very much. And hopefully that's illuminating on our role for the numbering services. Thank you. And I'm happy to take any questions.

HERVE CLEMENT:

Thank you very much for your presentation. So thank you for that. It's very useful in fact to recall that because I'm sure that not everybody in the community is aware of the [inaudible] function, the IANA function or the existence of the PTI function, etc. And thank you for having mentioned the example of global policy. So it's an example that, as the

ASO AC, we have [Ken and Donna]—so before our existence as an individual contributor in the ASO AC.

Perhaps a [nice] question. So you talk about SLAs, so you are with a different region, etc. So there are currently issues regarding developments within AFRINIC. So do these issues currently have any impact [inaudible]?

KIM DAVIES:

On a day-to-day basis, no. As I mentioned, the allocation activity is sparse. We continue to provide the API so that AFRINIC can manage, for example, reverse DNS allocations. To my knowledge—I have to double check with my operations team—we do regular system-to-system maintenance and tests, and that seems to be all working just fine. I know at a strategic level, there's ongoing dialogue about that situation, and it wouldn't surprise me if that somehow flowed down to us. But for now, I'm not aware of any.

HERVE CLEMENT:

Thank you.

KEVIN BLUMBERG:

Little bit of a technical question. You mentioned, with reverse DNS, allocations to the RIRs as what you handle. In a scenario where you have an inter-RIR transfer—something moves from one region to another region—does that mean that the DNS record for that block is going to the original region and then, from the original region, it's recursively

going to where it is now? Or do the RIRs update so that, when these blocks are transferred, you have that information?

KIM DAVIES:

That's a very good questions, and I might have to plead slight ignorance on that topic. So I believe, in the normal case, we typically make the allocations in v4 at the slash-8 level, and we have a distinction between slash-8 allocations that were directly made to the RIR in the modern allocation policies versus legacy space—space that based back to InterNIC days, where [RM] is kind of the de facto manager of that space.

As to how the allocation part happens in a zone below the slash-8, I could hazard a guess, but it's good question. I could check and double check, but, yeah, I'm not actually sure.

KEVIN BLUMBERG:

Thank you. It's—sorry.

NICK NUGENT:

Given the 14% reservation on IPv4, and given the scarcity of IPv4 addresses, where the secondary market is seeing prices of \$50 or more per IP address, I'm just curious as to what the degree of usage is of those reserved blocks and whether there's been any analysis as to whether some of that could yet be released back to the RIRs allocated among needy ISPs or other entities.

KIM DAVIES:

In short, not by us but I believe by others. And I know there's been concepts, proposals, particularly in the IETF, and Internet drafts floated of possibly reclassifying that space. I think, as an operator, we're neutral on that question. If there was an adopted global allocation policy from the ASO that ultimately directed that, then we would look to implement it. I've heard arguments pro and con to that concept. I think there's a lot of experts in the room, and they probably have better-informed opinions than I do on whether that makes sense or not. But certainly, as of today, it's not something we're actively pursuing in our role. We could, if asked, make those allocations if the global policies permitted it.

KEVIN BLUMBERG:

So to the thing, the question I was asking is on potentially a 100-millisecond add-on. It's a little bit of an extra that, for most organizations, is a non-issue. For some organizations, it may actually be that the 100 extra milliseconds is important.

With your question, having seen many of these reports, it's whether the systems are actually even accessible. Many of the operating systems [have] hard-deny built in. So your availability of that space is actually not—forget guaranteed—practical. So we can talk offline. I'd be happy to go over that. But I think that was the key issue that was brought up: it's just so embedded in these older systems that it's not useful.

Now we're going non-technical. I saw that you've got a nine-month requirement. You've got a twelve-month requirement in another case, etc. I don't believe the community has looked at that because there's been so few v6 allocations. There's obviously been more AS allocations.

But nine months seemed arbitrary. I'm sure there were very good reasons for it 15 or 20 years ago when the global policy was done with these numbers. And I'm assuming that none of those run rates, especially with the way you are calculating on an ongoing basis with your graphs ... those numbers really aren't issue and [you] haven't seen those as ever an issue. Would that be an accurate statement?

KIM DAVIES:

I think so. I don't know of any operational challenges based on these kinds of timelines. I agree that they're probably at some level arbitrary. Certainly, our allocation process in our SLAs means that, when the request comes in and an RIR is eligible, usually the allocation is made in a matter of a couple of days. So it's very swift. It's not as if these numbers are geared because it takes IANA months to make a new allocation. I suspect that part of the calculus that went into some of these numbers, particularly for the IP addresses, is the ability to pre-advertise[.] In the v4 era, going back many years, [it was] getting rid of bogon filters—things like that as well. I think there's preparatory work to know that this is now part of a particular RIR, but from an IANA allocation perspective, there's no correlation between our needs and that number.

KEVIN BLUMBERG:

Thank you. And—oh, no, go ahead. I'll ask my last question.

UNIDENTIFIED MALE:

To come back to the question about the reserved v4 space, if I have it correctly, I think the process would be that the IETF publishes an RFC

that reclassifies it as unicast space. At that point, it becomes part of the unicast free pool in IANA. And then our existing policies should kick in for the distribution to the RIRs.

Now, the only thing that we might need to look at is, at that point, that the current policies are written with the idea that we have run out and that only reclaimed space would ever show up in IANA again. So if the IETF reclassifies the old Class E as unicast space, for example, we might need to look at the global policy again.

UNIDENTIFIED MALE:

Thanks for that additional context.

KEVIN BLUMBERG:

So my last question. And I've had four years to think about this one, Kim. Since our last meeting, which I quite enjoyed—and I'm really glad we're doing this again—you mentioned global policy on Slide 4 and service-level agreement; the agreements that you have with the RIRs to the services you provide. It's not an assumption that a global policy doesn't have a change to the service-level agreement.

So if it's a simple change, it may have zero impact to the agreements that you have with the RIRs, but if it was something new or if it was something complicated that required it, do you, as part of your process when it comes to global policy, a review process that looks at it and says, "This is solely a regular change—no problem. This global policy you're changing a 3 to a 6—great, no problem. Oh, you want to now have a fourth identifier as part of your thing? This isn't covered in our services agreement, and we would need to do additional work with the RIRs to

be able to even comment on this global policy that we've done"? I just want to talk about the differences between them because they are joined but they're separate at the same time.

KIM DAVIES:

Yes, absolutely. So the implementation complexity is absolutely a consideration as part of ICANN's process of adopting new policy. Obviously, we don't have a lot of history here on the numbering space, but you can imagine that the ccNSO and GNSO policies developed can have a huge operational impact on ICANN Org and IANA. So it is part of ICANN's ... I think the term they use is operational design assessment as the latest lingo. But there is a business process around the implementers in ICANN Org—and that includes IANA—performing an assessment whenever a new policy is being considered and providing that advice back to the ICANN Board so that, when it adopts a new policy, along with that comes the requisite resources or mandate, in this instance, possibly to renegotiate SLAs if necessary.

I will note that we also try to be proactive on that front. We don't wait until a finalized global policy is at the Board's doorstep. The ccNSO is a good example. We are active participants in a liaison capacity to the working groups that are developing the policy. So we can advise the working groups at the collaborative level: "Here's how we think this will impact IANA.[""] If wanted, we could provide advice. This might be a different way of doing the same thing that would have lesser impacts or better outcomes.

So, where possible, where the community wants us to be involved where new policy is under development, if we can be a resource to that,

I find that that smooths things over so that, by the time it gets to the Board for adoption, this is almost a non-issue because everyone went into this knowing this is what's required. It's been socialized. If, in this instance, for example, the RIRs need to change something, the RIRs are in the loop well in advance. Everyone knows that "Here's the implementation schedule, and here's what needs to happen once we pull the trigger." So no surprises. That's our goal. So as we look forward, that's what we would try to do where possible.

KEVIN BLUMBERG:

Thank you. It's not specifically called out in our global policy development process. I think it's assumed as part of the reviews that go on. But it's not actually something specified. And again, it's a unique situation. The envisioning was for things within that we done, but I guess, as you said, you work towards it and then, wherever it can be slotted in, it would be slotted in.

The ask is because we have seen community members—and this is me now talking personally; I have seen—over the years saying, "Wouldn't be great if?" and they have no concept of the additional work that's involved in that what-if. They just think they can make a policy and somebody is then going to implement it. And I think it's important to at least note that service changes are service changes that have non-policy-related issues to be addressed.

KIM DAVIES:

Indeed. And to add to that, the community, in a sense, is free to create policies that are very resource-intensive, but the consequence of that is

that they might take a long time to implement. It might require going budget cycles at ICANN to get the requisite resources to fund it. I mean, there's a knock-on effect, and it all needs to be taken into account.

UNIDENTIFIED SPEAKER: You mention that you allocate resources to the RIRs on a usage basis. Is that an honesty system? Or they do update your systems when they give out allocations? How does that tracking work?

KIM DAVIES: The primary way it's calculated is through the RIR stats that each RIR publishes on the FTP site and we fetch. But I will say that I think, when the actual application comes in, usually RIRs tend to provide their own projections and documentation to go with it, so there's a bit of reconciliation but our team to look at what we see, what they say, and if there's any more analysis to be done. And usually it's pretty straightforward. But I know that RIRs usually give us a heads up even before we get to that point. "Hey, just so you know, it's probably coming in the next few months." It's relatively rare. It's quite collaborative. But it's not particularly complex.

OZAN SAHIN: Thank you for the questions. There are no questions in the Zoom room—remote questions—at the moment. So if there are no other questions in the physical room, we will go to Herve Clement for the Address Supporting Organization Address Council update.

HERVE CLEMENT:

Thank you very much, Ozan. And thank you very much for your more-than-useful presentation about PTI. Thank you. So now is the Address Supporting Organization, the ASO AC.

So you can go to the next slide please, Ozan. So it's a presentation we generally share during our different regional meetings, etc. So there's a number of acronyms, a number of names, for the same thing, etc. So [inaudible] consider because we are composed of people from the different regions. And the ASO Address Council, because we are one of the supporting organizations of ICANN, [inaudible] EC [inaudible] the set of directors of the different regions. We normally are comprised of 15 members (three from each region), but currently, because of the problematic governance within AFRINIC, we have only one [inaudible] in the different regions. So with these three people, two are elected by the community, and one by the Board of the specific regions. The terms of the office of each member are different, regarding the different regions.

What do we do? So on numbering aspects, regarding IP resources, IPv4 and IPv6 and ASN, we, when necessary, advise the ICANN Board of this particular matter. We oversee [inaudible] the global policy development process. So each year, we [access] questions about this policy development process to be sure to be ready when can come from the community or from ICANN, etc.

Another role is to appoint ICANN Board members—two seats; 9 and 10—and we appoint members to the ICANN Nominating Committee. So there's currently one call for the 2023 NomCom representatives from

the ASO. So this call is, as I can remember, open until around the 20th of April or something like that, etc.

We meet monthly remotely and we have generally one face-to-face meeting annually. January is the first ICANN meeting of the year, which is the case currently, but because of the pandemic, we have to defer or remove some of this.

So you can go to the next slide. So there is a list of our current members. So there's 13, as I said. Saul is the only member from AFRINIC currently. And [inaudible] by the name with [a star] with a name is a member appointed by the Board of the specific regions.

And go to the next slide. The global policy development. So we talked about that, and there was an example during the PTI IANA presentation. So we formed a subgroup of members, which is called the Policy Proposal Facilitator Team. This year, it's Saul (so it was a difficult choice within AFRINIC to choose) is part of this PPFT, Di Ma, Nick who is there from ARIN, Jorge from LACNIC, and James, who is on the call remotely. From the RIPE-NCC are each of these members. So it's part of this community and is looking closely at the different proposals that can go and see if there is a potential global policy to inform the ASO AC just in case.

Go to the next slide. So for transparency, our discussion questions etc., we are open except to very specific discussions when we talk about selection or appointment of specific members, etc. So by default, our discussions are open. So we have the annual face-to-face meeting. So you can see there the working group about the data of our operational

procedures. So it's just to be sure to have no problems of quorum in term of selection, etc., etc. So it was completely open.

There is an AC-DISCUSS mailing list, which is open as well. And here's the link to the discussion as well. And the monthly teleconferences are completely open except the very closed one if it's necessary at the end. Monthly teleconferences are open to all observers. Normally, they take place on the first Wednesday of the month, except some when there is a regional meeting at that time or another, where a specific member cannot attend because of other priorities. And there is a link to the specifics on that.

You can go to the next slide. So one of the function of the ASO AC is to appoint two directors of the ICANN Board to the Nominating Committee. So currently we have Alan Barrett from the AFRINIC region, who fills Seat 9. Christian Kauffman from the RIPE-NCC region, will fill Seat 10. And for the Nominating Committee, we have Brajesh Jain. Nothing specific there, but he's from the APNIC region, so his function is until the next, I think, general assembly meeting, ICANN meeting.

You can go to the next slide, please. Recent activities. So as I said, there is a huge working group with huge work regarding operational procedures. So operational procedures dictate how we meet, how we elect our different directors, our representatives to the Nominating Committee, how we manage the process of global policies, for instance, etc., etc. So our operational procedure can be found on the ASO AC website. So there was a specific working group from last year, and there is a dedicated working group taking place in Cancun this week.

You can go to the next slide. And so, as an example, we have a specific slide for the policy proposal in different regions, so our give the floor to the representatives of the different regions to confirm or have remarks about the current policy proposals.

So the first one is from the AFRINIC website. Saul, I don't know if you have any comments on that, but I don't see any particular discussion [inaudible]. But I'll give you the floor.

SAUL STEIN:

Thanks. Well, that did reach did consensus. So, yeah, [we] are waiting for ratification—the top one.

Yeah, it's been a bit of a challenge getting anything ratified at the moment, so there were a few policies that were done. The RPKI ROAs was a bit of a [inaudible] one as well, but it's been ratified. It did reach consensus. It did get Board ratification, although there's some contentious issues about that. And it's in progress for implementation at the moment. So basically anything unallocated will have a deny ROA attached to it. I think it's ROA 0.

And, yeah, the others are all just waiting for ratification.

HERVE CLEMENT:

Thank you for that.

You can go to the next slide, Ozan, please.

So for APNIC, Nicole, your comments about that?

NICOLE CHAN: We just completed the APNIC 55 two weeks ago in Manila. There are some documents that reached consensus.

I think there is some debate regarding the leasing of the resources. So you can see that the leasing of resources is not acceptable.

And there is a change to the [maximum] delegation for the less than ... And one total IPv4 holdings.

So that is the result of APNIC 55.

HERVE CLEMENT: Thank you, Nicole.

Ozan, you can go to the next slide. And I think it's ARIN, so it was just a part of the ARIN website, I think. So Nick or Kevin?

KEVIN BLUMBERG: Thank you. Thank you for putting up ... because I think there was a miscommunication on getting the information to you. ARIN's meeting is actually in a couple of weeks in Tampa, Florida, in April. There are eight policies currently in total that are being discussed. Three are what we call recommended. And I want to talk about that for one minute because I think this is important. For all of the regions, we have something similar. We go through different processes, different stages of a process, within our communities.

In the ARIN region, we call it Draft, which is the first level when it gets accepted onto the docket. The next level is a Recommended Draft. That

is something that has to go to community meeting before it can move to last call and then Board ratification after that.

So we have three policies that are now under Recommended Draft. The first one is an interesting one because we talk about identifiers, we talked about commonality. Kim, you mentioned WHOIS as a text file. The autonomous system originations field is something that ARIN has used from its early days, where a subscriber could put into their block which autonomous number was using it. But is not an RFC. It is not something that is used universally. And the decision by the community, which still needs to be ratified obviously as a last call, is that this is not good to have something that's different that's not really being used but is there that creates confusion. So that's that policy.

The next one is I think the ARIN community as a whole, speaking from my personal experience, has been fairly careful about how space is used. We're fairly conservative in how space is used, and I this policy is to improve the availability of AS numbers to organizations, especially as things with the Cloud networks change, with Cloud infrastructure changes, and use-cases-for-AS-numbers changes. Our policies hindered that, and this makes it simpler to get an AS number from within the ARIN region.

The last recommended policy is, again, a concern that the community had in regard to transfers. Section 8 is our transfer policies. And this removing officer attestation. I believe ARIN has its own internal processes. It didn't need to be in policy. So that was removed.

Lastly, when did we run out of space with IANA? I believe you said 2011. It was IANA back then but PTI today. The last block of v4, [major] slash-

8, was in 2011. I think all of the regions, as you can see, are still actively working on policy. It's either cleanup or changes that occur. So just because v4 or v6 is slow to come in from PTI, it doesn't mean that those blocks and those AS numbers, etc., don't have active community discussion and evolution as the Internet changes.

So thank you. That's everything with the ARIN policy for now.

HERVE CLEMENT:

Thank you, Kevin.

Ozan, can you go to the next slide.

And [Ricardo Patara for LACNIC?]

RICARDO PATARA:

Thank you, Herve. It's interesting that our mission is only three policy proposals that are implemented in the process for Board ratification. At the moment, we don't have any formal open policy in discussion, but we have some policies that were presented at the previous event in October 2022. Maybe some of the authors might send the policy proposal again for our next public policy forum in May—so in more or less two months from now.

So on those three that I mentioned, just going quickly, the first one is to unify text that we might see in the IPv4 section, text you might see only in the IPv6 session, but they are related to both types of resources, so the authors proposed to unify everything in one session that covered both IPv4 and IPv6.

The following one is a proposal to change the process, to actually try, just a little bit, the process we have now to elect the chair for the PDP (Policy Development Process). That one is very interesting to mention. We had a policy proposal for a couple meetings maybe over two or three years and discussed it with [inaudible]. Then the PDP chair at the moment decided to form a working group with some of the people interested in this subject. And the working group proposed a new text, and it was adopted by the community.

And the third one is also good to mention. LACNIC has a policy to allocate IPv4 to critical infrastructure. And the policy is to indicate how LACNIC would deal in the case of [attorneys]. Some of this organization [had an] IPv4 address that was originally allocated to this specific criteria of critical infrastructure. The idea is to make this IPv4 go back to the same pool to allocate only to critical infrastructure in the future.

And that's it.

HERVE CLEMENT:

Thank you, Ricardo.

And Ozan, you can go to the last slide. Thank you. So it's about the RIPE current policy proposal.

And I give you the floor on that.

[JAMES KENNEDY]:

We currently have three policy proposals ongoing. The first one is about IPv4 allocations or assignments to Internet exchange points. Currently, an Internet exchange point [inaudible] slash-24. But at the last RIPE

meeting, it was presented that this will probably last until 2029. And therefore, the proposal suggests changing the default slash-24 to a default slash-26 because there are many exchange points that could perfectly run on less address space. So we're trying to save the rest of the address space for the larger exchange points.

And the second policy proposal is about temporary assignments. The current one says a temporary assignment—and these are, for example, used for tests or research or events—can only get the space that they can prove the need for. And this policy proposal suggests changing it to a slash-24, if the requester wants even more than a slash-24, if it's for research purposes that will publicly make their research results available.

And then the last one is actually one that I myself am a co-author of. So as you know, we currently in our region have a war in Ukraine going on. And there were some resources holders there afraid that, if Russia could come in, they might force them to hand over their IPv4 addresses, since they're quite valuable these days. There was some discussion on whether this was actually happening or just a fear, but in the end we decided that, if people are worried about this, it is something worth making a policy for. So this policy allows a resource holder to tell the RIPE-NCC, "I will not be transferring these resources to a different organization in the next six (or twelve) months," so that, if suddenly a resource transfer request comes in, the RIPE-NCC knows, "Okay, this is not what they wanted. They're probably under duress or something like that."

So, yes, those are the three proposals currently ongoing in the RIPE meeting.

HERVE CLEMENT:

Thank you very much.

So we're apparently at the end of the slot, but if you have any questions, we would be happy to answer.

UNIDENTIFIED MALE:

[inaudible] from JPNIC for the record. I have a question for the LACNIC one. You had a [budget proposal [for a] PDP chair. And I'm curious about that. That PDP is for a particular proposal? Or policy development process as a whole that you're handling in the LACNIC region? Which one?

RICARDO PATARA:

Maybe the text was not very clear. It's the chair for the group—the group where the policy development process takes place.

UNIDENTIFIED MALE:

Okay. So it's kind of [like] ARIN's advisory council.

RICARDO PATARA:

Yes.

UNIDENTIFIED MALE:

Okay. Thank you very much.

RICARDO PATARA: Thank you.

OZAN SAHIN: Do we have any other questions?

I don't see any hands.

So thank you very much for the presentations today. And thank you for your participation. And we are now adjourned.

[END OF TRANSCRIPTION]