
ICANN81 | AGM – Get to Know ICANN Community: RSSAC and GAC
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SIRANUSH VARDANYAN: Thank you. Hello everyone and welcome to the last session for today. Another Get to Know ICANN Community onboarding session. We have learned a lot today. It was a lot of information but there is one more to go, and during this session we will learn new acronyms RSSAC and GAC. So what is RSSAC? It's the Root Server System Advisory Committee. One of those advisory committees which we call SO/ACs. You know we already learned and went through this. And GAC is the Governmental Advisory Committee. But we will start with RSSAC with Root Server System and learn about DNS Root Server.

I will be participation manager for this session. My name is Siranush Vardanyan. Please note that this session is being recorded and is governed by the ICANN Expected Standards of Behavior and ICANN Community Anti-Harassment Policy. During this session, comments and questions will only be allowed if submitted in a proper form as I have noted in the chat space.

We do have interpretation for this session in six UN languages and Turkish. If you would like to speak during this session, please raise your hand in Zoom. When called upon, virtual participants will be given permission to unmute in Zoom. On-site participants will use a physical microphone to speak. Please state your name for the record and the

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language you will speak if speaking a language other than English. And please speak at a reasonable pace to allow accurate interpretation.

With that, it's my pleasure to introduce Jeff Osborne, who is the Chair for Root Server System Advisory Committee, RSSAC. Jeff, the floor is yours.

JEFF OSBORN:

Thank you very much. I'll repeat. My name is Jeff Osborne. I'm the Chair of the RSSAC, Root Server System Advisory Committee. And in my day job, I'm the President of ISC, a software company that writes and gives away open-source software that operates many of the fundamental parts of the Internet. I gave a similar explanation of how this all works this morning to a different group and realized the time constraints are completely different.

So if you are looking at your stack of cards in this deck, you'll say, hey, you're starting on page 11. That's true, because the first 10 pages were a description that that group asked for about how we worked with them inside of ICANN. And so it's not necessarily as interesting as the root server system itself and DNS itself. So my apologies. If you want to know more about the political interactions between the GAC and the RSSAC, come see me later.

So what we're doing here is introducing the root server system. The goal is to understand the root server system, root server operators. And to do that, we're going to have to understand the role and purpose of DNS, the roles of an address resolver, and an authoritative server, how

and when and why a resolver consults a root server system, and some common misunderstandings. So you're lucky because you're getting the same presentation that leaders of governments around the world got this morning. And so this is focusing on what leadership officials need to know. If you're not leaders yet, I'm sure you all will be. So pay attention. This is how that works.

First, DNS. DNS is the Domain Name System. It's basically the way that human names become computer addresses. Computers don't understand words, they understand addresses. And you've seen addresses like this. Humans know domain names. I picked www.amazon.com, although it could have been www.icann.org or anything else. That's how humans remember names. Computers need addresses. And the addresses look like this. You've seen these before, 18.239.62.181. DNS is literally the way that you translate from the words to the numbers. It's how you get from Amazon to a string of numbers.

What's interesting is the numbers can change, but the names remain the same. And this turns out to be very important in organizing large computer networks. Connected devices need DNS to find other connected things. When I was a kid, we thought about connected devices like computers and servers, but today it turns out most of the devices on the internet look a lot more like this, or your smart refrigerator, or your smart car, or your smart anything else. And there are more of those devices out there on earth connected than there are people on earth.

The benefits of using DNS, the easiest one, the most obvious one, and the original one is it's a human identifiable number. I bet you all can remember your father's name before you can remember his phone number. I don't even know my wife's phone number. I know my wife's name. So we all find names are easier to use than numbers. Very simple. It turns out in networks, though, something called service portability is really easy.

If you've ever gotten a new cell phone and they wouldn't let you keep your old number, that probably made you very unhappy and you had a bad couple of days. So similarly, when jeffsbigbusiness.com decides to get a new server, I very much want to be able to use a different device and still be able to call it what I want to call it. This is called service portability, and it's a very important part of DNS that isn't necessarily obvious, but if you run a large network, it becomes obvious.

The other thing about the DNS is you've used it all so many times and so automatically, it's probably not obvious to you. It's the largest distributed database in the world. It's the largest distributed database in history. And it's basically a flexible management system made up of hundreds and millions of directories of names and numbers.

So how do you get those addresses? The devices get addresses from a thing called a resolver. There are millions of resolvers around the world, and what resolvers do is look for and find and read what you could think of as the phone books. The internet phone books are basically the authoritative servers. There's a device out there that knows every single thing that is in .UK. That's the authoritative server. There's a

thing that knows every single thing that's in icann.org. That's an authoritative server.

So when you ask a question like, what's the number for a string of words, the number comes back, and it happens to be for Amazon that number right there. This happens in milliseconds, and it happens in estimated, here's a huge number, 500 trillion times a day. That's such a big number, when I put it down there in numbers, it's hard to read, but it's literally 500 trillion times a day that there is a request that says, I have some words, can you tell me the number? And an answer comes back.

Resolvers get those addresses from a thing called an authoritative server. And like I said, the authoritative server is the thing that knows everything about its little part. So a TLD, top level domain server, knows about the thing to the right of the dot. The next level authoritative server knows to the left of the dot. The next one to the left. These are all the way you build domain names. So it turns out that computers have memory, which is really convenient. So if anybody has ever looked for the name you're looking up before, they don't have to go look it up again. It's simply in memory. This is called caching.

So usually when you go out and say, hey, resolver, do you have any idea where icann.org is? They go, sure. Somebody asked me five minutes ago, here's an address. It's only in a rare instance that they've either forgotten or never been asked, or the machine has been shut down, or the memory has been flushed, that you have to go much further. Those further steps would be, here I list them as cases one through four. In

case one, I need an address. Who do I ask? Nobody. I've got it in memory. In case two, I would have to go to the domain names authoritative server. I can ask icann.org, hey, where is mail.icann.org, or www.icann.org. It's just a step away.

In the third case, we've forgotten an awful lot, and we just go to the TLDs authoritative server. In this case, I just know, I know how to ask about .org. I don't know anything else. That's called the TLDs authoritative server. Once you get that information, then you can ask the domain name, and then you've got the whole string together. If this machine has forgotten absolutely everything it knew about Earth, it has to ask a root server, which will tell it, here is a list of all of the TLDs and their addresses. Go find out what you need to know.

This is the part where if we hadn't had the animation, this is really hard because it all shows up on one screen. Work with me here, and we are going to imagine that we are that gray box on the left, a resolver. This is where all of the DNS stuff works. If you get this, you can show up at dinner and say, I am now a DNS expert, and somebody will offer you a fabulous job with good benefits and a car. I'm not guaranteeing that, but it's happened. Potentially, it could happen.

The resolver is asked by the user, hey, do you have the IP address for www.example.com? The resolver says, do I know the answer to that? Yes, I do. It's in my memory. Terrific. Here's the answer. All the resolver is trying to do is it gets a question, where is this thing in words, and it tries to provide an answer. Here's where this thing is in numbers. Everybody's a DNS expert, right? Well done. Congratulations. The

problem is if it's not immediately in memory, we need to go looking a little further. Remember, we said this is the world's largest distributed database. We may have to look all over the world to find these addresses.

Let's take the second case, where we start and say, what is the IP address for `www.example.com`? Do I know the answer? Well, it turns out we've forgotten that since the last time we saw this slide. So, the answer is no, I don't. Uh-oh. Do I know the IP address not for `www.example.com`, but for `example.com`? And in this case, we do. We know where that is because we remembered that from before. So we go in and ask the authoritative server who knows everything, hey, where's `example.com`? And the answer is reported as an address. We put it in memory.

Now, do we know the answer? Yes, we do. So if we knew everything, this is a one-step process, we didn't know much. It became a two-step process. And guess what? It can get harder the less and less you've remembered. So in our third go around, we've forgotten everything except for, it's somewhere in `.com`. That's all I know. So we ask the question, do I know how to find `www.example.com`? Nope. Do I know the IP address of `example.com`? Nope. Do I know how to find `.com`? Yes, it turns out we do. So I'm going to ask `.com`, what's the address of `example.com`? And it's going to tell me because it knows, and it's going to send me the address. I'm going to put it back in the memory.

And now I'm going to say, do I know the answer to `www.example.com`? I'll give you a hint. I went down and found `.com`. I found `example.com`.

I don't know about the www yet. So the answer is still no. But I have to go back down and go, oh, I remember this cycle. Now I'm going to ask if example.com knows where the www is. And I ask, do you know where www.example.com is? And example.com's authoritative server says, I know that. Here's the address. I put it back in memory. Do I know the answer yet? Yes, I do. I strung it all together. It took three tries.

Now what's interesting is over on the right, here's how often this happens this way. The red letters tell you that first way where I say, do I know what this is? And I tell myself, yeah, I remember this. Somebody asked for it 20 minutes ago. That's well over 90% of the time. I'd argue it's 98 or 99% of the time, but we argue with our colleagues, so they made me put 90% or more of the time. It's just right there in memory. It's a simple process. Probably less than 5% of the time, you've got to go in and say, somebody's got to help me out with that third letter to the left. About 2% of the time, all you know is, I'm sure it's a .com. I don't know anything else, but I know I need the .com part.

So in the event that you absolutely have nothing going on, or you just got this machine out of the box, we're going to introduce the root server. So this is the case where I want to know the IP address for www.example.com. Do I know it? Heck no, I don't know it. Do I know example.com? I don't know anything. Do you know where .com is? Nope. Well, every device out there, every resolver ever shipped has a list of the root servers. So when they don't know anything else, they can say, jeez, where do I find .com? And they ask the root server system. And the root server system goes, I know where all of the things to the

right of the dot are. And you want to know where .com is? Here's the address for it. There's .com.

Now you can go up and put that in memory and say, do I know everything? No, I know .com. And then I'll go back and say, do I know example.com? Here's the number for example.com. And you get the idea. And around we go. And now I need the www.example.com. And now I get the answer. And I store it all in memory so I don't have to go through this whole process again. And this time I say, do I know the answer to www.example.com? And yes, I do. Just think, what kind of car are you going to get? Where are you going to live in the suburbs with your new great job because you're a DNS expert? You need to start planning now.

Anyway, that is literally the algorithm that shows you the way DNS works. And if you spend a lot of time at ICANN, you're going to hear DNS a lot. And how that works is actually something that an awful lot of people talk about DNS and don't completely grasp. So if you couldn't teach that yourself, don't worry about it. But having an idea that this is a system where you keep looking for something. And the more you know, the narrower your search is. And you continue to look until you find it. And it's always available. That's a really helpful thing to know.

So here we're going to move on to some staggering numbers. Because the most interesting thing about the internet is that the numbers are so huge. There are about 350 million domain names out there. And they're maintained by whoever owns them, operates them. It's called a registrant. The TLD zones, the things to the right of the dot, there are

only about 1400 of those. And those are operated and maintained by the people who maintain the dot. Your nation probably maintains your two-letter country code. Org, .org is operated by a group called PTI. And then you get down to the root zone. The root zone is just one file, one list with 1400 names on it, and the addresses for them.

And all we do, the root server system, is hand them out, make them available to everybody. The file itself is put together by a group called IANA. You've met IANA people here, if you haven't, you will. And then they take it and make it cryptographically safe in a key, so that it absolutely can't be manipulated. And that group is called the RZM, which stands for the root zone maintainer. So now you know everything.

In review, the root server holds a copy of the root zone. That's it. The root zone basically is just a list of all the top level domains, like .uk, .gr, .all of those things. Those point you to the next step up, the TLD's authoritative server. The authoritative server for each of those addresses knows everybody in their group. So if you think about it, this is one place to find them all, and then another place to find the 400 million of them, and then another place to find however many each of those 400 million have. This thing gets bigger and bigger, but just by walking through it one at a time, in milliseconds, we were able to find the address for exactly what we're looking for. It's kind of a miracle how complicated it is, how quick it is, and how easily everybody in this room uses it probably every single day.

So those are all the servers in order, and at the end of the day, the resolver finds and returns the answer, which is the whole point of the system. In the millisecond world of resolvers, the queries to the root server system, it turns out, are really rare. You get that bottom thing where nobody knows nothing about one out of five or ten thousand times. So it's just not very frequent. Mostly this all works out of memory. The root server system provides address information only. It's not content.

There's nothing in here about your email, your personal information, or your credit card. All this thing is doing is saying, I know how you can get the information to go check on .com, .nl, all of those things. All we're giving you is the information to go look them up. We don't have content. We don't have web content. There's no email content, and nothing is transmitted or delivered that constitutes your personal information. This is not a gatekeeper to the internet. If you got paused briefly every 10,000 times you looked something up, you wouldn't even notice it. We would argue you don't even notice it that one out of 10,000 times. The root server is not a gatekeeper to the internet.

This whole system is so massively secure and stable, it's kind of crazy. Each one of the 1,800 servers around the world is capable. It holds the entire list of information anybody needs. It's easily imaginable that five or ten of these things could operate the whole earth, but computer people like redundancy, and we really like redundancy. There are 1,800 of these. If one of them blew up, you'd fall over to the next one and never notice it, and the next, and the next, and the next. People in

banks and things talk about redundancy having one computer and one to back it up. We have 1,800 backups.

Each of them are operates on a different hardware platform, some are Dell, some are Compaq, some are HP. Different operating systems, a lot of flavors of Unix, but lots of different operating systems, different DNS applications, and different routing methods. There is no single point of technological failure anywhere in this system. They're operated by 12 companies or 12 organizations that are all very different as well. And each root server operator operates independently. We collaborate with each other, we talk to each other all the time, we get together at ICANN meetings, but there's no incident that like a court action or any other single disaster could happen such that any of us would be affected more than one, possibly two, because we're all so separate. So there's no single instance or point of institutional failure.

The system has worked remarkably since the 1980s without a single service blackout. It's kind of incredible. The system has literally never failed in, the number I use is 37 years. It's over 30, pick your actual number. DDoS attempts on this thing are pointless. We don't like to advertise that because people love making DDoS attacks, but there are some clever reasons why this is almost impervious to them.

So root server operators don't decide what appears in the root zone. We tell everybody where everything is because we got told that. The registrant with its domain name tells the TLD registry what to do. The TLD registry tells IANA what to do. IANA tells the root zone maintainer what to do. It encrypts the whole thing and we get it, and anybody on

earth could tell if we messed with it because it's encrypted. It's publicly available and it's encrypted. It's an utterly safe system. We have no effect on who gets to see what because we can't change a thing.

In summary, the root server system provides TLD address information, not content. We don't decide what those addresses are. Very trusted people inside ICANN and outside ICANN and encryption does. We aren't a gatekeeper. We don't hold you up from doing anything. And the system works really, really, really well. And that was me trying to get through a 45-minute presentation in 16 minutes, and I think I did it, so I appreciate your patience and your listening.

SIRANUSH VARDANYAN:

This is impressive, Jeff. Thank you very much. Indeed. And I would like to invite from a couple of dozen newly born root server experts to come up with some questions to you. Yes, please, ladies. Ida, go.

IDA PADIKUOR NA-TEI:

Hello. All right. Thank you, Jeff, for the presentation. I think I now understand DNS better. However, I have three questions. So the first question is on the backups for the root server. Are they like physical systems or there's like a cloud server storage somewhere? I don't know if this is like a novice question.

Sorry, I didn't introduce myself. So my name is Ida Padikuor Na-Tei. I'm an ICANN fellow. This is my first ICANN meeting. And thank you for the presentation. It's not my first question. Is there like a cloud server? The second question is okay, let me ask the third question first. So when we

are browsing and we have like feedback, website not found, is it from the internet service provider or is connected to how resolvers get the addresses? I don't really know if that is connected. And then my third question is on the cache system. How is the cache system for DNS connected to the cache on our phones? So like when we browse and there's cache on our phones, what's the difference? And does it improve the outcome of internet searches? Thank you.

JEFF OSBORN: Thank you. Is it Ida?

IDA PADIKUOR NA-TEI: Yes.

JEFF OSBORN: Okay, Ida, welcome to your first ICANN. I'm glad you could make it. And if I got the questions correctly, the first one is a really good question that I get an awful lot of time from people. Is this part of a cloud network? Okay, if you talk to a professional in the computer business who works with a lot of computers, one of their favorite things to say, and they probably have it on a t-shirt is a cloud is just somebody else's computer. Okay, so yes, it's a cloud system because it's somebody else's computers. But there is no cloud, it's other people's computers. So if you want to think about it as a cloud because that helps you, it's a cloud. But one of the things you'll learn when you hang out with computer people is there are no clouds, it's just other people's computers. But

it's a really good question because if there were clouds, this would be one. So it's a network out there of clouds.

Now, the second question if I understood was if there is trouble in your local network in terms of delays or things like that, does this have to do with this part of the network? It really doesn't because if you saw most of the time when you're reaching a site, your local resolver knows the name of the site and tells you, we're really only out there in the cases where everything is shut down and is coming back up, for instance. Everything's going to be slow when that happens. Or if you're trying to reach a site that nobody in your area or on that resolver has used, that might be a little slow. But this is literally one out of five or 10,000 times.

So if you think about every time you've clicked and looked something up, count doing that 5,000 times and that one time is a tenth of a second slower. Would you notice? Yeah. So it turns out almost all of the speed issues on the internet as it is today are local. They really tend to be very, very local. I'm old enough to remember, I was involved in the 90s with putting some of the first internet connections into Europe and Africa and it was a lot of fun. It was all done by satellite though. And oh my God, the satellite trip, when you start doing the math of how far a satellite trip is, you'd have these really big delays just because. And it didn't matter how fast it came to the satellite station, the satellite station was the problem.

So we could take a look at it and we are all very proud as the root server systems, if your area needs a root server, we pay for it ourselves, we find a place to put it. We need a little bit of help, like somebody who has an

area where these things go and are connected. But almost every single time I've looked at a case, it's a problem of local connectivity.

The third question, if I got it right, was, is this similar to the caches on our own computers? It's identical to the caches on your own computer. If you're working in a university, for instance, the resolver is probably right in your school or right in your classroom even. And that's exactly where those answers are stored, it's right in the cache. So yes, exact same thing.

SIRANUSH VARDANYAN: Thank you. And we'll get Lily. If we have time, we'll go for more questions, but I don't think so.

LILY EDINAM BOTSYOE: Thank you, Jeff. My name is Lily Edinam Botsyoe and I'm an ICANN81 fellow. So one of the things you mentioned was that usually what you do doesn't have a lot to do with content. In the sense of, if something were cached, I mean, you are not looking at the contents, you're really looking at the domain names. Now, elsewhere, people have advocated for things around right to be forgotten, right to evasion, all of that. So I'm trying to fuse this and see, has there been a case where maybe there was a domain name and a certain website on a certain issue where you have legally had to clear it from anywhere existing, like anywhere that is said on the internet, you had to clear it, number one.

Now, number two, is there any heddle that legalities or maybe governments would probably pose to you in your work? Because

sometimes they can demand that you do something outrageous. Has there been any of that happening? So it's what I'm trying to understand. Thank you.

JEFF OSBORN:

Those are both very good questions. And those both represent problems for people in other parts of the internet. The thing that's great about the root server system is we literally, all we tell you is how to find the directory for the thing at the right of the dot. It isn't even a domain name. It's literally just the thing called a top-level domain. And so there's nothing in dot UK. There's nothing in dot anything. You literally have to go another step before it's even a domain, before you could start having something in it. Which is what answers your second question. Do governments demand that we shut down domain names? The short answer is not effectively. It has been the case where when two countries go to the war, I bet ICANN gets letters, I sometimes do, where one side says, hey, shut them off. And the other side says, hey, shut them off.

And I don't know about you, but I'm of the belief that more communication is better. So I have literally never answered any of those letters. And I've never asked at ICANN who gets those letters and what they do with them. Because it's literally a matter of would you shut off everything in the entire country? But very good questions. Thank you, Lily.

SIRANUSH VARDANYAN: I could listen to Jeff's speech like for days. But unfortunately, we don't have time for now to accept more questions. Jeff, thank you very much. But one thing, RSSAC will have the information session during the week. Please, if you need more and you want to learn more, this is the opportunity. You know Jeff now. You are root server experts now. So please feel free to go. Show your badge that you are newcomer, NextGen, fellow. Be there. Ask questions and engage. Thank you. Yes, our applause this to Jeff.

I would like to introduce our last speaker. I know you are all tired, but this is a very interesting topic. We are talking about governments. And the GAC representative here to tell us about the governmental advisory committee, which is GAC. Tracy Hackshaw is one of ICANN fellowship mentors, nominated, assigned by GAC. And he's an ICANN fellow. So it's my immense proud to introduce this guy to all of you. And without further ado, the floor is yours, Tracy.

TRACY HACKSHAW: Thank you very much, Siranush. Excellent.

SIRANUSH VARDANYAN: Can we have the last slides up?

TRACY HACKSHAW: While that's happening, how many people here have worked in government or are working in government right now? One person, two, three, four, five. Right. So the first thing I'm going to say, obviously a

government person talking. These are the views, the views I express here are not my personal views, but the views of, not necessarily the organization I represent either.

When you are in government and you come to meetings like ICANN meetings or you go to other meetings in the UN and so on, it is very difficult to represent yourself or your personal views. And I think people should understand that when they look at the GAC in their meetings or they look at the UN meetings on internet governance and etc., the people you are seeing talking on the floor, representing positions and seeing certain things, it's not their personal views on matters. It's the views of the country that they represent or the organization in case of a UN organization.

And therefore, when you are asking them to make a decision or change something and you want to know why they can't do that or they can't immediately go and comment on something, it's because they normally have to go back to what we call capital or their head office or wherever they call it in their country and get clearance from their government their political directorate as to how to proceed. And this makes things longer, work longer. But on the other hand, it also can make things very democratic in a way.

So the reason I'm saying all of this is that it should be very important for you to get to know your GAC rep in your country because if it is you'd like to see things change based on all the internet works, speaking to the GAC rep and letting him or her know what your thoughts are and how you feel about certain things, first you may be surprised to hear

that people have a view, which is important. They'll listen to you and most people will actually be surprised, so surprised they'll actually say, oh sure, I'd love to talk to you. And you may be surprised that they may actually be formulating the opinion of the government in their country. They may be the ones actually writing how things work.

So if you are able to get back to your home countries and speak to your GAC rep, know who your GAC reps are, find who they are, speak to them, you may be able to make a world of difference in your own country. So having said that, let me begin by speaking about the GAC. So the GAC, as Siranush mentioned, stands for the Governmental Advisory Committee. And yeah, we use the word GAC and we say GAC as a verb, so we GAC. The GAC is Gacking and people when they go to meetings, they're going to the GAC. It sounds like a bad word. I'm going to the GAC meeting to talk about the GAC, and what the GAC is doing to gTLDs, and the GAC, and the GAC, and the GAC. So we have a reputation of being GAC and it's unfortunate, but that's how it is.

I've been around in the GAC since 2010. I left a few times to go to the private sector, but I'm back in the GAC. And now it's 183 members, as you can see from this slide here, 183 members as governments and there are 39 intergovernmental organizations and observers. So I'm in the intergovernmental organization camp. I'm with the Universal Postal Union, which is a UN organization. And we are listed there as an observer. So we are not able to vote, but we can do everything else in the GAC except vote for positions. The GAC doesn't really vote on things besides leadership. It tends to work on consensus and I've never seen a position where the GAC votes on anything beyond its leadership.

I'll go back one, just to let you know, the GAC is pretty old. It's one of the older organizations in the ICANN community, established over 25 years ago. Actually, last year we celebrated our 25th anniversary. Was it this year? This year, I think. So happy birthday to the GAC. And we are seen as a voice of governments and intergovernmental organizations in the ICANN space. So the views of the GAC as a whole, as a committee of the whole, are often seen as important because in the ICANN space, when the Board and the community is looking for what are the position of governments on issue X, issue Y, they have to come to the GAC for that position.

They can't go to the individual entity because that would be a country's position. So they can't go to the US or Switzerland or Kenya and say, what's your position? And that becomes the position of the governments in ICANN. That's that country's position. So the GAC provides a consensus position that generally speaks to the majority, if not all of the GAC members' views on a particular topic, which is called consensus.

This is just information about how the meetings work, etc. So I won't bore you with that. The GAC essentially has two types of leadership positions. Very simple. A chair and vice chair. The chair essentially is a position that holds the ship together. And the chair also has a seat as a liaison on the ICANN Board. They don't vote on the Board. They're not a Board member in the usual way. But they pass in discussions and they bring the GAC views to the Board and vice versa. The Board's views to the GAC as a liaison. And that chair is currently Nico Caballero from

Paraguay, also an ex-ICANN fellow. So the fellows are infiltrating the system. So soon you'll be there as well.

He was elected by the membership and actually was reelected this year for another two-year term. So he'll be here for another two years at least. Vice chairs are one-year terms. I was a vice chair once upon a time. And there are up to five vice chairs elected by membership. One-year terms, maximum two consecutive terms. And to a large extent it's done by region. Not necessarily. It's not codified in the bylaws or anything like that. But they generally try to map it by regions. So the five vice chairs roughly equivalent to the regions of the ICANN world. So you'll have five vice chairs along that. And they call themselves CVC. That's chair, vice chair, or GAC leadership.

We have support staff, as all SOs and ACs have. But the support staff and the GAC, I think, are very interesting because they provide a lot of information about not just what the GAC is doing and what ICANN, what the world is doing. So they're actually coping information on the internet, about internet governance, bringing that to us for review. And then the support staff tries to assimilate everything. So when we are speaking on a topic such as, let's say, cybercrime or DNS abuse, we can speak more effectively to it because they're looking at other issues or other research areas.

I mentioned the issue of consensus. And this is probably the most important part of our presentation in that we operate as a GAC on consensus. And what does that mean? Long story short, you can read this slide and get the sense of what it is. But one member of the GAC

cannot allow you to achieve consensus. So if there's a position being taken and one member objects to that position, you do not achieve consensus, right? We don't operate on a rough consensus, which means that it's like a majority and you have minority views. The GAC works on consensus and tries very, very hard as far as humanly possible, including spending a long time with communicate drafting to ensure every single member agrees with the text that's being written or the petition is being adopted but, no voting takes place and only on very few occasions have you seen text come out.

If you look at the history of the GAC communicate where you see they use the UN system of some and others. Some members agreed and others did not. They never named the members but that's been very, very infrequent. Normally it's just written and the consensus is achieved. That's very important because for the Board to accept GAC advice it must be consensus advice, and when the GAC gives advice it is seen as the advice of 183 countries. So that's powerful in itself.

This comes to the role of the GAC. So the role of the GAC provides advice to the ICANN Board on issues of public policy especially where there may be interaction between ICANN's activities and very important policies, national policies, international policies, national law, international law or international agreements and treaties. So the GAC is providing advice to the Board based on these areas on a country's position or global position on topics. And based upon our operating principles we provide advice sometimes on the Board request, most times on our own initiative. So we would provide advice on topics that

we as a GAC see as important and we provide advice either in communiques at the end of a meeting.

For those who are new, you tend to hear that people are waiting for the communique, the GAC communique. It used to come out on the last day of a meeting and we stopped that eventually. Now it's coming out on a Monday after the meeting. So you don't wait around for the communique at the end of a meeting anymore but it comes on the Monday of a meeting and following the meeting and that communique is taken very seriously by the Board. And what they do they tend to report on the communique by providing a scorecard that's publicly available for the community to see, and how they respond to GAC advice. And I explained a bit about that shortly because we just recently had a case of the Board getting into a rejection of GAC advice on a particular program.

So this is a long section that talks about what the Board does and I'm trying to find the point about right there it is. So the Board can only reject GAC advice by a vote of no less than 60% of the Board, so a super majority. So consensus advice from the GAC must be accepted by the Board unless 60% of the Board chooses to reject the advice. So the Board takes a vote on this and that's how you get GAC advice rejected. It's been very infrequent.

The last time before, I'm going to mention now, GAC advice was rejected officially and it was rejected completely, no compromise, nothing. It was .xxx, look up your history, go and look online for .xxx. So .xxx and the Board rejected GAC advice on delegating .xxx into the

route. GAC provided advice saying do not delegate, the Board said we will delegate, we reject your advice, we will delegate that into the route. Since then we've had cases of the GAC and the Board not agreeing on certain things, .amazon being one, and very recently on applicant support.

Very busy slide shows you the process of GAC advice. Sharon is going to share this with you so you can go through it step by step, but it shows you there's a formal process of working through GAC advice and how a consensus is built and how the process works with the Board, which we actually triggered very recently, actually two months ago in a consensus call rejection.

Our working methods. Essentially by talking about the leadership capacity, electronic voting is now in place so we don't have to use the line up and vote and literally put it in a ballot box. Now you can do electronic voting and it's constantly under review by a working group of the GAC.

The GAC meets primarily at ICANN meetings three times a year, but they also meet inter-sessionally as a whole and they meet to either prepare for the ICANN meeting or on topics of interest between meetings. And there are a lot of agendas and briefs. If you go and watch the GAC website, you'd be surprised to see a lot of content on topics that are of extreme interest in the internet governance space, but you might be shocked to see that this is being generated right here in the ICANN world. And some of these issues end up being discussed at the UN because many of the GAC reps are also UN representatives and they

take positions. They're almost test positions out here, and they go to the UN bodies and discuss certain particular topics such as the internet governance coordination issues, whether ICANN should still remain as the body to coordinate names and numbers and so on, very interesting topics.

We have real-time interpretation just like you in all UN languages and Portuguese because we have a quite large Portuguese GAC membership. And all GAC meetings are open. I remember that because when I first started in the GAC meetings were closed. I had to beg to get into a meeting even though I was in government. The doors were locked and I had to ask permission and so on. But when I was vice chair we actually sat together and decided to open all GAC meetings to the public, so there are no closed GAC meetings anymore, none. There are still community meetings that are closed, surprisingly the GAC meetings are all open, it's going the other direction.

So communicate drafting, you can sit in communicate drafting and watch us draft communicate live, right in front. You can go and sit in the room and watch that happen, that used to be closed a long time ago, that's also open now, and watch the sausage being made as they say, so you can see how the communicate is drafted. As I mentioned, they produce communicating end of each meeting, it comes out on the Monday after a meeting.

Just information on how we meet virtually, hybrid, etc. This slide needs to be updated slightly, because we had a high-level meeting in Kigali this year. But every two years or thereabouts, except during the

pandemic, which caused a delay, the GAC calls together meetings of its representatives as well as its high-level officials, meaning ministers or permanent secretaries or CEUs or whatever the country has, and they meet as a committee of the whole to discuss high-level issues, high-level governmental meeting. One was just held in Kigali this year, and so on. You can read all of this, I won't bore you with that.

A lot of working groups in the GAC, and they follow a series of topics. I'm the co-chair of the underserved regions working group in the GAC. We have the public safety working group, these are things like DNS abuse, cybersecurity issues, etc. The working group on human rights, international law, surprisingly, those things governments don't think about human rights. We have a working group on human rights, international law. We have a focal group on the next round of gTLDs. I'm part of that. Working group on UA, on operating principles.

And we also do, especially like in this meeting, a lot of bilateral meetings with the community. So we met with RSAC today after a long time of trying to get that together. Meeting with SSAC right now, as we speak, we're meeting with SSAC right now. We meet with the Board every meeting. GNSO, we just met with GNSO, and so on. So we meet with all of these SOs and ACs, normally on request of the SO and AC. They request a meeting with the GAC, and we create an agenda and discuss working together, preparing joint papers. The GAC has done joint working papers, joint positions with the At-Large advisory committee on many occasions, including recently on applicant support.

We participate. Right now, the GAC has widened its participation in PDPs. You've heard of that concept now, PDPs, and other working groups. So the GAC used to be very small, talked itself a lot, now it's gone into all the working groups, except for the NomCom. and it's participating in all of the working groups and so on. For example, I'm a member of the customer standing committee, which is meeting right now at the same time as this, and there are members of the GAC who represent the empowered community and so on.

How do you participate in the GAC? If you are a governmental entity, you already work for that entity, and you don't have an existing GAC rep, there are about maybe 10, 20 countries left, go home and ask what's going on, why are you not represented on the GAC? And you yourself, if you work in government, may be able to qualify to represent your government in the GAC. And to do that, these are the key issues you have to deal with, and how you operate within the GAC.

I'm not going to go through all of this now, because this is information I think you should have already, and I'll stop here just to show you the hot topics that we have. The priorities for the GAC right now are the new gTLD program, a broad category of data protection discussions. So WHOIS and RDRS, that whole review of that system, which you may have heard of by now, DNS abuse mitigation, the whole issue of cybersecurity, and trying to understand and help ICANN solve that problem at the root level, so to speak. Sorry for using roots in this way. IGO rights protections mechanisms. I'm an IGO. The GAC looks after the rights of IGOs within the system, and the GAC is also very active in the

IDN space, internationalized domain names. So with that I'll stop to take any questions, and feel free to open up.

SIRANUSH VARDANYAN: Thank you very much Tracy. It's important to know that GAC sessions are open. So if you want to go and listen how they work, and how they come to consensus, it's important to be there and see their work in action. Abdulrahman, we'll start with you, and then we'll go to Oyinkan, and the next channel behind you.

ABDULRAHMAN ABOTALEB: Thank you, my name is Abdulrahman Abotaleb from Yemen, and I am ICANN81 fellow. Thank you for your informative presentation. I'm just wondering how does ICANN handle cases where ICANN policy-- how does GAC handle cases where ICANN policy conflict with national laws? I mean, do you have like an effective mechanism to be conducted with other stakeholders within ICANN to manage this issue? Thank you so much.

SIRANUSH VARDANYAN: Can you repeat the first part of your question?

ABDULRAHMAN ABOTALEB: I mean, how does GAC handle cases where ICANN policy conflict with some national laws or international law? Do you have an effective mechanism or strategy to manage this issue with other stakeholders inside ICANN community?

TRACY HACKSHAW: Let me see if I can rephrase the question, because I'm a little confused about the question. So you said when the GAC doesn't have international law, right? So the GAC is a body of governments, right? So I want to make sure you understand that. So individual governments and IGOs. So when you said ICANN policy, what, conflicts with international law?

ABDULRAHMAN ABOTALEB: Conflict with national laws for some countries or some governments. And do you have like a strategy to collaborate with other stakeholders?

TRACY HACKSHAW: The GAC doesn't advocate for individual countries per se. So let's talk about this as an example. So there's a lot of cases of ccTLDs which would like to re-delegate their ccTLD to the government, right? So that's been a case many times in the GAC. And it's been brought up in the GAC many times. And the GAC generally doesn't take a position on a country's ccTLD as an issue. They would direct the country to work with ICANN to resolve it and support them as necessary. But the GAC doesn't generally take country positions up to the level of the GAC, unless it's a major issue, probably.

I would actually have to give an example because that'll get me in trouble. But if it's a major issue, geopolitical issue, you may find that happening. But if it's a particular issue affecting your national law, even if the country brings it into the GAC for discussion, it'll be discussed. But

it's very unlikely you'll see a communique case saying the GAC recognizes the position of country X who wants X to happen and the GAC supports that position. It doesn't work that way. Yeah.

SIRANUSH VARDANYAN: Thank you. Oyinkan, please.

OYINKAN REBECCA ADEBIMPE: Hi, Tracy. I'm Oyinkan from Ireland, ICANN81 fellow. I have two questions. The first one is around the high-level government meeting. I wanted to know how that differs from the other face-to-face meetings in terms of the participants, the agenda, the consensus at the end. And the second one is around the bilateral meeting with the ICANN Board. I wanted to know if there's any in the coming week. Like you mentioned, all the meetings are open by default. If that one is open and if it's something we can attend in the coming week.

TRACY HACKSHAW: Absolutely. So the last one first. So all GAC meetings are open by default. And the GAC Board meeting normally is outside of this whole meeting that is filled. That's probably the most filled room. And you'll find the whole community tends to try and come to that meeting to listen to the GAC and the Board talk. At one time, the GAC and the Board used to talk and argue. It's now a little more friendly. But at one time, it used to be a hot ticket to get people sat on the floor and peeped in the doors, what's going on in there. But it is open.

The first question about the high-level governmental meeting. So besides the fact that it is high level, so you will see not the GAC rep sitting at the table. You will see a minister or permanent secretary, the GAC rep support the high-level official. The topics tend to be abstracted a little higher. So in the GAC, while there's a mix of people there, technical people, foreign affairs people, policy people, the discussions could get technical. Whereas the high-level meeting, it very often does not go that direction. I won't say political, it gets high level.

So if you're talking about DNS abuse, as an example, they will be talking about the technical aspects of it. They're talking about the implications of DNS abuse on the wider system and how governments can help mitigate against that, but not the actual technical aspects of it and so on. So that's the difference between the two. And those are also open when they happen. So there was in Kigali, it was open to the public who could have attended if they wished.

SIRANUSH VARDANYAN: And we'll take the last question for today. Please go ahead.

IQRA EJAZ: Hello. Thank you for the presentation. My name is Iqra Ejaz. I'm the NextGen of ICANN81, and I'm from Pakistan. So my question is, if the government can shut down the internet in any country, why should GAC not work and make some policy for no blackout? As my understanding, GAC is working with the government, right?

SIRANUSH VARDANYAN: Can you spell a bit slower and clearer for the presenter to understand?

IQRA EJAZ: So if the government can shut down the internet in any country, right?

TRACY HACKSHAW: I'm still hearing what you're saying.

IQRA EJAZ: The government is shutting down the internet in developing countries. So as per my understanding, GAC is working with the government, right? GAC is working with the government.

TRACY HACKSHAW: GAC is made up of government members.

IQRA EJAZ: So why should not GAC make some policy for no blackout internet in developing countries? Like, are there any policies?

TRACY HACKSHAW: So again, let's get back to the principle of the GAC as a committee of the whole. I know it sounds bad to say this, but if a country in its sovereign way chooses to do something related to whatever it does related to the internet that is not violating international law, then that is the country's position. The GAC doesn't tell the country. The GAC is a committee.

The chairman can't go and tell the country you should not do X, Y, and Z.

However, you can have situations where someone complains about something, but again, that's a country position. And there's no, for example, if you look at the ICANN position that was taken on Ukraine recently, you'll get a sense of how these things work, that it's not something that you can just deal with. ICANN is not a UN body. It's the committees and they talk about policy, yes, but they don't make laws and they don't make international law. So if there's international law being violated, then you need to go to another, I would say, entity to have that aid, such as the UN, as an example.

IQRA EJAZ: Like, oh, you're saying if GAC is not doing that for any country, then who else?

TRACY HACKSHAW: Who's not doing what?

IQRA EJAZ: GAC. GAC is not making any effort towards that, right?

TRACY HACKSHAW: The GAC is not making any effort towards?

IQRA EJAZ: Towards the blackout of internet.

TRACY HACKSHAW: Towards? Just say the last part again.

IQRA EJAZ: Blackout of internet. The GAC is not making any effort to not blackout the internet.

IQRA EJAZ: Yeah. Then who is doing that?

TRACY HACKSHAW: How will we do that?

IQRA EJAZ: No, like, I'm just asking the question.

TRACY HACKSHAW: But I'm asking you, how would-- you're asking me-- well, the answer is no, because how would the GAC not blackout the internet in a country?

IQRA EJAZ: No, I'm just saying that if GAC is not doing, as you're saying, you GACs cannot make policies, right? Against any national or international laws of the country.

SIRANUSH VARDANYAN: I think we will take this off the topic and you can discuss this during the break now. But I think that we are coming to the end for today's really long day with a lot of information. But I would like to thank Jeff and Tracy, being our presenters here and introducing their activities here. I would like to thank our technical team for making this so smooth and our amazing interpreters to deal with us for the entire day. And with that, we are closing our session today. And we are looking forward to seeing you tomorrow for the welcome ceremony. The meeting is adjourned. Please stop the recording. Thank you.

[END OF TRANSCRIPTION]