
ABU DHABI – RSSAC and RSSAC Caucus Information Session
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BRAD VERD:

Community interaction. So, what is RSSAC? This is a very narrow scope. Our mandate is, very quickly, the role of the Root Server Advisory Committee is to advise ICANN community and the board on matters relating to the operation, administration, security and integrity of the internet's root server system. So, really narrow. There's lots of interest in it, but again, it's a very narrow narrow scope of work and we'll get into some of the work that's going on and you'll see how it fits in.

Am I still in control here? Okay. So RSSAC, appointed representatives from each of the 12 root server operators and alternates, obviously. And then, obviously, we have liaisons. Thank you. In addition to the formal committee, we have the RSSAC Caucus, which is a body of volunteers, subject matter experts appointed by RSSAC. That is, we have a membership committee that manages that. People apply, give their statement of interest, show their credentials and why they want to be a part of RSSAC. It goes through a review process and then appointed to the caucus itself.

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Liaisons, I don't know if we list those anywhere, but we have a number of liaisons. We have liaisons from SSAC. We have liaisons from the IETF. We have liaisons to RZERC. We have liaisons to the CSC. We have a liaison from the roots on maintainer. So, we have a bunch of interactions with different parts of the community that are all members of RSSAC.

Back to the caucus; right now, we're 87. I note that number seems to change. We've gotten a few new applications recently, so this number changes all the time. Again, the public statements of interest and the purpose. This is where all the work happens. So, if I go back here, all the members of the formal committee are members of the caucus. All the work happens in the caucus. There's a caucus meeting following this, and we'll be going over existing work which I'll just touch on here. We'll go into more detail in the caucus session. Then, we'll be doing a call for work also.

So again, a pool of experts; transparency. So, if you are in the caucus and if you contribute to work, the people who do the work are the people who get the credit for the work, and that is put into the documents. If you want to apply, there's an email you can reach out to. As I stated, our next caucus meeting is following this. I think it's right here. Correct? Yes. And then also, we have a caucus meeting at IETF 100 coming up in Singapore in a couple of weeks.

A quick administration update. We've given this before, but we just want to make sure everybody is in alignment on this. When we started RSSAC, we had a way of kind of titling our documents and it got a little confusing. So we changed it and it's real simple. Just a straight out number that is viewed, and here's an example. On our webpage you can see that you can sort by publication number and track down anything you want, as well as type by version numbers.

A couple quick changes. Of the 12 organizations as part of the formal committee, ISC has made a change where Fred Baker and Jeff Osborn are appointed as primary and alternates. That's a recent change. And ICANN made a change of moving Terry Manderson as their primary.

Alright, recent publications. RSSAC028. This one has been underway for some time now and it's finally come to a close. It's the technical analysis of the naming scheme. I'll go over that briefly, and we also have RSSAC029 which was just published, which was a workshop report. For the last two years, three years, two and a half years, RSSAC sequesters themselves in a room for a number of days and does a workshop. This is a readout of what transpired recently on our last workshop. Then, we've made some updates to our operational procedures and we just want to share that.

So RSSAC028. This document was one of the first work parties we considered after the re-organization of RSSAC. It came to be when we were doing our history document, which is a wonderful read if you get a chance to go in, it goes into the history of the route server system. But this one, we started asking, is the current naming scheme of the root servers the right thing given the internet has changed over the past 30+ years where the naming scheme hasn't changed since 1998. So, should we look at it and see if we can change it? And then, obviously, in doing that, we wanted to look at the impact of signing that data, identify any risks, and make recommendations.

So here are a bunch of ideas that were considered. Again, this was all done in the caucus. We looked at the current naming scheme. Is it good? Is it not? The current naming scheme with DNSSEC, obviously. Moving the names to in-zone names. So rather than having a delegation zone, which currently is root.servers.net, we can move the root server names into the root by which doing that, you'd automatically sign them because the root is currently signed.

Delegate a TLD, just for root servers. That was an option that it was looked at. Names delegated to each operator. That was another one. And then, a single shared label.

So one of the challenges we have, it seems to be a constant challenge we have with the root and the current, let's just say, operation where we rely on UDP as packet size. Packet size is something we keep close eyes on or close watch on because we want to avoid fragmentation. So, of the different naming schemes, you can kind of see what the packet size becomes for each of these, and lots of testing done with the different resolver software out there.

And then, as a result of all this work, which again, it was a tremendous amount of work to kind of get through test, retest, validate; the first recommendation is: no changes should be made right now. Number two was understand the behaviors of the DNS resolvers on how each naming scheme discussed and document those behaviors.

Understand the feasibility and the impact of node redelegation attacks. This came up as one of the purposes for maybe looking at it as somebody has raised a couple concerns that the delegation zone for the root servers is delegated to a net zone, root.servers.net, so therefore it relies on that. Then, explore the option of minimizing the size of a single primary response.

So, after all this work, I think the way to wrap this up is a ton of work done, very valuable work that we move the needle on, but in the end, we basically figured out we have to do a lot more

work. And so, we identified what we need to go spend some more time on and we've put that into the queue and we'll be talking to the caucus about that shortly. But right now, it's just leave it as status quo.

We did have a conversation with different groups within ICANN, and everybody agrees that more work is needed on this before making a change. The goal here is security and stability of the root zone, so changes on this type of level are very deliberate and careful.

RSSAC029, this is the workshop report. Tripti, do you want to come up and speak to this? [AUDIO BREAK]

TRIPTI SINHA:

Hi, I'm Tripti Sinha, Co-chair of RSSAC. As Brad just said, we concluded our fifth workshop in early October and this is essentially a summary of what we did during the workshop. So, as some of you may be aware, and if you're not I encourage you to go to our website and read the reports we've published on the topic in the past, but we're focused on doing and modeling the future root service system, some recommendations and advice that we intend to provide to the ICANN board.

So, for this particular workshop, we spent a fair amount of time identifying the stakeholders of the DNS root service and thus far

we've run the service in good faith, understanding that this is an important cog in the DNS wheel and that resolution needs to occur and this is one step in that process.

But I think we took the next step, which is to identify the actual stakeholders of the service, and we've made significant progress in that area, and then we went on to discuss the roots of our operations, and that is currently an activity that's been active for the past 30+ years. And we just added some more formal structure around it with the definition as to what exactly it is, and what needs to continue to proceed going into the future.

And, we're also in conversations regarding the Root Server Association, and this is a concept of forming an entity that can hold assets for the operators and be Secretariat to the operational functions. In other words, we do meet every so often and other similar activities occur which require Secretariat-type functions.

And then, there's something called the strategic architecture and policy; just like any other service, any other technology, you have to look over the horizon to see what's happening in the coming years. So, clearly there is some activity that needs to occur in terms of how does this technology evolve, how does the service evolve? Put some definition around that. And from that, you want to draw out an architecture, a proposed architecture

for the service and this happens at a strategic level and from that you look at whether any policies need to be articulated or impacted, so on and so forth. So clearly, this is a function that is required as well going forward.

Designation removal function. Thus far, there are 12 operators and everyone's been operating continuously. Clearly, that is not a model that is sustainable, so we're looking now at how do we onboard and offboard future operators and we're going through the permutations and combinations of cases of how that could occur and what needs to be considered when we actually implement such a function.

And like all good services, they are monitored. If you want to be accountable, you need to be transparent and the way you're accountable is that you're audited or held against service expectations and operating standards. So, we're looking at how do we define this better and put them into a cadence, where there's one cadence that says, "This happens more frequently," which any service is typically monitored continuously by the service owner and the operator in our case.

Often times you bring out a third party and you audit that service against a set of standards and use best practices. And that essentially, hold you accountable. That's something we're putting into place as well.

The last item is the financial function, so for the past 30 odd years, all the operators have self-funded their services. They do so at their own expense. And this, yet again, is not sustainable going into the future, so we said, "Well, this is something that we need to look at. What is the cost of the service as the internet grows, as the use of the service grows and what is the right way to model it?"

So we're looking at that as well. These were the key points that we hit during the workshop and this culminated in a report, and it's on our website, so I encourage you to look at it. It's called RSSAC029. Thank you.

BRAD VERD:

Thank you, Tripti. Let's talk about current work that is going on within RSSAC and the caucus. This Work Party was put together to study the best practices for distribution of Anycast. Anycast has become widely used by all of the root operators, and we thought it wise that maybe we should sit down and look at the distribution and if there's a positive or negative effect on where they fall.

So, this Work Party has been going on for just about a year, and it's pretty much winding down right now. We've collected lots of data and we'll be putting together all the data that has been collected, but there's no concrete, there's no show-stoppers that

were found on how Anycast is being used, positive or negative. But, all the documentation is being put together by the Work Party leader and this should be coming out here shortly.

Anonymizing root query data. This Work Party was put together. For years now, the root operators collect root server data and share it for different events that happen during the year. For example, the most recent data collection was done during the KSK work that was happening with office of the CTO, so at certain milestones during the roll out of the new KSK there are time boundaries and certain dates the root operators were asked to collect the data; and it was that data that's being used to evaluate the impact of the KSK role which has recently led to the pause of that KSK roll over.

But what I'm getting at, what this Work Party is working on is those data collections that we pull together and share, a number of the root operators, given their geographic location and the laws applied to them in those different areas, can't share the source IP of where the query comes from, so they anonymize it. And as it turns out, some of the root operators were doing it differently.

So we thought it best that maybe we should sit down and kind of document a standard way of anonymizing data for all of the root

operators. And that is currently underway right now in the caucus.

Packet Size Work Party. Again, I'll point to the KSK, as I've stated earlier, with the naming scheme Work Party. Packet size is something that we watch very closely because we want to avoid fragmentation. So as a result of the KSK work that people have been looking at and studying the impact of what will happen, what can happen and the different packet sizes, there is a packet size Work Party that is underway to figure out all the different variables, and basically what would work best. So this is currently happening right now.

And then lastly, we have -- this is kind of an on-going effort versus necessarily a Work Party. This is a tools repository that RSSAC has created for the different root operators and people within the caucus. So all this work, all this study and data analysis that happens on these different work parties, people are writing different scripts and tools to run through the data, to aggregate the data and whatnot, and so we thought it best to share a get repository and start putting tools in there.

The sponsor of this within RSSAC is Wes Hardaker from USC. He's back there in the back row. Wes, do you want to add anything? I think there's a slide here. Here is existing tools that are within the repository, and this is available to everyone;

correct, Wes? Yes. Great. And this will be growing as work carries on.

Then we've got community interaction. This has come up a number of times over the course of different ICANN meetings and whatnot. This came up yesterday in some of the -- I think it was in the tutorial on why RSSAC meetings are closed, and I think that's a bit of an old software that we need to update.

So these are things that RSSAC is doing to be fully transparent to the community and to the board. Obviously, we have our formal meetings every month. We have meeting minutes. We have publications that we just went through. All those come from the caucus and the caucus mailing list is public.

We have the root server system tutorial which happened the last two days. It's the 'how it works' program that is sponsored by the office of the CTO and one of those courses is the root server system, that we come in and go in depth on kind of how it works, and how it's deployed, and where it is, and what it is, and all that fun stuff.

And then obviously, we have our operational procedures document: how RSSAC actually functions day to day and our process for doing administrative work.

We are often confused with the root operators. It's a different set of hats, different responsibility. If you go back again to the very first portion of the presentation, it talked about the mandate of RSSAC which is to advise the board and the community on the route server system, essentially. The root operators are the ones who are actually day to day running the roots. And here is something, this is just kind of a list of things that they do to be transparent. The root operators again have their meetings at the IETF, so that's where the technical people meet. They have their own webpage and they share agendas.

They also publish RSSAC002 stats. RSSAC002 is a metrics document that was created by RSSAC in the caucus and has been updated three different times now. Those statistics are what the root operators publish and make public available to everyone to see on the root.servers.org webpage.

Then also, the DNS-OARC is a body that aggregates that data and does a lot of analysis on it. Again, they've got a public webpage, which is worth taking a look at. They publish news and any big events, they have information there. Off of that same page, each of the different organizations have their own webpages and they've got just a whole bunch of -- anything related to root operations is on that webpage. As I said, major events, different DDOS attacks, the root operators work together on a public report and share it there.

Then, the root operators have agreed to let RSSAC be kinds of a window into root ops for anybody who needs it because there isn't really a public way to get a hold of the different root operators. So, RSSAC has taken on that role and we've created a mail account, ask-rssac@icann.org, so if there are any questions or if somebody needs to reach a root operator, specifically if you have a question for VeriSign or for University of Maryland or ICANN as a root operator question, you can send it here and the chairs, myself and Tripti, will get it to the individual organizations for you.

So this just talks about transparency. That was supposed to show all the work that's being done so everybody kind of knows what's happening. We're out there. We're available. And if you see something that we're not doing that you want us doing, let us know. We're very open, very receptive.

Any questions? Obviously, I talked about the Ask RSSAC. These are actually the RSSAC webpage where our publications are and then interested in joining the caucus, on how to do that.

So that's a quick run-through of RSSAC, what we're doing currently and I think right now is questions. Any questions? We've got a bunch of root operators in the room, RSSAC members here. I'm happy to address any questions. None? Yes? Can we use the mic, please?

WANG WEI: Hi, Wei Wang. I'm also a member of the Caucus. My question is not to the root operator. I saw that in the slides there's going to be another Caucus meeting in the coming IETF meeting, right? Yes. Is there any specific topic for the upcoming meeting? Could you publish it as soon as possible?

BRAD VERD: Any specific topic for the Caucus meeting? So the Caucus voted and they did this a while back. So, the Caucus originally met at every other IETF meeting, so every even numbered IETF meeting, the Caucus met at. Then it was obviously disconnected from ICANN, right? Because there was no Caucus meeting happening at the ICANN meeting. But a lot of the technical experts are at the IETF.

So, we talked to the Caucus. We talked to the public sessions here, just like we're doing now and at the behest of the Caucus members, we added a Caucus meeting here at the IGN. So there's two Caucus meetings, same agenda, same topic, same stuff is covered, just different audiences. Does that make sense?

WANG WEI: In the next Caucus meeting, are we going to discuss some specific topics, or any report?

BRAD VERD: The Caucus meeting that we're having just following this is the same exact agenda that we will have in Singapore. Because again, different audiences, just same topic, though. Wes?

ANDREW MCCONACHIE: Yeah, thanks. You know, it's a really good question, one of the things -- and I was just thinking of this an hour ago, so I'm actually really glad you brought it up because I think one of the things that we haven't gotten a whole lot of feedback of is, is the structure of the Caucus meetings that we're holding what you guys want to do and participate in?

We've kind of been using it as a review, we talk about each subject, we give a report, but maybe actually what we want to do is have a more interactive question topic kind of brainstorming session. I don't know. So I think our question to you would be, what do you want to see in those meetings? Because we just run them sort of structured the same way, but we don't have any feedback of is that the structure that is actually working for everybody. Does that make sense?

BRAD VERD: I believe, Andrew, that is on the agenda about the engagement with the Caucus. So that discussion topic is happening in the Caucus meeting which is following this.

Any other questions? If not, I can give you some time back for your day. No further questions? Yes?

ANUPAM AGRAWAL: So, this is a very short and simple question. I am a member of RSSAC Caucus from India, Anupam Agrawal. So, there are a lot of questions which are asked by the community because of being in the RSSAC Caucus as a member from the country. It can be the government, it can be the community members.

So, what essentially we are doing, the two or three of us who are there is directing to the various RSSAC documents which are there. So is it okay to have some kind of webinar or something so that when we have a good amount of questions piled up, is there a possibility to conduct a much broader session with the interested audience back in the country? What exactly is expected out of the Caucus members?

BRAD VERD: So, Caucus members, as stated earlier, would be working on the technical documents that is driving RSSAC, whatever the questions are. Much like the packet size question that came up

and the root naming scheme. So that's actual work to create official documents out of RSSAC. If there's a body of people that want to come and this is streamed, they can watch this session right here, this public session, remotely and engage in ICANN that way. Terry, did you want to add something?

TERRY MANDERSON:

So, there was a wonderful part to your question that said there are people asking you questions. And I think that is fantastic. I would love for someone within the Caucus to take on a role of collecting all of those questions and producing a larger informative triage of what questions are asked and pointing them into the right document; or in fact providing a gap analysis of, this question has been asked, RSSAC has no response for this, and then promoting that this may be work we could do. So, it could be a Dorothy Dixier here that I'm asking you to put your hand up in the next session to perhaps think about that.

BRAD VERD:

In the next session with the Caucus, there will be a call for work. So if there are topics that are coming from your group of people, people you work with, people you're affiliated with, and again as Terry said, it's not addressed in any of the RSSAC documents, then maybe we raise it as a work item, and if it gets enough support within the Caucus, we'll do that work.

Alright. Any further questions? Well, with that, I will adjourn this, thank you very much. Have a good day.

[END OF TRANSCRIPTION]