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HYDERABAD – RSSAC Caucus Meeting  
Sunday, November 06, 2016 – 15:15 to 16:45 IST  
ICANN57 | Hyderabad, India

TRIPTI SINHA: Call to order. Alright, it's 3:15. I think we should start. Alright. Okay. Welcome, everyone. This is the RSSAC Caucus Meeting. I'd like to start by welcoming all our Caucus members with a quick show of hand and introductions. How many Caucus members are in the room please? Your hands if you're a Caucus member. Okay. It's very small meeting. Alright. Why don't we do a quick round of introductions? Brad, you want to start?

BRAD VERD: Brad Verd, Verisign, A/J.

TRIPTI SINHA: Tripti Sinha, D.

BRIAN REID: Brian Reid, F-Root.

LARS-JOHAN LIMAN: Lars-Johan Liman, Netnod, I-Root.

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*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.*

KAVEH RANJBAR: Kaveh Ranjbar. RIPE NCC, K-Root.

DAVEY SONG: Davey from BII.

ANAND RAJE: Anand Raje from BASIS Technologies.

TRIPTI SINHA: Please identify yourself if you're a Caucus member or an observer, please.

ANAND RAJE: No, I'm not Caucus member.

TRIPTI SINHA: You're an observer?

ANAND RAJE: Observer, yes.

TRIPTI SINHA: Okay, welcome.

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[MUKUND SIVARAMAN]: I'm [Mukund] from ISC. I'm an observer.

[AJAY KUMAR]: [Ajay Kumar] from [Nicosia de Azul], observer.

[SALENIA]: [Salenia], ICANN Fellow. Observer.

[YASIR YONEV]: [Yasir Yonev] from [TPRS]. Observer.

MARC BLANCHET: Marc Blanchet, Viagenie, Caucus member.

WES HARDAKER: Wes Hardaker, Caucus member.

TRIPTI SINHA: Do you have a mic that can go around?

[JUSTAVO CARRIE]: I'm [Justavo Carrie]. I'm observer.

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[JAMES WORT]: [James Wort], observing.

[HORR BAGIT]: [Horr Bagit], observer.

[GREG WOOD]: [Greg Wood], observing.

UNIDENTIFIED MALE: [Inaudible], observer.

LUCAS DE MOURA: Lucas de Moura from Fellowship Program.

[NIKKI HU]: [Nikki Hu] from BII Group. I'm observing.

[PAULO]: [Paulo], observer and ICANN newcomer. Thank you.

SUZANNE WOOLF: Suzanne Woolf, Caucus member.

TRIPTI SINHA:

Alright. Welcome, everyone. For those of you who are observing and if you, at the end of the meeting, believe this is a good fit for you, by all means, please apply to be a Caucus member.

Let's do a quick review of the agenda for this afternoon. We'll start with the discussion of Caucus Engagement and our schedule of meetings and our modality of communications. Then we move on to updates on workshops that the RSSAC has had recently. For those of you who were in the other meeting, this will be a repeat.

Also, move on to update on the work that the Caucus has conducted. We'll go over with the Naming Scheme, RSSAC023, RSSAC024, Anycast Instances and our Lexicon. Then move on to Potential Work Items that were identified at the last Caucus Meeting in Berlin. Also, then a Call for Work Items from Caucus members. Brad will go over the survey that we intend to conduct for Caucus members.

Would anyone else like to add anything to this afternoon's meeting, Caucus members?

Alright. Hearing none, let's go back to item four, and I'd like to start with the discussion on the schedule of meetings. In Berlin, we talked about the way this schedule was structured. The

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Caucus had decided that they would like to meet at every other ITF even-numbered meeting.

In Berlin, there was a request made that many members who come to ICANN are unable to make it to the other Caucus meetings because they don't typically go to ITF, so they also request to add a Caucus meeting at the ICANN meetings. It has now been added. Every third meeting, which is the C Meeting of ICANN meetings, will also have a Caucus meeting.

Going forward now, our schedule is every even-numbered ITF meeting will also have a Caucus meeting as well as Meeting C of the ICANN will have a Caucus meeting. Any questions about that?

Alright. Hearing none, in terms of our communications, RSSAC support staff send out the minutes of all the RSSAC meetings and our publications and reports and statements of work and so forth, once they have gone through the RSSAC process and are approved, our staff sends the links of all recently approved minutes and documents to the Caucus. [Kathy], that's underway as we speak and that is occurring. You must have been receiving that.

We have a question to the Caucus. What would you like to hear from the RSSAC, and how often would you like to hear from the

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RSSAC? This is an open question to Caucus members. I know my sense is there aren't too many attendees here. Alright. This is going to be a short meeting. I can tell.

Marc, don't you have anything to say? Marc, don't you have anything to say? You're a Caucus member.

MARC BLANCHET: I'll leave it my personal opinion, which is don't broadcast too many stuff that is not relevant. Use your judgment to send whenever it's appropriate. But I may not be the right guy to answer your question.

TRIPTI SINHA: Thank you, Marc. Yes?

UNIDENTIFIED MALE: Just really quick for just the people in attendance, this Caucus meeting was added at the request of a number of Caucus members to attend the ICANN meetings. That's why this was added to the calendar. It seems like we have a lot of opportunity for new Caucus members here. I know there's a lot of work coming. We can use the help if you want to be part of the solution.

WES HARDAKER:

Tripti, I forget one out of two so I'll go for two, number two. One thing I think that might be helpful is one thing that I get lost in frequently myself is everything that we're doing because some things come and go. Maybe a monthly summary of, "Here are the current active parties and here is the leader of that party if you want to join" because as we adopt new people, they have no idea what we're doing right then. It might actually be good to get a monthly summary of, "This is finished, this is opening, this is still ongoing, you can still join," that kind of thing.

TRIPTI SINHA:

Good suggestion, Wes. Thank you. Carlos, could you hear that? It's just a monthly update report of sorts of what's active, what's soon to come, and to keep your eyes on the call to join a working party.

Alright. There's no other feedback in this area, so let's move on to item number five. This is an update on the workshop that we just concluded. Several of you have been in our other meetings, so this will just be a report.



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UNIDENTIFIED MALE: [inaudible] want to ask if there's anybody that wasn't in the previous meeting.

TRIPTI SINHA: That's a good point. Anyone who was not in our previous meeting and would like to hear a synopsis on the workshop we just concluded?

[CARLOS REYES]: The document will be published tonight.

TRIPTI SINHA: Most of the faces I see were in the other meeting, so I'm going to simply regurgitate that information. Would anyone like to hear that or not to? With a show of hands, would you like to hear the update? Absolutely, I will. Yes.

I said earlier that we've conducted three workshops thus far. We just concluded our third workshop. The theme of the workshop continues to be the same, which is our focus is on evolution, evolution of the root server system. We are open to new models of evolution as well as new technologies. We are not restricting ourselves to the way things are done today. That came up in the previous meeting.

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The outcome of that workshop was, we started the discussion with agreeing to use terms similarly. In other words, we all rallied around the definition of words while we deliberated.

We're coming out with what we're calling the Lexicon and we will publish that soon. These simply describe the differences in meanings of things like Instance and Node which we were all using them with subtle differences. Going forward, the RSSAC and the Caucus will rally around these words so that when you read the document, when you talk to each other, we are talking about the same thing.

Then we began to look at the root server system, the way it lives today, where its headed. We took it to a very high level of abstraction. We're calling it the 50,000-foot abstracted level. We're doing some mind mapping, putting thoughts together, concepts together, building affinity groups within that mind map.

Thus far, we've put it together into six to eight roughly different groups. We basically further mind mapped each of those concepts. I'll start with the first topic was Accountability. Who are we accountable to and what are we accountable for? We're trying to build that accountability chain. We also discussed who we empower and who we enable. That is yet another chain that

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we're developing is the root server system, who does it enable, who does it empower?

We discussed the finances of this massive infrastructure. What does it cost to operate? How are we differently funded? We came to the realization that this is something we need to keep our eyes on. It is critical that it continued to be healthy when it comes to funding.

Then we also looked at technical elements of potential root server operators and what they should be held accountable to in terms of what they need to be, how tall they need to be to be a root server operator. We looked at how we could hold them accountable and what elements need to go into accountability and how they need to be audited against technical elements, against financial elements and so forth.

We also looked at the removal and designation process. That is yet to be defined. By no means are we saying that has been defined. But we're looking at different elements that would go into it and what is the right process to define the designation and removal process.

We talked about transparency, RSSAC transparency and root operations transparency, and made significant progress on that and also on how do we interact with each other, root operators.

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Currently, there's an informal group that we call Root Ops. We looked into the concept of whether we should form an association. Thus far, these are just thoughts that we're putting in a mind map, and we will eventually arrive at some sense of how do we issue advice to this community.

It was a very successful workshop. The report has been approved. It has been sent to the Board. This evening, it will be published on our website. Once again, I urge all of you to go ahead and read the report. It was written in record time. We just concluded our workshop two weeks ago, so this has been good progress.

Any questions about that? Alright. Hearing none, let's move on to some work item, Work Updates. Is Daniel here?

UNIDENTIFIED MALE: I don't see Daniel. I'll do it.

TRIPTI SINHA: Okay. Daniel's not here. Go ahead.

UNIDENTIFIED MALE: Again, I talked on this one earlier. This is the naming scheme work party. This was an effort to evaluate how we name the root

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servers in the root zone. Essentially, it was if we were going to look at it today, would we change it and would we do something different?

If you go and read the history document that'll be on the webpage tonight, you'll see the evolution of the names of the root servers dating back from the early '80s up until current and how they've changed over time and things that we've learned along the way.

We thought that since we've been in our current state for a number of years, we thought it wise to basically ask the question again? do we need to change it? What this work party has done, has gone out and looked at a number of different options and they're evaluating those options and providing a risk analysis on all of them. That party is nearing its conclusion. Any questions on that? No? Okay. Let's move on.

TRIPTI SINHA:

Alright. Moving on to the next item which is RSSAC023. This is a document we approved two days ago. It will be online tonight and available tomorrow morning. It's called the Root Server System History. Before we embarked on the workshops, we decided that if we were to discuss evolution which is the primary theme of these workshops, we couldn't do that in the absence of

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understanding where we came from and how we got to where we are.

The most healthy way to move forward was to understand our history. We went back and all the operators documented how they came to be. We've put it together in a very nice document called The History of the Root Server System. It is now available. I highly encourage that you read it. It's a really good read especially for those who are history buffs, technical history buffs. It's a really nice read.

Alright. Any questions about that? Alright. Moving on to Liman.

LARS-JOHAN LIMAN:

Yes. Another document that was approved the day before yesterday and will appear in the archives tomorrow is RSSAC024, Key Technical Elements. One result of these workshops is that we've started to look at the evolution of the root server system. There is currently no process for designating new root server operators. We realized that such a process should be designed, and it will contain a number of different elements.

We also see that RSSAC should be one component in creating this process. There will be a number of different issues that will need to be dealt with in order to create the process. One of these

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items is the technical elements that we will have to look at when evaluating potential root server operators in the future.

There will be many other aspects – political aspects, financial aspects, other types of aspects – where RSSAC cannot alone find the appropriate process but will have to interact with other bodies. We are starting to try to understand how to correct these problems and how to address them.

But the technical side, we see that the Caucus is a very good place to develop the key technical elements. That's been done in Document 24. It starts with the requirements documents that we already have. One is RSSAC001 produced by RSSAC which specifies the operational requirements for root server operators. This is a rather narrow document.

There is also a document produced by the IETF, RFC 7720, which defines the protocol specifications, which parts of DNS must a root server operator fulfill in order to provide service.

Now, these two, they provide very basic requirements. But on top of that, there are number of technical elements that should be evaluated. When you compare it to potential root server operators, you should look at various technical aspects of the service that they intend to provide and compare them and see who is the better.

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It will not be the case that someone is better in all aspects than the other one. There will be differences but these are the elements that we, at least, need to look at. This contains various types of elements like system design, experience of operating servers and networks, diversity of equipment procedures and so on, not only inside the potential operator [roles] but in relation to the existing or other potential operators.

Also, data acquisition, measurements participating in cooperation with the other root server operators and with DNS-OARC Research Center for data and so on. There are lots of aspects that we need to evaluate for potential root server operators. Again, it does not look at the political and financial and other aspects of being root server operators. That's it.

ROBERT MARTIN-LEGENE: Do you accept comments? This is Robert Martin-Legene from PCH. No. I think it's interesting that you consider. This was a conference I joined by mistake, by the way, once in a call. You're considering what it takes to add a new root server. Is that because somebody asked to be a root server?

LARS-JOHAN LIMAN: How do I phrase this? We see that there needs to be a continuation plan for root server operators. There needs to be a



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future that is clear. There needs to be a path into the future. We foresee the possibility that we will need to designate other root server operators than the current ones. When we get to that point, we better have a plan for how to do that. This is a small piece of the puzzle.

ROBERT MARTIN-LEGENE: I agree. Sorry. [I stole it]. I suppose this comes after that, as far as out of the scope of that document, but somehow, today, we have, what, 11 or 12 organizations running a root server. Sometimes organizations fail. How do you disqualify an organization and what do you do? That's probably something that should be considered as well.

LARS-JOHAN LIMAN: That's another part of the puzzle. It's definitely one of the bits that we have identified, but we're not addressing it with this document. Yes. We understand that that's part of the problem but not in this document.

TRIPTI SINHA: Just to clarify, to add to what Liman just said, we do this with our RSSAC hat on and we are an advisory committee. We're doing this in-depth analysis and we will issue advice to the

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Board. From then on, the Board will do what it needs to do to act upon our advice. It is the right time. We realized that we need to do this for posterity. We're not going to all be around forever and ever. We have to put these processes in place.

Somebody has to define them. We're just looking at this from a high level. We're going to drill down deeper and deeper. But just to clarify one thing, we are going to issue advice. We are not going to craft any process ourselves. We will be probably partners in crafting the process but, certainly, we will issue advice.

DAVEY SONG:

Adding to these questions. Yes, I have to say that if there is access or some openings for the discussion of adding or one or two or many root server operators, I think many companies will apply because the top layer of this infrastructure is part of the Internet infrastructure. The company may willing to get rid of the risk of putting their investment and economy on the Internet. That's the basic. We don't mention the political side but just technically speaking, that's the basic needs and requirement.

My question is this document gave me an impression that we can evaluate and find qualified people or organizations who can

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become the operator. But we do not hear the Board or other decision-makers how to increase. For example, I can put up analogy for this. We can tell people who can cross the river, but there's no specific [sailing] or description how to go across the river. To build a bridge or to just build a boat?

My thinking is that if we put some effort to build these documents and in the same way, we may consider the necessity to do a paneled work on how to expand or if it's necessary to expand the system or to narrow the scope of the number of the operators. That's my question.

That's also relevant to my questioning another one that [adding] other models or tools to get rid of the risk in the DOS attack that some region, a not ideal place that can connect to the Internet with the free P2P policy. Yes, we must consider on that limitations.

UNIDENTIFIED MALE: Go ahead, Kaveh.

KAVEH RANJBAR: Thank you, Davey, for the question. I think it's actually very good. It helps me to move too to the next item, which was me.

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The Anycast Instances item which is there, as I explained in the other room as well, this is an effort to basically understand the system as a whole better. We all have these questions. As individual organizations, all of us do our best financially and technologically and everything to make sure we provide the best service possible. But then you have the system as a whole, there are a lot of open questions.

We think this is part of a much bigger project and bigger picture understanding do we need more operators or not, so we need factual answers. This Anycast Instance is another attempt at that, and there will be multiple other documents coming in in that direction because we might end up saying, “Actually, with the model we're operating, 10 is more efficient than 13.” Who knows? It's really something we need to put facts and science behind.

I'm sure there will be even more work items relating to that bigger picture, but the end result is we will have some fact-based documents ready for expansion or reduction or whatever or maybe no change to the root server system, which will be then handed down to ICANN Board and ICANN community. How the community wants to move forward with that, that will be their choice. We definitely want to be part of that to provide our

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technical input. I think I tried to summarize also my item plus the story.

UNIDENTIFIED MALE: Thank you, Kaveh. Going forward, I would like to, again, point out that this is a Caucus meeting so it is open to everyone. If you please identify yourself and your status before you ask your question. If you're an observer or if you're a Caucus member, it will go a long way.

We will discuss as long as we have time. But, again, all these discussions, these technical discussions are happening in the work parties. If you want to be a part of a work party, join the Caucus. There's lots of debates that are happening on a daily basis. Okay? Thank you.

TRIPTI SINHA: Someone else had a question? Yes. Go ahead.

PAUL VIXIE: Okay. I'm just an observer. My question is also concerning the number of operators and their identities. Maybe in the discussions that you've been having, I'm not privy to at the moment. Right now, there are 12 operators for 13 root identities.

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What if you had more operators that exceed 13? What will you do?

TRIPTI SINHA: The question is, “What if you have more operators than 13?”

PAUL VIXIE: [Under] the current identities, is it possible?

TRIPTI SINHA: Okay. Let's just take it back to the 50,000-foot level. As I said, we are currently looking at the evolution of this system. We're starting at the 50,000-foot level and the metaphor that I've been using is we're peeling the onion. Then were going to start drill down deeper and deeper and deeper. Then, as Kaveh just said, we are going to do some studies on what is this right number. Number may be less, it may be more. We haven't done that yet. It's non-trivial work. It's very complex. But that work will happen.

We highly encourage, it looks like there are many, many people interested in this topic, please join the Caucus because when we are ready to issue the work items, we're going to send out an e-mail to the Caucus asking for people to participate in the study. I

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can't answer your question today because we don't know yet.  
But that study is going to happen.

UNIDENTIFIED MALE: You could help answer it.

PAUL VIXIE: Sure. Thank you.

TRIPTI SINHA: Okay. Any other questions? Okay. Moving on. Kaveh, do you believe you summarized your item?

KAVEH RANJBAR: I think I did but if there is any question about that work item, I'm more than happy to take it. The idea is there is a work on understanding the whole Anycast network for DNS root operations better and answer for your questions. Please, if you're interested in that and you want to contribute as Tripti said, I will repeat, join the Caucus and join the work party. It's an open work party.

But this will be one of the fundamental documents which we will build the rest of the stuff on top of it. This is one of the important ones. I'm leading that work party, so I would be more than

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happy to answer questions. I will be around so if there's anything you want to talk to me about, I would be more than happy to answer.

TRIPTI SINHA:

Just to add one more thing, as we said, the work we're doing is on evolution. Davey, I think you brought up newer technologies. We are very open to that as well. That's part of evolution too. We're not going to stick with the current way of doing things either. If something new is evolving, we will consider it. Please, keep that in mind. The operative word here is “evolution.”

Alright. Any other questions? Alright, moving on. The next topic, Brian Reid is going to talk at the Lexicon that I mentioned earlier. Go ahead, Brian.

BRIAN REID:

The RSSAC documents are written in English. I think at this point, less than half of the people dealing with them have English as their first language. There seems to be a lot of variation in people’s understanding of what the words mean. But there's even bigger variation in people’s understanding of what the words connote.



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I found myself earlier today wondering what would happen if the term that we had been using was not “root server operator” but “root server janitor,” if that would change the way anybody thought about it.

RSSAC has been working on a thing that RSSAC calls the Lexicon. I think that's funny because if you look up the word “Lexicon” in the dictionary, you'll find the meaning doesn't quite match what we're doing. But that's the way we use the word and we're going to write it down.

On our first pass over this, we took maybe 50 or 100 terms that we found had been used in RSSAC documentation and tried to reach agreement among ourselves as to what those words actually meant when we use them.

More recently, we have come up with a smaller and fast track list of about a dozen terms that we find really need to be explained quickly. The world is confusing itself by using them differently. After listening to things today, I think that just the difference between Root Server and Instance, it's really critical that that be documented and distributed because everybody seems to have their own interpretation of what that means.

We're not ready to publish this. It's a work in progress. But I think we need to progress pretty rapidly. I'm guessing that we

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might even end up publishing this before the next meeting just doing online voting. I'm the referee. I do some of the writing, but the whole group participates.

Since there are only 12 words here, I think I'll read you the words but not our definitions of them, which is Instance, Mirror, Root Server, Root Server Operator, Root Server System, Root Service, Root Zone, Root Zone Administrator, Root Zone Maintainer, Root Zone Distribution System, Publish, and Serve. Those are the fast track words that we're trying to make sure that we write down what RSSAC believes they mean and that we think that discourse would be more efficient if everybody had the same meanings in mind when they communicated.

TRIPTI SINHA: Thank you, Brian. Any questions for Brian? Yes, go ahead. Please identify yourself.

[YASIR YONEV]: I am an observer. Is this Lexicon referring to the DNS terminology that is RFC 7719?

BRIAN REID: The short answer to your question is no. The meanings defined in that RFC are very deeply technical, and they're really designed

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to be used by engineers and not by regular people in regular conversation. We're writing down words that people might use when they're talking with each other across lunch about the things that RSSAC concerns itself with.

UNIDENTIFIED MALE: Yes, just to add to that is that these are not, by any means, an intention to redefine anything that is in our RFC. These are really a tutorial on how the terms are used in relation to RSSAC and the root server system. Okay? It's fully in context of RSSAC, has nothing to do with RFC or outside of that context.

TRIPTI SINHA: Any other questions before we move on? Alright. Let's move on to Potential Work Items. I'm going to turn it over to Liman who's going to talk about Anonymizing Queries and Statistics, potential upcoming work.

LARS-JOHAN LIMAN: Yes. we've been looking at potential things to deal with. One thing where we would like input from the Caucus is the root server operators all collaborate and provide data to DNS-OARC, the Operations Analysis and Research Center.

In doing so, we regularly provide dumps of actual queries that come into the root servers. Now, some operators and our I-Root is one of them, are somewhat legally challenged with this because the law in the European Union is very careful with user integrity. The IP address of the client that sends the queries, it's seen that that identifies the individual behind that query. That's not always the case. Those of us who've worked deep with the DNS protocol knows that there are often [intermediates] in between.

But the law is the law and we have to follow it. We have to anonymize the queries. We still report to the research center exactly the string that is queried for. But we anonymize the IP address of the client so that you cannot trace back to the exact host that sent the query.

That's true for other operators as well. The problem is that, hitherto, we haven't coordinated how we do this anonymization. If a researcher wants to compare results from different root server operators, it's very difficult because some are not anonymized, some are anonymized in one way, and some are anonymized in a different way.

It's difficult for the researchers to make a unified understanding of the entire root server system. What we want to do is to try to define one common way to do this anonymization that is easy to

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do, that works for us all and that generates the result we want to have. That's what we would like to ask the Caucus to help us develop.

I should note that this is not the same thing as what's going on in the IETF. There is work going on in the IETF. But in one of the working groups, possibly more, called DPRIVE where they try to adjust the behavior in the DNS clients so that they don't send so much information in the queries going to the root servers and TLD servers and further down the chain.

That's a different thing and that's within the IETF. That's not what we're looking at here. We're looking at anonymizing the things that we report as statistics and research data to the research center.

That is a forthcoming request. We need to write down a- what do you call it? Statement of Work. Right. When that happens, we will of course request the assistance from the Caucus and create work party.

TRIPTI SINHA:

Yes, thank you, Liman. Liman will continue speaking and move on to How Things Work.

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LARS-JOHAN LIMAN:

Right. Another document that we have seen potential use for is a layman's description of how the root server system works. That, of course, entails somewhat delving, going into how the DNS works.

We see that many questions that the RSSAC and the root server operators get regarding the root servers are based in misunderstandings and misconceptions. We would like to try to write a document that describes in easy terms and using the terminology that we're trying to define at the Lexicon and the further work there, using those exact terms but do it in a document that is easy to read, maybe contains a fair number of pictures and describes the relationship between the various players in the entire DNS and root server area.

There have been a few attempts to do this before. Most notably, there are a couple of documents issued by ISOC which are actually pretty good but we would like to look at them, maybe use them as a starting point, see if we need to modernize, see if we can make them easy to access. Maybe we should look at a new type of audience that we want to reach out to.

This is a tutorial, so to speak, or paper that we would like to create to help people understand how the root server system works so that they can form the correct questions and help bring the work with the root server system forward.

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UNIDENTIFIED MALE: A quick comment. I'm very much looking forward to that document because I think it'll help greatly. One thing that has occurred to me recently is one thing that we might want to extend the potential work of is to include some information on why it is beneficial technically to have more instances of more name server identifiers near you so when there are outages of any kind that actually having more addresses fielded near you from an Anycast Instances would benefit you locally because I think that that is not documented anywhere else and this seems like a good document to add that kind of information.

TRIPTI SINHA: Any questions for Liman on this topic? Alright. Yes, go ahead, Marc.

MARC BLANCHET: I assume but I guess just looking for confirmation that you will go from IANA Root Zone on maintenance stuff, right, not only the service side but provisioning side, right?

LARS-JOHAN LIMAN: Yes, definitely.

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TRIPTI SINHA:                    Alright. Any other questions? Thank you. Now, we'll move on to a brief update from Wes on Tools.

WES HARDAKER:                One of the things that we talked about at the Caucus meeting in Berlin was whether or not it would be beneficial to establish a work party to develop some tools that could be used by the community at large. The example that we came up with then is that now that the root operators are actually publishing RSSAC002 data which is very useful statistical information, there are not really any tools or libraries yet for any language, Python or whatever, in order to actually collect that information and maybe do some analysis and stuff like that.

We thought maybe there would be a good centralized place for some technical work to be done to define some libraries and maybe some of the initial example tools and things like that. This is a potential work item that we would like to do. It's different than everything else because it's not writing a document, it's actually writing real code. I look forward to that personally.

If anybody is interested or has ideas of things that they would like to see tools produced or reports that you would find useful,



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maybe our eventual tools team could take that on. We'd love to see your feedback on that topic.

TRIPTI SINHA: Go ahead.

ANUPAM AGRAWAL: Hi, Wes. From ISOC Kolkata as an observer. On this RSSAC002 data, what we see there on that website rootcannservers.org. For some of the root servers, that data is not publicly available, so any comments on that?

WES HARDAKER: Sure. Each root server operator is responsible for running their extraction of that data. They're all implementing at different timelines based on their own availability and resources for publishing that. Do we have a public record of when people are – is everybody...?

TRIPTI SINHA: I think everyone is doing it now.

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WES HARDAKER: I think everybody is doing it now. In the last couple of months, I think we've actually had the rest of them finally come online. I believe all of the root server identifiers now should have directories associated with it on the RSSAC data.

ANUPAM AGRAWAL: Maybe it is available, but the link is not there so we could not find it.

KAVEH RANJBAR: Yes. The link is not there but actually, in two weeks, we are going to send a follow up e-mail and discussion about that, so we will make sure that all operators have the proper links. But to my knowledge as well, everybody now publishes.

WES HARDAKER: Yes. Thank you for that because the goal is that they all should, but the rollout of it has not been all at once. It has been this continual rollout.

TRIPTI SINHA: Any other questions for Wes? Alright. Hearing none, let's move on to the next item which is a Call for Work Items. We're all quite busy, but we're still willing to take on more work. Does anyone

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have, any of our Caucus members here, have any ideas and thoughts on future work items? Davey, you're smiling like you've got something up your sleeve.

DAVEY SONG: Yes. We do some experiments. I'm not sure we can collect the consensus or enough people can join the maybe potential work parties. Yes. I may propose some draft on the mailing list as the previous working party setup.

TRIPTI SINHA: Good, thank you. Yes, go ahead.

ANUPAM AGRAWAL: As part of this potential new work item, do you see that there is a possibility to you have the geographical placement of root server instance or mirror, whatever we say, has an impact on the latency.

TRIPTI SINHA: Kaveh, you want to...?

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KAVEH RANJBAR: That's already part of the Anycast Instance's work item. That's exactly the definition of that, that one of the research items is, does geographical location of the instance is important or should give more priority to networks, for example? That's one of the questions that that document is going to answer.

WES HARDAKER: That work is happening right now so if you want to join the Caucus and be part of the solution, that is happening now.

TRIPTI SINHA: Any other thoughts and questions on this? Yes, go ahead.

[YASIR YONEV]: I'm not sure this is the scope of Caucus, but I derived a proposal: critical information feed regarding root operation. For example, critical [inaudible] happens occasionally, such as ZSK or KSK publish a new zone signing or IP address changes of the root servers.

Such changes could be announced to the operators. But if some critical failure happens on the root server, it is very difficult to reach their domain name. Such feed could be provided on the fixed IP addresses. I think that kind of feeding of the critical

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infrastructure is very important to the stable operation of root servers.

WES HARDAKER: Yes. Let me try to see if I understood you right. To create a communications channel where information about changes to the critical infrastructure can be announced so that people can subscribe to it. I must say I find that an interesting idea.

There is, as far as I know, not the official channel to do this. Maybe we should look into creating such a thing.

UNIDENTIFIED MALE: Certainly, we can ask the question and try to put advice together on that, yes.

WES HARDAKER: Did I understand you correctly?

[YASIR YONEV]: Yes. I think the mailing list is not workable if the root servers have some critical failures. I want to have such feed services like RSS Feed on the IP address, fixed IP addresses.

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WES HARDAKER: Yes. Let's not go into the specific details on how to implement it. But I understand your request about a stable channel that works under stress for distributing information regarding critical infrastructure. I think that is something worth looking into. I'll try to make another [letter and distribute it].

UNIDENTIFIED MALE: Kaveh, you want something to add?

KAVEH RANJBAR: In the meantime, I think it's good to enumerate the current communication channels. Past few months, there was an address change which has been communicated one year before through and mostly. Normally, the IETF DNS-OARC place is one of them, RIPE NCC DNS working group, DNS-OARC. I think these are the main.

MARC BLANCHET: Most of the items mentioned with the ZSK, the KSK, and all the impactful changes to the root go to all those mailing lists. They're talked about here at ICANN in the different working groups. The DNSSEC working group talked about the KSK and the ZSK work. I think they're still talking about the KSK work that is upcoming.

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There has been lots of communication that happens all the time around this. However, there is not necessarily a single feed, and that is something that we could take on.

BRIAN REID: I think that's a very good idea. What you described right now is pretty good. But in fact, when you think about WHOIS, the [inaudible] DevOps in the provider environment and enterprise environment that has a [hind] filed that hasn't been changed forever. Those kinds of mailing lists are not proper because they don't care about DNS [inaudible] or something.

UNIDENTIFIED MALE: There is always room for improvement.

BRIAN REID: Yes. I'm not criticizing. I'm just saying this is a good idea. Maybe not only it to be for a text for human but probably something that could be parsed and then you get automatic watcher that tells you, "Oh, I need to [think about it]."

KAVEH RANJBAR: I also think it's a very good idea. Just in the meantime, until we get there, please monitor those lists.

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[YASIR YONEV]: What I'd like to say is that when just the time changes had happened, so when the IANA published the root KSK for KSK or a ZSK on the root zone, then the announcement published on the feed. That kind of knowing the changes, just the timing of the changes, is very important to analyze the problem if some failure has happened. What I'd like to have such channel, not the pre-announcement channels, but what is going on.

UNIDENTIFIED MALE: Understood. Thank you. Kaveh?

KAVEH RANJBAR: Yes. In the meantime, may I suggest that you become a Caucus member because this is a good work item to also suggest to the Caucus.

[YASIR YONEV]: It's so simple. My colleague is already a Caucus member. I can talk with my colleague.



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TRIPTI SINHA:                    Alright. Any other questions on this? Alright. I'm going to turn this over to Brad now who's going to talk about a survey for our Caucus members.

BRAD VERD:                    Actually, two things that are going to happen coming out of the membership committee. We don't have a member of the membership committee here right now, so I'm speaking on their behalf. They're creating a list of requirements for new Caucus members. It's not a dramatic change from where we are today, but it's essentially knowledge of DNS or some sort of experience within DNS or some other field that it would be beneficial to the work we are doing here. That is being put together and will be presented to the Caucus shortly for their feedback, and then that'll be incorporated.

Then lastly is a survey that we are going to perform and ask Caucus members about the engagement, about how things are working for them, if they've contributed to a work item, if so, how did it go, what worked, what didn't work, what do we need to do better. That type of survey so that, again, we can continue to improve on what we're doing, how we're doing, and how we're communicating with you. That is coming out to the Caucus in very short order. We look to implement the results of those by the end of this year.

TRIPTI SINHA:                    Alright. Thank you, Brad. Any questions for Brad?

DAVEY SONG:                    Can I question about management or other business? My question is simply that I'm not sure current discussions in mainly still Caucus is available for public. The archive messages is available for the people who are not on the main list, I think maybe powerful to other people, ordinary users or such not exactly qualified people can access to the discussion or the draft document of the Caucus.

STEVE SHENG:                    The mailing list publicly archived. The URL has been shared with the Caucus before. But we're certainly happy to send it again. Anyone with the URL can see all the communications within the Caucus. Thanks.

DAVEY SONG:                    Okay. I just [need to log that] because I am already in the mail list and I'm not sure everyone can leave.

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TRIPTI SINHA:

Thank you. Any other questions? Okay. I'd like to say we've generated some very good input from you. I don't remember your name, sir, but I highly encourage all of you to apply. There's a lot of interest in more root servers, fewer root servers, designation process, removal process. All this work is going to come. Please apply to be members of the Caucus. Carlos there can tell you what the address is. I think it's [RSSAC-membership@icann.org](mailto:RSSAC-membership@icann.org). I think that's the address.

Send in a statement of work with your qualifications. We do need people with expertise in DNS, experience with running DNS servers or root DNS and security and so forth. Please, do participate.

Our next Caucus meeting is in Chicago, I think. Right? Chicago is the next meeting in March. Is it March? March. See you then. Thank you.

UNIDENTIFIED MALE:

I'll just add to what Tripti just said there is that this work is going to happen. Realize, it's going to happen with or without you. It would really be beneficial for you to contribute. Okay? Thanks, everybody.

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LARS-JOHAN LIMAN: Thank you.

**[END OF TRANSCRIPTION]**