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DUBLIN – Joint Meeting of the ICANN Board & the SSAC  
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STEVE CROCKER:                    Fantastic. Thank you.

So this is the time that the ICANN board gets to meet with the Security and Stability Advisory Committee. We have been meeting all day with other parts of the group community. This is maybe the first time during the day when we get to meet with anybody who knows how things work and more particularly how things break.

I heard a rumor that there was some concern about whether or not we have enough representation here and would give you enough attention.

So it's a very big room, and so it's easy for all of us to go off. So let me ask board members to stand up so that you can see that we really are here for you.

Good. There is a decent number. And now let me shift to the new board members. There's Lito. Lousewies. It's late in the day for me.

Where's Ron? Maybe Ron stepped out.

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I can't hear you.

MIKE SILBER: The other two new board members, George and myself.

STEVE CROCKER: You guys just came. You can stand up and sit down quickly, if you want.

Anyway, we're here. We're eager. And the agenda really is yours. We have been asking a standard question of each group about you're one of the chartering organizations for the CCWG. And so the proposal, assuming it comes, will come to you and you will have to ratify it or turn it down or grumble or whatever. At least somebody is part of the CCWG. I haven't been tracking too much. Who is doing that work?

PATRIK FALTSTROM: We have two SSAC members from the CCWG. That's Lyman Chapin and Julie Hammer.

STEVE CROCKER: And I assume there is pretty good communication back and forth so that what's happening there you guys are tracking and feeding back your thoughts and that there won't be much surprise.

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PATRIK FALTSTROM: No, absolutely. And we spent one hour this afternoon to talk about that specific topic where they brought back to us the various issues where they wanted to have full support from SSAC in whatever they are going to bring back to the meetings that continue tomorrow to make their life easier and also to be able to move this forward as fast as possible.

STEVE CROCKER: Let me turn it over to you. You have shared an agenda with us, and we are eager to go.

PATRIK FALTSTROM: Thank you very much. Patrik Faltstrom, Chair of SSAC. To the left of me I have Jim Galvin, vice chair of SSAC. And on the agenda -- and then we have various SSAC members both at the stage and also in the audience. I would like to have SSAC members to stand up.

[ Applause ]

Suzanne, you should stand up as well.

SUZANNE WOOLF: I already did.

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[ Laughter ]

PATRIK FALTSTROM: So there are three topics we would like to discuss or bring up. The board advice tracking, the issue we call one namespace, and the root zone KSK rollover concerns which we just issued a report, SAC Number 73.

We will start with the board advice tracker, which is pretty easy. We would like to reiterate and reconfirm that we, just like you on the board, that you have told us earlier, we find this project really, really important because we find that there are a couple of -- a couple of issues which are recommendations that we have sent to the board and to the staff which have been delayed not because anyone has made any mistake but just because we together as a collective just dropped the ball. So we just want to acknowledge that in the discussion, for example, that Steve and I have had, that we share concerns over advice being delayed for various reasons. It is also, of course, very hard -- now, when we are moving into potential next round of gTLDs, it's also important for both us and the rest of the community to try to see what kind of an advice SSAC did give for the current round, try to see what advice was implemented, what was the effect, is there some mistake that was made.

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We are working very closely with David Conrad. And we had a meeting today where we also got a demonstration of the various tools that can be used because the -- what is happening here actually are two things.

And, David, please chime in if I describe this the wrong way.

The first thing which is the most important is, of course, that we come up with a process on how to take care of advice and the rest is just in implementation, as people say.

We in SSAC, we sometimes try to see it the other way around. But David has been very good at telling us that the process is actually the most important thing. And I completely agree with that because that is where we together have dropped some issues.

The accountability is the real concern for us. For example, if you look at SAC63, where we found it to be necessary to issue SAC73. There is also a couple of other issues that have been dropped and we don't really know where they have been.

We had issues regarding -- we had one recommendation related to internationalized domain names and the trademark clearinghouse that we issued in June 2013. And we have requested a written response on that. And we have received the response four days ago. So that took a little bit more than two

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years because we forgot about it. ICANN staff forgot about it. We didn't really know where it was. The staff support that we have in SSAC had to work really, really hard to understand where things are, and that's just unnecessary. So both the process and the tool would be really, really happy.

STEVE CROCKER:

Melissa, I see you hiding over there in the corner. Let me ask you to come here over in the center. We're going to do two things. First of all, I'm going to introduce, Melissa King, our new vice president of board operations. And one of the things that I have put very high on the list is making sure that when we get advice that it gets properly tracked.

David has been building and supervising the operation of the advice tracking stuff which you have been exposed to.

But let me do a little piece of theater.

Melissa, this won't hurt at all. Come here and stand here for just a second.

MELISSA KING:

Right there?

STEVE CROCKER:

Right in the middle there.

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[ Laughter ]

So Melissa is fantastic and she has just come. This is just a simulation, right?

MELISSA KING: I'm a hologram.

STEVE CROCKER: What you just heard spoken in very polite terms is: So we wrote SSAC 63, we gave you some advice. Nothing happened to it. We came back later, we had to write SAC 73 to tell you, you didn't do the advice we gave you. How come you let that happen?

[ Laughter ]

MELISSA KING: (off microphone).

STEVE CROCKER: This can't be your fault yet. Next week we have timer set on it. But I wanted to make it clear to everybody that we have, in fact, been paying a lot of attention to the fact that we haven't been paying attention and that it is not an acceptable position for us to be in and that we have actually pushed hard on it in two ways. And they're embodied here in two different people. One is

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making sure that we got the process and structure to do it, and the other is that we have management to make sure that it happens in each and every case. And I don't want to be having this conversation again.

Thank you for the theater here.

David, do you want to comment on the status? You gave them a demo. But do you want to say anything more about where we are on the advice tracking process?

DAVID CONRAD:

Let's see. So we are moving forward. We had a meeting with the GAC secretariat yesterday where they had provided some additional input. They're particularly interested in integrating into the board advice registry. I indicated to them that they are sort of phase 2. We want to deal with the current population of the board advice registry. They have their own mechanism to track board advice -- GAC advice that's provided to the board.

We're making very good progress. I have been extremely happy with the efforts of Liane Champagne and her team. And I think we have something pretty good that will be coming out pretty soon.

I should say, it is in production now. The backend system built on top of Salesforce is in production. You know, it's primarily



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oriented towards the administrator, so the user interface is what Salesforce provides.

We're very interested in getting input from the various ACs that are involved in providing advice, particularly when we get the portal up because right now in order to make use of the system, you actually need to have a log-in in Salesforce, and that's for a fee. We pay Salesforce for that.

But when we get the portal up and running, that will actually be something that people will be able to use and provide input to us on without us having to pay an additional fee. So that's one of the things we're looking forward to in the future.

STEVE CROCKER:

Thank you. So let me put these pieces together and say it as compactly as I can.

We want to get to a state in which advice no matter where it comes from, comes from the GAC, the SSAC, or the RSSAC, or the Affirmation of Commitments reviews or other sources, although there will be some variations and some specifics that -- in my view, there are four big steps that take place. The first step is the receiving of the advice and capturing it so it doesn't get lost, we take responsibility for it, and that there is clarity that what was said was what we understood and what we had put into the

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register matches that. It's not an evaluation. It's not a commitment. But it is an acknowledgment of receipt and an acceptance of responsibility. So that's step one.

And that's not a trivial process because depending upon how it's written and so forth it may be an issue of interpreting was that really advice or how specific it was. There may be some back and forth in that. Step one.

Step two is the part that gets the least amount of visibility but is extremely important. And that is an analysis and evaluation process internally. Is it -- do we -- is the advice implementable? Do we -- what resources would it take? Who would have responsibility for it? And leading up to a decision, do we accept the advice? Do we push back and say we are going to do this but not that? Do we say, No, we are not going to do it at all? And that has to be time bounded. Can't take forever.

And all of that has to be visible. And that's part of what we're now thinking we are in position to do.

Step three is -- assuming we do accept and take it on to implement, is the implementation phase. There has to be some certainty about that. Part of what comes out of phase 2 is a nominal plan, a sort of rough top-level plan that tells us how long it's going to take to do the implementation, what the major

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milestones are going to be so that when we roll into phase 3, there is a picture of what's going to happen.

Phase 4 is the final check. When we come out of phase 3, we say we did it and we have to close the loop in phase 4. What do you think? Did we actually do it? Or you get to say, hey, that's nothing like what we said? Or, yes, thank you or whatever the situation is.

We are still some distance from doing all that. I'm pushing very hard that we will be able to do these and we will be able to do them in an orderly way. So that's a big piece, and we are going to get there.

Where David says we are is that we got the backend. We got the rough pieces. The interfaces are not quite up there. So there's still a climbing up of the path of getting the system running smoothly and that it becomes visible, everything's trackable, and that you can see what happens to your advice.

Now, none of that will fix the problem of if we don't like your advice or we refuse to do it, that's a whole separate problem. At least we can clear away the basics.

That's where we are. And you should hold us to it. And everybody inside ICANN knows how hard we're pushing on it. It

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has management support. It has budget. And that was not the case over the past few years. We finally pushed it up to the top.

Happy to answer any other questions. But that's my view of where we stand.

Okay. Thank you, David. Thank you, Melissa.

Melissa still here? Thank you.

PATRIK FALTSTROM: So we have people at the microphone. Questions?

RINALIA ABDUL RAHIM: Rinalia Abdul Rahim, ICANN board member. It's not a question. It's a comment. The ALAC in its meeting with the board this morning also raised the issue about the board failing in responding to formal advice. And they reminded us about ATRT2 Recommendation 9.1 about essentially responding to formal advice in a timely manner in providing a rationale if the board does not follow the recommendation provided. And Steve Crocker gave a strong commitment that this is definitely on top of our agenda, and it will be codified in our bylaws. And it is in the process of being reviewed and approved, but it will take some time because of possible interactions with the CCWG requirements for bylaws changes. But we may also decide to

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perhaps treat it separately. That's something that the board will take up. Thank you very much.

PATRIK FALTSTROM: Thank you very much. And let me add that implementation of that recommendation from ATRT2 is also some -- it's also input that RSSAC gave as input to the CCWG review.

MIKE SILBER: Mike Silber. Could I ask the chairs if we could go back to the agenda because there was actually some interesting stuff on it. I think this process stuff has eaten up almost half of the meeting. And it could have been answered in one sentence. So that being read, can we go back to the actual real issues?

PATRIK FALTSTROM: So the next issue we'd like to bring up is one namespace. Warren?

WARREN KUMARI: So, yeah, this is a topic that we're calling one namespace. Something that's worth keeping in mind is it has lots of subtleties. So this is going to be sort of a general, broad overview. I'm going to provide some background. And then

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we'll have some questions. And then Patrik has some sort of key points and take-aways to take away from this.

One of the main things to keep in mind is that there's a big difference between a namespace and the DNS. So sort of roughly speaking, a namespace is all of the names that can exist, all of the names you can represent. The DNS is simply one subset of these.

And there are a bunch of other subsets that we have to keep in mind. So for example, Apple has the Bonjour protocol which is used for finding printers and stuff like that. iTunes uses that to find its music source. Windows uses NetBIOS to find a bunch of machines in the workstation -- or, sorry, in the work group. And then there are a number of alternate name resolution systems as well. One of the best known ones is the Tor project has the Tor browser, which has its own namespace which is called the onion namespace.

Because the DNS has become the sort of dominant name system, most applications understand how to deal with DNS-style names. Sort of, you know, letter, digit, hyphen, dot, letter, digit, hyphen. And because of this, most of the alternate namespaces use the same sort of style. They'd like to be able to use that name in applications so when they design an alternate namespace, they use the same sort of style.

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As an example of this Bonjour uses .LOCAL to do its own name resolution system and Tor uses .ONION.

So this all sounds fine, although you can run into issues when the namespaces conflict.

So Tor has sort of on the order of a couple of million users and there are tens of thousands of onion names that are in common use and potentially millions of other ones, and these namespaces leak into the DNS fairly often.

It seems as though there are around 2 million queries per day for names that are in the .ONION namespace. These are not supposed to enter the DNS, but because people email links around, et cetera, they do.

This would cause issues if .ONION was applied for as a TLD. It would cause issues to the applicant and it would also cause issues to the Tor project.

So the IETF has a process, RFC 6761, special use names, which allows the IETF to reserve names for technical use, and recently - - actually, the process isn't quite finished yet, but recently the IETF decided to use this process specifically for the .ONION namespace.

It sort of looks and acts like a TLD, so it's often called a pseudo-TLD.

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And so the IETF is reserving this and sticking it on a special use names registry. But this process isn't really scalable and potentially ends in conflict.

So something which we think needs to be figured out is how this process should be worked, how we coordinate this, how the different sort of represented communities all deal well together.

Last year, actually there was a liaison statement sent from the IAB to the ICANN board sort of discussing this particular thing, but we need to figure out how we can do this so that if there are conflicts, you know, it can be kept an amicable agreement, et cetera.

And as I said, this is a very complex and subtle topic. Even within the IETF, the discussions on what exactly a namespace is end up being somewhat complex and contentious, so I'm expecting there might be questions.

PATRIK FALTSTROM: What I was thinking of doing is -- to speed up time is to immediately fast-forward to the -- I'm surprising Warren a little bit now, so this is not your fault -- the key messages that we, from SSAC, have to the board.

The first, which you might understand from Warren's presentation and description, is that first of all, it's not only



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ICANN that has headaches about these kind of naming issues. Also other organizations.

It's very important that when dealing with these kind of headaches, that communication with other organizations exist.

We from SSAC don't want this collaboration or non-collaboration to become a fight between the IETF and ICANN, who owns the namespace and reserves names. Collaboration is absolutely needed.

And given that the namespace itself is distributed like this and the responsibility is distributed, it's very important that from an SSAC perspective SSAC stands firm, and we also want ICANN to be extremely firm, that there is one and only one signed root zone with one trust anchor.

Any proposal that is put on the table or discussed must be evaluated according to the current architecture that there is one root and only one trust anchor for DNSSEC. Extremely important.

The fourth thing is that we in SSAC, we are sort of trying to keep track of this because we are starting work parties and starting to work on issues on our own. We do have liaisons to the IETF and to RSSAC, but we don't want ICANN to rely on us to be able to detect these things on our own, so we want ICANN to -- if ICANN

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should launch any kind of work in this area, that ICANN first carefully consider collaborating with SSAC, RSSAC, IETF, and others and ask them how the work should move forward.

And when ICANN is doing these kind of things or asking questions to other organizations, including asking questions to the SO and ACs within the ICANN community, it is really important to frame the questions carefully because there are both political and technical considerations here.

So for example, not mixing up, when one talks about the DNS and the namespace that we use where DNS is one portion like Warren just explained.

And now let's open for comments.

STEVE CROCKER:

Let me ask Cherine to look into this, partly to be helpful on our side and partly to help him understand the first comment that we should get more of our nontechnical board members involved, and so you're seeing it in real time here.

David obviously is fully cognizant of the technical aspects, and underneath the covers, I understand that there's a -- I'll soft-pedal this -- some stylistic differences.

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So for example, application for .HOME, CORP, MAIL, we get -- the official answer that comes out of our global domains division is "Not going to allocate it at this time." And I understand fully that from the technical community's perspective, it is "Say what? What do you mean? Does that mean you're going to do it at a later time?"

The answer is: "No, that's not what it means."

"Well, then why don't you say that?"

And so as I say, now we get into sort of stylistic differences. But getting some coherence between what each side has as an understanding and getting the communication on that is, I think, a useful and relevant thing for us to do.

CHERINE CHALABY:

Patrik, thanks. I heard your -- your request about collaboration and also framing the questions very carefully, but it kind of triggers a thought in my mind that is there an incident that took place recently that leads you to this request or something like that, or this is just a general request?

PATRIK FALTSTROM:

No, there has not been an incident, but there is discussion both in the IETF, in ICANN, in various places -- just one second --

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about who is going to make what decision about strings in the namespace.

That is the most important -- the most important issue, that we have not seen so much coordination, and at the same time both ICANN and IETF make decisions on this topic. But I leave it to Warren to be more specific.

WARREN KUMARI:

So, yeah. I wouldn't say there was a specific incident, but the IETF has recently got a bunch more requests to reserve specific strings using the special use names registry.

You know, there was the .ONION one, and there are a bunch of other ones in the pipeline, and so we don't want to end up in a situation where there's conflict between the IETF and ICANN.

We also, to be honest, don't really want the IETF to end up having a lot of these coming along and the IETF having to deal with figuring out what to do with all of them.

There are all sorts of policy implications behind it which the IETF does not really want to do and isn't really set up to handle.

CHERINE CHALABY:

And in RFC 6761, you're doing a problem statement on that, correct?

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So you're introducing new policies or new questions or new things so that it creates that collaboration with ICANN or...

I'm not clear on this point.

WARREN KUMARI:

So 6761 is actually based upon the RFC 2860, which is the MoU concerning the technical work with the IANA, and so that sort of is where the ability to reserve technical use names comes from.

However, it looks as though 6761 is not necessarily a great process, and so the DNSOP working group is forming a design team to investigate, you know, how this should be changed, how things should happen going forward. And so, you know, it would be very useful to get input from the ICANN -- ICANN community there.

CHERINE CHALABY:

David, you want to add more on this collaboration issue and framing the questions?

DAVID CONRAD:

Sure. Although I think it might be useful for Suzanne, who is chairing the working group in which that discussion is occurring to comment at this point.

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SUZANNE WOOLF: Sure. My friend here, the IETF liaison to the ICANN board, we can do a song and dance.

JONNE SOININEN: No, no. No song. Just dance.

SUZANNE WOOLF: If you'll allow me, I'll go first.

There's two specific things I want to point out, and yeah, I wear a lot of hats around here but speaking as co-chair of the working group, not for the working group, because one of the important points here is that there is very little consensus on what the issues are, how to proceed. That's a process we're actually undertaking.

As a matter of process, the .ONION request for the addition to the special use names registry was very difficult, took a long time and caused a lot of controversy, and as part of approving that request, the IASG asked DNSOP, the working group, to start the process of looking at RFC 6761, the process that has come from it, and what we might want to do that could make for a better process and a better collaboration for everybody.

There are ICANN staff participating in that process. There is an Internet draft that's the first -- the very first step, you know, the

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step 0.5 in that undertaking that is the beginning at an attempt at a problem statement.

So there is collaboration and discussion going on. There will continue to be. But that's the formality of how it works in the IETF.

JONNE SOININEN:

Yeah. And I just would like to add and pinpoint out what actually Warren already said before. IETF sent a liaison statement to the ICANN board and which was also sent to the GNSO to basically, when this -- the thinking about this process started almost a year ago, I think now, and the IETF really would encourage the ICANN community to be involved in this and to come and discuss these issues in the IETF in the process that Suzanne just explained.

DAVID CONRAD:

Yeah. So this actually gets a little complicated, I think, because the IETF -- participation in the IETF is on an individual basis, so when you say you want ICANN to come and discuss this, what do you mean exactly?

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**JONNE SOININEN:** Oh, yes. I didn't say ICANN. I said people -- ICANN community. So what I meant was of course like you said, people from this community would come as individuals and work in the process as it's intended in the IETF. Exactly. Thank you.

**DAVID CONRAD:** Sure. And in that context, I can say that one of my team members, Alain Durand, is actually involved in the design team as an individual, not trying to represent ICANN in any way or the ICANN community in any way, just representing his particular interests.

**PATRIK FALTSTROM:** Yeah. Let me just say that the -- the liaison from the IAB to ICANN actually says, "We invite participation of interested parties including members of the ICANN community in this work." So that message has already gone to ICANN.

**WOLFGANG KLEINWACHTER:** Wolfgang Kleinwachter, for the record. I'm one of these nontechnical persons on the board, and I want to understand this issue a little bit better and I apologize if I'm asking the wrong question.



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In my understanding, this is related a little bit to the global discussion about fragmentation of the Internet, and if you differentiate between the namespace and the DNS and then you have next to the DNS something else, so that means I'm interested how you -- do you see the potential and is your call for collaboration, is this the barrier against this risk of fragmentation, if the namespace then gets fragmented? Not the Internet, but the namespace. Is this correct? And if there's a risk, how we can keep this risk low? Thank you.

PATRIK FALTSTROM:

Yeah. Let me start by explaining a little bit how -- let me try to explain a little bit and then Warren can continue.

We have multiple systems that uses the same namespace. One of them is the DNS. So far, we have been lucky that these systems use what could be used as different strings that looks like TLDs. Local, onion, and sort of everything else, where "everything else" is the DNS.

We will have problems if it is the case that, for example, "onion" was both a TLD and used in the Tor project, because then when seeing something that ends with "onion," the application would not know whether to use the DNS or Tor to resolve or -- to resolve the -- what looks like a domain name.

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So in the namespace, any kind of overlap in the namespace is similar to the namespace collision reports that we wrote in SSAC, but this would be a collision across multiple different protocols where DNS is only one.

So there needs to be coordination when allocating these strings that are used in different protocols so that what one organization is doing is not a denial of service attack on what another organization is doing and vice versa.

We can remember that in the applicant guidebook, ICANN did reference the special use registry as a list much strings that applicants were not allowed to register, to apply for, so some kind of collaboration already exists, but here we talk about potential multiple interests and multiple interest groups using different processes to do similar allocations still for different protocols but in the same namespace.

CHERINE CHALABY:

Patrik, Cherine.

You said -- you posed one question and said, "Who is going to make decision about strings in the namespace?"

I don't think -- I haven't heard an answer about this or is this something you want to discuss further or you want to move to the next topic or --

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PATRIK FALTSTROM: To some degree, that is exactly the question that is up for discussion at the moment. Because depending who you ask, it's more or less clear who is making what decisions.

GEORGE SADOWSKY: Okay. Thank you.

Well, I used to be technical in the 20th century, but we've been out of that for quite a few years, and I understand the issue and I think there is more examples to the namespace than you've -- than have appeared here.

So it looks like it's a problem, and as you said, we've been lucky. And yet when -- when I listen to what's been said, I do have the same concern as Cherine, in that I don't see exactly what's being recommended in the way to go forward. The IETF is very different organizationally than ICANN is.

It's -- my solution would be to go to Suz, who runs the project, and say, "What should we do?"

And I gather what you're saying is -- right?

[ Laughter ]

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GEORGE SADOWSKY: Wait a minute. I got it.

[ Laughter ]

What you're --

[ Laughter ]

What you're saying is we really need to discuss it.

SUZANNE WOOLF: Sorry. I run nothing. I move the furniture around for a working group in the IETF. That's all I do. And we're talking about something rather larger.

GEORGE SADOWSKY: Thank you. So I think it's a problem. We need to address it. We need help in understanding how to address it.

And I admit that I have not read the report that references this, and I feel a little bit guilty about that right now, and I think it's important that we get to it.

The problem that I see from a board point of view in the last few months has been, it has been CCWG, it has been CEO selection, everything else, and it's the case of the urgent crowding out the important once again. We're very familiar with that problem

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and we don't seem to be able to solve it, but thank you very much for bringing it to our attention.

STEVE CROCKER: Mark wants --

JIM GALVIN: Jim Galvin, for the record. I want to say three things I think about this question about what to do. I think part of the reason why we're here is because this is a question that needs discussion so we have to figure out what the path forward is and what's the guidance that we're offering. So one of our key messages here was about ensuring that there's collaboration and to focus on that a little bit, casting this into something concrete, we have this special names registry in the IETF and we've already made reference to the list of reserve strings, if you will, that was in the Applicant Guidebook. Well, that's two different lists of strings that are in some sense protected. So what's going to happen in the next round? I mean, so there's a question here that bringing to the table that between ICANN and, you know, this registry -- I shouldn't say ICANN too specifically. You know, we have this community at large which drives what goes into the Applicant Guidebook and the process and that kind of thing. But there needs to be some acknowledgment that there is this technical special registry over

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here and its relationship to what may or may not be allowed to get into the root zone.

Cherine asked the question of, you know, who has the decision -- you know, who has that authority? We've kind of put that question out there. In fact, that's a question that we're asking. We're raising that question up and saying, "This is an important question." This gets to one of our key messages about collaboration again. You know, different parties, depending on who you ask, will tell you they -- what they believe is their position in the authority of making that. And this again gets back to, we currently have two registries of reserve strings, if you will, or protected strings for some reason. So we need to reconcile the fact that those two things exist.

Then the third point I would make is getting down to again one of our key messages here. The most important thing that needs to be maintained is that there should be only one and exactly one root and in particular with DNSSEC there needs to be exactly one DNSSEC root trust anchor. And whatever comes out of the discussions in answering those questions has to maintain that principle. And we don't want to lose that message either in our set of messages to the community. Thank you.

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MARK SEIDEN: Mark Seiden, for the record. Perhaps it might be clearer if Suzanne could explain what the functional and behavioral differences are between something that's in the IETF namespace like .LOCAL or .ONION and what constitutes a TLD in the ICANN world, or is that something that is so undefined that it needs to be negotiated between the two organizations?

UNKNOWN SPEAKER: Suzanne.

SUZANNE WOOLF: I think that's exactly what Warren was pointing to first when he said this is an extremely complicated and subtle space. And what I was pointing to when I said there's very little consensus. This is not my definition to give.

So what you're asking -- I think that what you're looking for is the outcome of the conversation and the process. Which frankly I'm not reading the future all that well at the moment.

MARK SEIDEN: There really is no definition of --

SUZANNE WOOLF: There are contending definitions.

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MARK SEIDEN: I see. There is overlap between the definitions which causes the conflict?

SUZANNE WOOLF: That's still an oversimplification, but I feel good about leaving it at that.

MARK SEIDEN: Okay.

WARREN KUMARI: So this is probably going to get me into trouble, but one of the definitions which is incorrect but is easy for people to think about is that ICANN gets to decide what things go in the root and the IETF can sort of decide what things cannot be allowed to enter the root. And that's not actually correct, but it's an easy way to sort of introduce the statement to some people, and already I've made Jeff sad.

STEVE CROCKER: Before we go to Mike, I -- so I poked my head into this a little while ago to see if I could understand what was going on and a -- what I thought was a critical thing emerged. Your definition,



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Warren, is related to -- but I'm going to put a little bit of a different spin on things.

Over on the ICANN side, yes, indeed, we say what can go into the root and we maintain a definitive list and when somebody asks can something go in the root we say yes or no basically.

Over on the IETF side there is a permission list system in place in which people go do whatever they want, create whatever protocols, create whatever systems, and may at some future time come and say, by the way, we've been working on this for a while. We've got a lot of users. Please protect this name, which we didn't ask permission for, nobody seemed to be using it, we're okay. So that's the way .ONION comes out and .LOCAL and some company names and so forth.

In a very vast, sparse space where you can make a choice like that and it doesn't bother anybody, fine. As this space becomes denser and denser, there's likely to be collisions. I have not seen anybody over in the IETF side willing to grapple with the coming collision, and over on the ICANN side we start with the idea that there might be contention so we'll sort that out before we make the decisions on who gets something. So in my mind, there's a culture clash in which there's not yet an agreement that controlling the namespace in an organized way is even yet necessary.

MIKE SILBER:

Mike Silber. I think this has been a really interesting and at least a useful movement in the discussion. I'd just like to sum up my understanding.

So right now there's a tendency within the ICANN community to knock these hard issues back to an entity like SSAC because that's why you're here. You're here to advise us, and we can simply accept your advice and move on or not. You're saying this is too important just to leave in SSAC and for us to solve ourselves because there may be some conflicting opinions within SSAC. That raises the specter of bringing this into the more general conversation, and that's when you get lawyers and business people involved. And the first thing is going to be a journalist who writes about how you can get a gTLD at no cost or a trademark lawyer who says no, no, but I have a trademark in that, therefore, I should be getting it and is this a quick way of getting trademarked or brand TLDs without having to go through an application process. And then there are going to be people on the side saying this is not transparent and bottom-up and you haven't considered the global public interest.

So I think this is going to be a really interesting test of how closely we can keep this one to a multistakeholder model which

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doesn't mean that everybody decides but rather we consider multiple inputs into the process.

What I'm also hearing very clearly is that ICANN needs to be -- sorry, ICANN the community needs to be more involved. ICANN the staff need to be talking more to you guys, reporting more to us, and we need to keep our finger on the pulse. But it doesn't mean that necessarily we should be doing anything. And in fact, by doing we may make things worse.

So if I were to sum up this session, is that this needs to raise up on the priority list, but we need to choose the point people who are going to be talking to each other regularly. And I would suggest maybe David and Suzanne are the point people who need to be communicating both ways quite regularly or Ram for that matter as the SSAC liaison. But right now I think rushing into action could actually be dangerous, but rushing into knowledge is never a problem. And I really welcome that from the session.

PATRIK FALTSTROM:

Thank you very much. I think that is a very good summary of this session. And regarding the role of SSAC, with the help of your view of the session, and I can summarize myself that yes, as I said, we are looking at this from an SSAC point of view, but it is from a technical point of view. But we still (indiscernible) now

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that whatever is said, whatever is happening from a technical point of view do have secondary effects and vice versa. Which means that yes, there will be most certainly the cases where we might say something on this topic or we might be asked questions on this topic that we answer and what we are saying will have those effects and we need to take those other things into account. And we don't want, from an SSAC side, want to have a situation which is like the namespace collision or certificate issues, train wreck, let me use those terms, once again. Because this might be even more complicated if it is the case that we have not thought about this, we as the global community, when we come up with whatever kind of new policy or idea of what we're going to do in the future. This is something from SSAC perspective, all of us have a shared responsibility to think about when we come up with whatever quality it is we want to launch. So thank you for the summary, Mike.

And then we have ten minutes and we will -- we would like to give the ability for us to just summarize a little bit the situation of the root case key rollover concerns. I made the conscious choice to actually run a little bit over time on the other things and give Russ less time than I promised him, but that -- I'm sorry, Russ. I'll have to buy you a beer later on. But one of the reasons for this is this specific one is actually written down in

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SAC 73. So there's an explanation for a document that you actually can go back and read. Russ, please.

RUSS MUNDY:

Thanks, Patrik. And thanks to the board for joining us for this session. Really appreciate it.

The root -- in some ways I have the easiest item here to talk about. It's actually fairly clear-cut. The root zone of the DNS, the ICANN root zone, was signed a bit over five years ago, and at some point in time that key that was used to sign the root zone needs to change and that's what's often called in the technical community a key rollover. So if you hear the term "key rollover," that's really what's being discussed, is there is a key that's being used for a function, needs to be replaced with another key to perform that same function. There's, I know, a wide range of depth of understanding about this general problem space and the challenge of understanding the details of DNSSEC and the particular key that is being used and being talked about is the key signing key. And the reason the key signing key itself is so particularly important is you heard mentioned earlier the trust anchor for the root. The key signing key public portion that's out there is actually the trust anchor for the root. And so anyone that's making use of DNSSEC under the defined standard structure is making use of this key.

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And so it's very important that when this key rollover occurs that it be done carefully and effectively. And so that was in many ways the biggest genesis for why SSAC wrote SAC 63, and we published that in February of 2013. And the initial response that came back, after the board had taken action on it and put it out for further action, the request to have information come back was deadlined for March of 2014. And so, you know, here we are at the end of 2015. And no one has given actually any sort of direct or formal response back to the SSAC on what we feel is a quite important technical issue. And in that report -- and that's the reason really why -- an important aspect of why SAC 73 was recently issued, to reiterate that these things are still important, from the SSAC view anyway, and that we really hadn't heard anything back and that the study that had been recently put out for public comment and the response was in -- was commentary relative to the key -- root key rollover design team document that had been published.

And so I won't go into the -- the five points, but they really track very directly into the five original recommendations. And one of the problems that we see, in addition to the fact that we hadn't heard back anything, was that the work that had most recently occurred had not seemed to be well -- had not seemed to be joined in with the other activities that had happened before. And so we're not sure how much coordination and sort of whole

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world thought, if you will, or universal thinking about this problem of changing the -- the root KSK has gone on. And this is not to say that the advice we issued in 2013 is perfect, but it would be useful to hear back things that didn't make sense as well as things that did make sense from other folks that have looked at it in the community.

And the five items were listed in there, and we still do think they are important, but we are also concerned about the sort of lack of overall direction and guidance and have all of the pieces that have been talked about in the past been looked at, thought about, and considered for where we are.

So in view of our timing, I want to just stop there and encourage the board to go back and look at what we've written before, and I imagine that the real short bullets will be provided by Ram at a later point in time. But we'd love to get further input and feedback from the board at this -- at this point, if we could.

STEVE CROCKER:

As -- as we did with the previous one, I've asked one of our non-technical -- non-technical is too negative. Less technical people, Asha, to look at this, as well as David. Let me just emphasize the points you're making, Russ. You'll remember that the history of this goes back a bit further. We had a very pointed session, a little symposium in -- if I recall correctly, June 2009, about a full

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year before the root was signed, anticipating the need for a root key rollover after the root was signed so that we'd get the practice at it and emphasizing that sooner is better. Often -- doing it more often until we make sure we get it right, et cetera. And that did not have much of an impact, as we have seen. I have some choice words about where things fell in the floor, but it's clear that we now need to raise that visibility. David, do you want to comment anything about what the process is internally? Asha, you want to -- turn it over to you.

ASHA HEMRAJANI:

All right. Thanks, Steve. So not less technical but just technical in a completely different area (indiscernible). But thank you, Russ, for bringing this up. And I can understand the frustration that you talked about.

So as you know -- as you mentioned, rather, there was a public comment period and that just ended recently on the 5th of October. And you may or may not be aware that the staff report on the comments that we got from the public comment period just came out yesterday.

So my understanding is that staff are still developing the plan for the rollover. So it's not yet finalized. We want -- we understand - - I mean, based on your comments just now, we understand you have some concerns about the rollover plan, and those are listed



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in the -- in the five recommendations that you listed. So we wanted to understand a little bit better about your specific concerns, and things like, for instance, you know, some -- if you had any recommendations on the specific network environments for the test bed. So I'll -- I'll leave it to David now to go over those five recommendations, or at least rather to give us some brief comments on those five recommendations. But Warren, you had something to say?

WARREN KUMARI: So I think that one of the concerns is that it's fairly clear that at least some portion of DNS users will be affected and will be unable to resolve names.

ASHA HEMRAJANI: Because it's a big move.

WARREN KUMARI: This is very large. So want to make sure at least that the board is aware of the risk. That, you know, some set of people will fall off of the Internet, and that potentially has really bad PR consequences.

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ASHA HEMRAJANI: Yes. I think we are aware of that. We are aware of the risk, and that's why we want to make sure we do this as properly as possible and get as many inputs as possible. But I'll let David go over those five recommendations. Thank you.

RUSS MUNDY: If I could, a quick response to the -- do we have a specific individual set or a further subset? No, actually at this point we don't from SAC 63. A number of us have different insights and have seen what's been going on from different perspectives, but one of the most significant parts of the problem is that there doesn't seem to be any really cohesive well-thought-through complete set of things that considers the even earlier work that was done, I believe after the Berlin IETF and -- there was a public comments period about a set of things that happened there, then the SAC 63.

So they don't seem to be wrapped in to what's being put out at this -- or addressed at the current time. And we'd just like to make sure that the full picture gets looked at.

RAM MOHAN: This is Ram.

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STEVE CROCKER:                    Go ahead.

RAM MOHAN:                    Just very briefly. I didn't want the rest of this conversation to get wrapped up about the process and what who did and who did not do. I think it's important from the board point of view to have clarity that rolling off the key for the root zone has significant consequences and there are some specific recommendations. And it's puzzling that there is -- it's a year and a half and not much seems to have been communicated.

STEVE CROCKER:                We talk in terms of the risk that there will be some consequences. When I use the term "risk" I think in terms of the fact that something might happen and equally that it might not happen.

I sort of think of rolling the root key as more like we are going to take the bandage off and there is risk it will hurt. There is no risk. It will hurt. The only question is how much.

So I think in terms of clarity, I'm all the way on your side and more so that we should be quite crisp about the fact that there is going to be some level of damage.

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What we don't know is precisely how much, which is one of the reasons why my personal view is that we should have done it earlier. We should have done it often. We should do it until we keep getting it right and that we've shortchanged the community of not going through that experience.

There is another point of view which is what's led to, "Let's not do this, we don't need to do this, let's put it off" and so forth. And now we are where we are here. I think -- that this is the time to face up to it rather squarely. And I am absolutely delighted that SSAC has chosen to push it and push it again. And on our side, we are, in fact, going to make sure it doesn't get lost.

David? Asha?

ASHA HEMRAJANI:

Yeah. That's why, because of the risk, I wanted to go through each of those five recommendations and let you know what we think. So I think -- I know we are running out of time maybe, but it is worthwhile to take five minutes to go through that.

DAVID CONRAD:

With apologies for running over a bit. So of the five recommendations, the first, "ICANN should immediately undertake a significant worldwide communication effort to

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publicize the root zone KSK rollover motivation and the process as widely as possible."

At this point in time, we're in the process of developing the process. So it might be a little premature to go out and talk about the process. We have, however, been engaged in going out to technical fora to describe the fact that we are going to be rolling the key and what that would imply, particularly to resolver operators. We have been focusing, I believe, on the network operations groups, the RIR groups, and the regional TLD groups.

We are working with the ICANN comms team, communications team, to develop a much larger scale mechanism to publish information about the rolling of the KSK. But we thought it would be more appropriate if we actually had a plan as well as a time frame when we will be rolling the key.

What we're doing right now is developing the plan. We have not yet established the mechanism for the community to tell us when the key will be rolled. That is a topic that's for presumably further discussion.

With regards to recommendation 2, "ICANN should create a collaborative representative test bed for the purpose of analyzing behaviors of various validating resolver

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implementations, their versions and their network environments."

We have actually built a test bed internally within ICANN and are making use of external test beds as well. The test bed that is currently operating internally does have, I believe, every implementation of -- every popular implementation of DNSSEC that's available including BIND, Unbound, Microsoft, Nominum. And I think there's one other. I don't recall offhand.

That test bed we are currently using to analyze various resolver behaviors. We don't have earlier versions of the software. I mean, we do have some but not a comprehensive list.

What we don't have and what we're going to be doing in the future is expanding the -- sort of the network configurations. We have a bunch of -- basically, right now we have a bunch of VMs. And each of the VMs is running a resolver. And we have a couple of test bed authoritative roots that are rolling the keys over in accelerated time frame and watching what happens. But we're not testing -- currently not testing unusual network configurations. When we have more time, we will probably throw in a few curve balls to see what happens when things aren't sort of the ideal case for networking.

Recommendation 3, "ICANN should create clear and objective metrics for acceptable levels of breakage resulting from a key

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rollover." This one we have not done. And speaking personally, it isn't really clear to me what "acceptable" means in this context as it's a value -- subjective evaluation.

We would -- I suspect the board would probably be quite happy to receive SSAC's suggestions on how to identify clear and objective metrics for acceptable breakage. It might also be useful for SSAC to clarify what they actually mean by breakage. That's probably the easier of those two. And I'm not the right person to be speaking for the board obviously. Just my thoughts on that particular topic. But that one has not been done. And, again, I'm not entirely sure how we can.

Recommendation 4, "ICANN should create the development of rollback procedures to be executed when a rollover has affected operational stability beyond a reasonable boundary." Again, the tail part of that, defining what a "reasonable boundary" is might be a useful input for SSAC to provide to ICANN's board.

However, within the key rollover design team, we have been looking at the implications of the rollover and at what point would we be able to back out of that and at what point would it be more painful to not back out -- sorry, yeah, more painful to back out and not move forward.

There is as a result of sort of the physics of the key rollover a point at which trying to roll back will not be feasible. And that's

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an area that we're trying to figure out what to do. And we have not come up with a resolution on that particular topic, but it is an active area of discussion.

And recommendation 5, "ICANN should collect as much information as possible about the impact of a KSK rollover to provide input to planning future rollovers."

Obviously when the key rollover -- so backing up a bit. We are in the process of deploying measurement systems of various forms to monitor the root and resolvers and other parts of the DNS to try to establish a baseline of behavior. And in the future when we do the key rollover, we will be able to use that measurement system to establish what changes are occurring and what lessons can be learned from those -- from that rollover.

All of these are sort of things that are in process with obviously accepting the recommendation Number 3 and are as part of the design team. Some of the topics there have been discussed within the design team.

The plan moving forward is we just issued -- as Asha had mentioned, the public report -- or the report on the public comments. Those comments are going to be brought back into the design team and will be used to help modify the draft report to turn it into the final report.



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The weekly calls of the design team, I believe, are restarting next week. I believe there's a face-to-face meeting of the design team here in Dublin. Unfortunately, I won't be able to attend because of conflicts, which seems to be the theme of this meeting.

And we anticipate to actually have the recommendations complete that would then go to the root management partners for the development of the actual rollover plan.

So that's the current status of things. And if there are any questions, I'm happy to answer.

RUSS MUNDY:

Thanks a lot, David. That's a great summary. That's really helpful, I guess one of the other things that would be -- we've now managed to get you on the other side of the table because you helped us write this.

[ Laughter ]

So this is, I think, a very good feature itself. And we would really appreciate at some point in time getting other additional feedback as to what's going on. But we really did want to bring this to the front of the board.

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ASHA HEMRAJANI: May I? Thank you, Russ, for that. I think the dialogue on this will continue. We wanted -- as David mentioned, we wanted a little bit more information about the test bed, what network environments you think are critical, what is acceptable breakage, what is beyond a reasonable boundary, things like that. We want some clarification on that so we can progress.

And within the board, we are thinking right now about tracking this item as part of our -- as part of the work of the Board Risk Committee. This is something that Ram has suggested doing.

So I just want to say why we're doing that is because we understand completely this is very important. So thank you for that.

PATRIK FALTSTROM: Thank you very much. And to answer some of those issues that David brought up that are unclear things, if you go and read SAC73, you will see that what we are requesting in SAC73 or what we are pointing out is that the issues we are discussing among those five, communication, risk, collecting data, test bed, we expected or would like to see from, for example, the design team that they are addressing -- they are demonstrating that they are thinking about each one of those topics.

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Then we can discuss, of course, how high the bar is. And we, of course, know it's impossible to really see, like, what is acceptable risk. And those are the kind of things -- the quantified things that we can discuss. And we in SSAC are happy to continue our discussion on that.

But SAC 73 lays out our current view of where we think the state is for those five recommendations. It is only one page long, so it's not hard to read.

ASHA HEMRAJANI: Okay, thank you for that, Patrik. And we will do that. And I will be board steward for this topic. So please feel free to reach out to me for any such effort and for any continuation. Thanks.

PATRIK FALTSTROM: Thank you very much and with that, I would like to thank everyone that stayed 15 minutes over time and thank the ICANN board and thank the SSAC members and everyone else for being here so late. So thank you very much.

**[END OF TRANSCRIPTION]**