COPENHAGEN - Joint Meeting: ICANN Board & Security & Stability Advisory Committee
Thursday, March 16, 2017 - 11:00 to 12:00 CET
ICANN58 | Copenhagen, Denmark

RAM MOHAN: Good morning. Welcome to the joint session between the Security and Stability Advisory Committee and the ICANN Board.

My name is Ram Mohan. I'm the -- SSAC's liaison to the ICANN Board.

May I invite SSAC members who are here to come up to the microphones?

PATRIK FALTSTROM: As long as there are seats, yeah.

RAM MOHAN: This is -- we're addressing this on kind of a first come, first served basis, so Julie, if you'd like to come up here, you're welcome to. Other SSAC members who are here, if you'd like to come up here, please do. It's -- there's not assigned seating. It's a "come grab your seats when they're there."

Thank you.

What I suggest we do in this hour is the following: To spend the first couple of minutes to simply go around the table and just, you know, state who you are -- especially from the SSAC, state who you are -- and what your affiliation/interest is, and after that, I think we go straight into agenda topics. There is currently -- there was currently one agenda on the -- one item on the agenda. However, in recent discussions with the SSAC, two other -- there's one more topic that has been added, which is related to the confusability of internationalized domain names, so it's kind of a corollary to that topic. And then we'll have a bit of an open discussion.

In the open discussion, it has been suggested that perhaps if there is time, we'll have a bit of a discussion about the stability of the namespace and issues related to the stability of the namespace. And there is also an opportunity for Board members to -- and the SSAC members to bring up other topics, if they like.

So, with that, Khaled, could I quickly start with you and we'll just go through here.

Steve?

KHALED KOUBAA: Khaled Koubaa, ICANN Board.

STEVE CROCKER: Before you do, Khaled, let me just say a word. So, from the Board perspective, welcome, everybody. This may be an opportunity for Board members, at least, to get to understand the new people who have joined SSAC that we haven't seen before, or that we haven't had many opportunities.

So, in your introductions, add particularly if you're relatively new, that you've joined since whatever date it is, and we'll pay a little more attention to you. I could also say if you're leaving, and then we'll pay less attention to you.

RAM MOHAN: Thank you very much. Khaled.

KHALED KOUBAA: Yeah. Steve, probably also the new Board members like myself, so I will say that to the SSAC members. Khaled Koubaa, new Board member.

CHRIS DISSPAIN: Good morning. Chris Disspain, ICANN Board.

SUZANNE WOOLF: Suzanne Woolf, recovering former Board liaison and SSAC member.

BEN BUTLER: Ben Butler, SSAC member affiliated with GoDaddy.

ROBERT GUERRA: Robert Guerra, SSAC member, Privaterra, and SSAC member since 2012.

KAVEH RANJBAR: Kaveh Ranjbar, RSSAC liaison to the Board.

ROD RASMUSSEN: Rod Rasmussen, SSAC member and no current affiliation.

CHERINE CHALABY: Cherine Chalaby, ICANN Board.

ASHA HEMRAJANI: Asha Hemrajani, ICANN Board.

JIM GALVIN: Jim Galvin, SSAC vice chair.

PATRIK FALTSTROM: Patrik Faltstrom, chair of SSAC.

RINALIA ABDUL RAHIM: Rinalia Abdul Rahim, ICANN Board.

JONNE SOININEN: Jonne Soininen, the IETF liaison to the ICANN Board.

LOUSEWIES VAN DER LAAN: Lousewies Van der Laan, ICANN Board.

JULIE HAMMER: Julie Hammer, SSAC member, unaffiliated.

MIKE SILBER: Mike Silber, ignoramus.

TARA WHALEN: Tara Whalen, SSAC member as of this year, so I'm one of the new people, and I work at Google.

CRISTIAN HESSELMAN: Christian Hesselman, also SSAC member. I'm affiliated with .NL registry, the Netherlands, and also a new SSAC member.

JAAP AKKERHUIS: Jaap Akkerhuis, also an SSAC member, and probably from the beginning, and associated with NLnet Labs and that's it.

JAY DALEY: Jay Daley from .NZ, new SSAC member.

RAM MOHAN: And may I ask the SSAC members or Board members who are in the audience to just come up to the microphone and to just -- and just introduce yourselves. The microphone right there.

MAARTEN BOTTERMAN: Hi. Maarten Botterman, new Board member.

AKINORI MAEMURA: Akinori Maemura, new Board member.

LITO IBARRA: Lito Ibarra, Board member.

GORAN MARBY: Goran Marby, ICANN org.

JOHN CRAIN: John Crain, ICANN org and I sit on the SSAC, too, so two hats.

MARK SEIDEN: Mark Seiden. I'm on the SSAC and the NomCom this year.

MARKUS KUMMER: Markus Kummer ICANN Board.

BECKY BURR: Becky Burr, ICANN Board.

RAM MOHAN: Thank you very much.

So, Patrik, you had suggested to the ICANN Board one topic, and with that, I'll hand this part of it over to you.

PATRIK FALTSTROM: Thank you very much.

I would like to start with giving an update to the ICANN Board on the ongoing discussions between SSAC and ccNSO related to the EPSRP.

We in SSAC have informed all involved parties that there are three specific issues that -- that are related to the topic that we

just kind of talked about that from an SSAC perspective is important, and that is -- those are the three issues that we are now discussing.

The first one is that from our perspective, you cannot, in the case of different results in evaluation of confusability in lower and uppercase, say that if it is the case that the evaluation passes in either of the two cases, that the overarching evaluation means that the result is pass.

From an SSAC perspective, that is like telling all the bad guys that -- for example, if lowercase evaluation passes, it's like telling all the bad guys that they must type their phishing email messages in lowercase and are not allowed to send mail in uppercase, but that's a recommendation that probably the bad guys will not follow, so it's a little bit more complicated than that.

Second issue regarding RFC-6912, it's SSAC's view that if it is the case that the community, ICANN community, believes that the text is unclear, that multiple entities have different interpretation of the same text, maybe we should go back to the authors to ask how the text is to be interpreted in specific contexts, because the context might be the reason why the text is interpreted differently.

The third issue has to do with a more general case that I'll come back to shortly, which has to do with what it means to evaluate security and stability issues related to a specific topic.

From our perspective, when you calculate risk or, in this case, confusability, it's not binary. It's actually the case that you have a scale of sort of risk that ends up being part of the risk assessment. If it is the case that the risk is high, like in this case maybe the confusability risk for confusability is high, in that case you can apply various different kinds of policy or scope the context within which the confusability exists, and that way mitigate some of the -- some of the issues, and that way ensure that the risk is manageable.

So, in this specific case of an application for a TLD, if it is the case that, for example, evaluation of confusability results in high risk, then just like it -- just like it is said in the EPSRP documents, that can be mitigated by having policy in the registries. SSAC completely agrees with that but SSAC does believe that the evaluation of the confusability should be made with -- at the same time as the policy is known. So, basically the policy must, together with this string that is evaluated, be evaluated together, and that together will result in something that either passes or does not pass confusability.

That was very quickly the three topics that we are currently discussing. It was not my direct intention to start a discussion on those three, but it was -- we from SSAC wanted to demonstrate that we do have some progress and we do have meetings and we'll -- so we are moving forward and it looks very hopeful to reach some kind of conclusion here.

That was the first topic on issues I wanted to bring up.

RAM MOHAN: Thank you, Patrik. Board members, any questions or comments?

ASHA HEMRAJANI: Sorry. I just wanted to add Ron da Silva is on line joining us by Adobe.

RAM MOHAN: Wonderful. Thank you, Ron.

Any questions or comments from the Board?

Okay. I hear --

Rinalia?

RINALIA ABDUL RAHIM: Thank you. I just wanted to get some feedback. I believe the SSAC had a meeting with the ALAC and you also discussed this topic. Could I just get some impressions from the meeting from you?

PATRIK FALTSTROM: You mean the meeting between ALAC and SSAC?

RINALIA ABDUL RAHIM: Yes. When you presented the topic, did they understand your concerns and -- yeah. Because I know they're coming up with a -- they will come up with their position about the topic during this week.

PATRIK FALTSTROM: My impression of the meeting with ALAC was that -- but this was my personal reaction -- was that I was happy to hear that several ALAC people in the room mentioned that they were happy that we in SSAC was looking at confusability from the end user's perspective and we will, in a minute, show you some examples of that, but both SSAC and ALAC have been pretty busy this week doing other things, just like everyone else, so I don't know whether ALAC do have a conclusion but I think they are still deliberating.

But let me hand over to Julie Hammer, which is the liaison from ALAC to SSAC.

JULIE HAMMER: Thanks, Patrik.

Yes, Rinalia, the session with the SSAC was incredibly useful to help ALAC members understand the technical basis of SSAC's concerns.

They also had a meeting with the ccNSO to, again, clarify their understanding of the ccNSO's proposals.

Immediately after this meeting, I'll be heading back to the ALAC, and that discussion is going to happen then about what -- how the ALAC feels they may need to deal with coming to their own conclusion about the confusability issue.

But the main point that Patrik makes is exactly right. They're very gratified that the SSAC was making statements that were illustrating the concern for the end user.

RINALIA ABDUL RAHIM: Thank you.

RAM MOHAN: Thank you, Rinalia. Chris?

CHRIS DISSPAIN: Thank you, Ram. Thank you, Patrik.

I just -- we're going to go on now and talk about some examples and, et cetera, et cetera, and so I just want to ask what I hope is a relatively simple question.

I understand that this topic is here triggered, if you like, by the ccNSO and the internationalized domain name discussion.

What we're about to talk about in respect to confusability, is it fair to say that it's not limited to internationalized domain names?

Because I think it's important that we don't give the impression that, you know, what we're talking about is only in respect to internationalized domain names if, in fact, it goes outside of that and goes across to ASCII as well.

Is that --

RAM MOHAN: Thank you, Chris. Patrik?

PATRIK FALTSTROM: You are true. And, first of all, yes, maybe the topic of this specific session is triggered by the discussion of the EPSRP and our interest to demonstrate that we have progress, yes, but SSAC is working on multiple issues which are related to the potential next round of gTLDs.

And regarding confusability, you're absolutely correct. It is -- it is not just the internationalized domain names. There are also other issues that we are discussing in SSAC at the moment which absolutely have nothing to do with internationalized domain names. But you will also see on the second slide that we will bring up, out of two, what we're really talking about is something that is in general how to manage the risk related to SSR. So, it is not even character-related issues. It's even more general. Thank you.

RAM MOHAN: Thank you.

Before we bring this slide up, are there any other questions on the first topic, which has to do more with the EPSRP?

Can you go back to the previous slide, please?

If -- not that one. The -- thank you so much.

Any questions about the EPSRP discussion?

Cherine?

CHERINE CHALABY: Yeah. I didn't listen carefully or understand the issue regarding RFC-6912. Could you highlight it again, if that's okay?

PATRIK FALTSTROM: Absolutely. What we have seen regarding RFC-6912 is that multiple parts of the ICANN ecosystem have interpreted specifically Section 6 of RFC-6912, and what we -- and each one of these entities are probably reading that section in a specific context.

What we see is that the outcome of these interpretations are different, so what we believe in SSAC is that maybe it is the case that -- or we suggest that the interpretation of 6912 should be made by the authors and the origin of RFC-6912, and if it is the case that we would like to have a specific question evaluated in relation to RFC-6912, we should probably send that question and the context to wherever the -- or to the -- in this case, the Internet Architecture Board that is the origin of RFC-6912, instead of ourselves sitting here second-guessing what the intention of the document was.

CHERINE CHALABY: Thank you. I got it.

RAM MOHAN: Thank you very much.

Any other questions on this first topic?

Okay. Let us go to the -- to the next piece of confusability, and this part of it, for the Board, the -- what you should think about is, this is a little bit of an education session, if you will, but the intention is not to kind of lecture. The intention is to present to you, the Board -- to us, the Board, if you will, what are the types of issues that matter, and then to open it up for further understanding and discussion.

So, with that, over to you, Patrik.

PATRIK FALTSTROM: Next slide, please.

RAM MOHAN: No -- you want this?

PATRIK FALTSTROM: Yes. Go back one slide. Thank you very much.

So, we wanted to start by just showing one example of what these kinds of attacks look like, and in this case, we are using a Web page, and I would like to hand over to Rod to explain what is going on.

ROD RASMUSSEN: Thank you, Patrik. So, this is a very good example because it is live on the Internet right now. This is a screenshot in the presentation, but you can actually go and see this for yourself using the browser of your choice. It's not a dangerous site, so you don't have to worry about getting infected from -- it's safe in that regard.

But if you had gone to this particular domain name in 2009 and again in 2010 and then again in 2015, you'd have been presented with a fake Facebook site that would have tried to -- basically it was a phishing site that was trying to get your login credentials.

So, this domain was eventually -- the last time it was taken down was registered by a researcher who put this site up to show people what a homographic attack looks like in the wild, and if you take a look in the browser bar, it will render to what you see

as facebook.com with a little accent. Looks like a little speck of dust over one of the letters.

And actually, you can see in the tab above the link rendered the punycode version of that as well. And that's an example of what these things look like. There are other examples, not live on the Internet like this one is, because they do get taken down eventually, where you wouldn't even be able to tell that difference. It would look basically exactly the same to the human eye. This is in the SLD, which is an issue we all are of and have to deal with on a daily basis. But this is why this is important at the TLD level. It provides a lot more exposure.

RAM MOHAN: Thank you, Rod. Any questions? Any comments? Any discussion?

Okay. Back to you, Patrik.

PATRIK FALTSTROM: We are -- we are working on a few other examples which actually involve TLDs, and we are passing around a number of different kind of examples and screen shots and otherwise also to investigate how Web browsers and email clients are handling specifically this kind of confusability that you see on the second-

level domain, how that is handled in the TLD level. And some of the things we see is scary.

Next slide, please.

This is another example where you might get confusability, and what you see here is a matrix of what can happen if it is the case that you are mixing the old standard for IDN -- IDNA 2003 and the new version of IDN, which is IDNA 2008. And if you mix the two standards at registration and at time of lookup, it will start with the three columns. We see four different things that are happening. First of all, you can register according to IDNA 2003, which means that if the registrar or registry is supporting IDNA 2003, if you register strasse.example and use sharp S or you use strasse with two Ss in the DNS zone, you will get the strasse with two Ss that actually will be registered, will be in the DNS zone. That is what you delegate. That is basic to the domain name. That is in the DNS name that is in the use. Sorry, it is the DNS name that is in use.

So, regardless of whether it was strasse with a sharp S or double S, it is strasse with double S that will be in DNS.

In the next -- second column, if we look at registration or strasse with a sharp S according to IDNA 2008, that is what will be as a DNS name, delegated to, in the zone, in the parent zone, in the

zone itself, et cetera. If we registered IDNA 2008 strasse with double S, that is also what will end up being in the DNS zone. So, that's the registration side.

If we now look at the lookup side, if the client looks up strasse with a sharp S, .EXAMPLE and use IDNA 2003, it will look up strasse.example. If you look up strasse.example with a double S use IDNA 2003, in that case as well it will be looked up the double S version.

If instead we use sharp S and use IDNA 2008, we will look up strasse with a sharp S. And if you look up strasse with double S according to 2008, that is also the string that will be sent to the DNS.

So, we have four different examples at time of registration, four different examples at time of lookup. And if we now look at this four-times-four matrix, but we have collapsed one of the columns because it's actually the same thing, we see that we have correct connections in five different places. We have something that doesn't -- that cannot have that -- where we do not get any match. In four different cases, basically you look up things and you will not get a response.

And then we have two interesting situations, the blue and the red one. So, let me focus first on the blue.

In the blue one, we have used -- the registry or registrar is using IDNA 2003 and you want to register strasse, either sharp S or double S. What will end up in the zone is strasse with double S. If it is the case that you tried to -- if you are then looking up things according to IDNA 2008, you might get -- you will get something that is called a false negative. You will look up strasse with sharp S and you will not get -- you will not get a response at all because strasse with sharp S will not match strasse with double S.

But if you look at -- if you look at -- up to the far right, this is where we have the dangerous situation; that is, that someone has registered strasse with the double S in the DNS zone and the client tries to look up strasse with a sharp S. Just because the client is transforming the domain name to double S and do a lookup, you will get a match but not the domain name you expected.

So, in this case, you have someone, a bad person with bad intention, that registered strasse with double S, put up a website, and that way it will catch all clients that try to use strasse with sharp S which still uses IDNA 2003. So, this, of course, is a little bit complicated and hard to understand.

But the key thing here is that I wanted to explain to you and show you that the only -- of all of these confusing things that might happen, the dangerous thing is if someone is using as a domain name something that is turned into a DNS name, strasse with a double S, that is then looked up and matches something that someone else might have -- must have registered intentionally, then you have a false positive. And if there is anything that we in SSAC are nervous about, are the false positives.

If someone cannot reach a website, yes, that's a sort of usability issue. It's a bad use experience, whatever. But it is actually when you reach another site and you get a response, just like Rod explained, that is the dangerous part because that is the situation when someone intentionally can issue targeted phishing or equivalent operations.

RAM MOHAN: Thank you, Patrik. If I may ask you to also clarify. In the example, here, you're using a second-level domain name, could you also clarify the scope of this confusion or the problems here.

PATRIK FALTSTROM: The good thing is that for all IDNs that we are -- are working on here in ICANN, there is a requirement for the applicant for the TLD to sort of follow IDNA 2008. And that means that all TLDs

are according to IDNA 2008. And afterwards, I think we should thank ourselves for actually making that decision way back in time because when -- when we're discussing these kind of things, IDNA was actually pretty new.

On the other hand, unfortunately we have clients out there that for various reasons have not been upgraded to IDNA 2008 from IDNA 2003 which is very concerning. And it's real important that as many processes as possible are using exactly the same transformation which in this case is happening from sharp S to double S and other kind of mappings, case folding and whatnot, because otherwise you might get this kind of mismatch.

What the SSAC is looking at the moment is that we are going through some of the processes that we see within the ICANN community that deal with the internationalized domain names, and we are looking at specific to the cases where the transformation and mapping defined for the various strings are different in the different processes and we are trying to identify -- do a risk assessment what that non-harmonization might lead to.

We have already issued a report regarding trademark clearinghouse where we have said that we are concerned that the mapping algorithm specified in trademark clearinghouse is

not the same as IDNA 2008 which is happening at the time of registration of a domain name. But we have not made a real risk assessment. We are trying to clarify that and look at the -- at the harmonization issues. We are not ready with that report, and we are not prepared to be talking about the actual preliminary result.

RAM MOHAN: Thank you, Patrik.

I see a question from Kaveh.

KAVEH RANJBAR: Thank you, Patrik. Because you used the phrase "very concerned" and that piqued my interest, I agree, it's an issue. But the way I see that core, it's an issue for the users that are using an old version of software, which uses IDNA 2003. Do you have any numbers, like how many -- how many percentage of clients or how many users are using software which uses IDNA 2003?

PATRIK FALTSTROM: No, but what scared me personally a lot was that I saw that the libcurl library that is used in everything from cars to

toothbrushes to computers, they upgraded that library from IDNA 2003 to IDNA 2008 about three months ago. So, anything that is older than three months with the software might have the false positive in the red block up there, and that's scary enough for me.

And that triggered us to do this risk assessment, so hopefully we will be able to come back with it.

KAVEH RANJBAR: I agree. Isn't -- shouldn't that be the issue we focus on, like the effect of software and if we can do anything? Because I understand we have -- and I like the advice that was issued. But this is not going to solve the similar issues which I know exist in other fields, and you even have some advice regarding that.

PATRIK FALTSTROM: This is the reason why we are looking at the non-harmonization -- sorry, let me take a step back. This is why we in SSAC are focusing on the risk assessment where we can find differences between -- within the ICANN ecosystem processes. And I think that the -- what we will do, at least where we are at the moment, is to explain what kind of differences we identify, for example, between the process of registering something in trademark

clearinghouse and registration of domain name. And after explaining the differences, then, of course, whoever owns that process, which are the trademark holders or whatever, they are the ones that hopefully can make risk assessments given that context because we might not be the right parties to do that. So, it's a two-step process: Identify what non-harmonization would see and then a risk assessment.

KAVEH RANJBAR: Thank you very much.

RAM MOHAN: Other questions or comments? Asha.

ASHA HEMRAJANI: Thank you, Patrik, for that. I understood that you just said -- thank you, Ram. And, Patrik, thank you for that explanation.

I understood you just mentioned that you haven't yet -- you haven't done the risk assessment, but do you have any preliminary idea about how bad or how widespread this problem could be? And what would be the potential impact in terms of -- well, not dollars but any sort of gauge that you have right now, preliminary gauge? Thank you.

PATRIK FALTSTROM: The cases where we see problems are today related to situations like the ones that Rod explained with the Facebook page where we clearly see phishing going on, on the second-level domain.

And also like you, like Rod said, that specific Web page has been taken down three times and bad guys are coming back and registering it anyways, which also demonstrates that it's a little bit difficult even to make sure -- it's a generic question. How do you ensure that no one uses that domain name? That's difficult -- that's a difficult question.

But just because we see so much of that on the second-level domain, we must -- in our community because we are responsible for the root zone, we must ensure that the same kind of issues never, ever happens on the top-level domain. That is the message. We need to be extremely careful -- and this is where we to some degree come back to the -- to the IAB statement in 6912. But, once again, all these risks can be mitigated. Let me just re-enforce what I just said. It is not the question of whether something is confusable, more or less, whatever it is. It is a complete assessment that needs to be done. For example, how confusable is it? Is it only uppercase? Is it also lowercase? Is it the same registry? Is there some other

kind of policy that you have the same script in the top-level domain and the second-level domain? There are all different kind of things that can be done by the registry to mitigate the various risks, which means that we being responsible -- "we," the collective, all of us, being responsible for the root zone can accept adding that string to the root zone. Do you see what I mean?

RAM MOHAN: Asha, a quick redirect and then over to you, Chris.

ASHA HEMRAJANI: Thank you, Ram. So, just a quick follow-up on what you said. So, is this the next phase, the risk assessment? And when do you expect that will be done? I'm very interested to hear more. Thank you.

PATRIK FALTSTROM: There are two different things here. The first is the specifics regarding, I think, the next step on doing that kind of risk assessment with the confusability. I think that is -- as I mentioned before, that's a discussion that is currently ongoing between ccNSO and SSAC. And as I said, we are making progress on trying to understand each other, use the correct words, and

try to sort of see something constructive here because, as I said, confusability for this kind of risk, it is not black and white. So, that is one thing.

The second thing has to do with the general case. And back to what Chris said earlier, the general case of risk assessment regarding false positives, that is the not only IDN. It is not only Latin characters. It is not even characters. It's a generic risk, how do you -- what kind of risk and how do you calculate the risk for false positives in general regarding the identifiers that ICANN is tasked to manage?

RAM MOHAN: Chris.

CHRIS DISSPAIN: Thank you. And thank you, Patrik, for a very clear explanation. I just want to see if I have kind of got it.

So, first of all, I acknowledge totally that -- whereas we have little control, if any, over what gets registered at the second level, when it comes to the top level, that is us, in essence, with a possible exception that in the two-letter ISO list, the fact that they've issued a code means they've issued a code. So, that's a slightly different thing. So, there could be ASCII/cross-ASCII

confusion possible between two ISO codes. So, other than that, it's in our control.

So, if I remember correctly, at the beginning of the new gTLD process, I think one string was taken out at the very beginning because there was a finding of confusion. I think it was only one. And I think it was R and N being possibly confused with M. Does that make sense? It doesn't matter. If you can't remember, I'm fairly sure that's what happened anyway.

So, is it right then to think that as we get more gTLDs and there are more applications coming, there's actually more of a base from where confusion can arise. And, therefore, we have to be even more careful that we don't allow registrations at the top level where in ASCII or IDNs -- but let's just stick with ASCII because it's easier for me to process -- where there might be confusability.

So, I'm thinking of a situation, for example, where a brand applies for their name but that name contains characters that could be confused with other characters that are in a name that's already in the root. Is that the level of concern that we should all be having and making sure that we deal with the names in the future?

PATRIK FALTSTROM: I think, first of all, that it is important that we do get a solid, predictable process to do these kinds of evaluations because risk assessment is serious, and we don't want to make the miscalculation in either direction. So, predictable, repeatable, known process for evaluation. That is -- that helps. But -- and I hope that that is something that can be the goal for the -- for a next round or -- if that is happening.

But the other thing that -- which is what SSAC is working on at the moment, and I'm coming back to you, Asha, I don't think I really answered your question. What we are looking at the moment is the fact that, for example, the LGR panels are doing one kind of discussions regarding variants. TM sage (phonetic) process includes one of these -- another one of these. We have registries and regis -- sorry, registrars that might still use IDNA 2003. We might have other implementations and processes which would use IDNA 2008. We have multiple of these. It's like, why? If it is the case that we have a certain risk for a certain character or string in one of these processes, why don't we just inherit whatever is happening to -- to the other processes? So, we have -- but on the other hand, the most important thing, which we are looking at in SSAC, is that the fact that each one of these processes, the cc process, the g process, the TMCH, et cetera, that they have come up with their own solution of trying

to solve the problem of confusable, is that a problem by itself? We don't know. Hopefully it is better if we have one process and each one of them can actually be lazy and just point to someone else. That should make people's life easier, but we don't know yet.

RAM MOHAN: Thank you, Patrik. Asha, also on the chat, Russ Mundy from the SSAC is listening in and he says, "In response to Asha's question, it's exceedingly difficult to determine in advance how many ways bad guys will come up to do their bad deeds." Any other questions from Board members on this topic? Okay.

There's a question from a community member. Please come up to the microphone. Please introduce yourself, and then ask the question.

>> Alireza from IRNIC. I just wanted to make a comment on this very complicated chart that actually Patrik put up that there is a live -- there's a live example that if you type strasse with sharp S.DE and if you put it in the -- on the latest version of Firefox, it goes -- which is using IDNA 2008, it goes to the strasse with the sharp S. And if you type it in any other browser which is

currently using IDNA 2003, it's translated to double S and go to the other Web site which is -- belongs to someone else. So, I just want to clarify because this one might be a little bit on the complicated but I just wanted to clarify.

RAM MOHAN: Okay. All right. So, we have -- we are done with the formal -- the one, you know, big topic that the SSAC wanted to discuss with the Board and have some education, if you will. In the Any Other Business, there is one topic that the SSAC is thinking of having a brief conversation with the Board about which has to do with the stability of the domain namespace. There is some -- for the Board members, I'll refresh your memory. In the Board 's discussion with the contracted parties house there was some discussion that came up about the domain namespace and the use of the special names registry, et cetera inside the IETF. Jonne was part of that sequence of conversations. So, it seemed perhaps relevant to refresh the Board 's memory on what the SSAC had -- had thought about this topic. There is a -- for members of the community, there is a relevant SSAC document. It's SAC 90, nine zero, that's available on ssac.icann.org. You can access that document. That speaks about the fact that many folks believe that the -- because the DNS is quite tightly bound to domain names, there is this idea that the namespace itself is the

DNS, but we have evidence, and some relative increase in that evidence, that that's actually not the case. The namespace is -- there's a hybrid use modeled there. And so, with that as a brief introduction, I'll pass the microphone to Jim Galvin who's the working group -- the work party lead on the stability of the namespace topic. And then perhaps, Jim, you could provide, you know, some -- an introduction there, and then I'll open it up to other SSAC members who might want to also add to that topic.

JIM GALVIN: Thank you, Ram. And just to be clear, I had -- this particular work party, very important and significant to SSAC and there were quite a few people involved in it, and I do want to acknowledge my co-chair which was Lyman Chapin who was a lead in this work party also in producing SAC 90.

I think that the Board has heard multiple times over prior meetings from us about this issue of coordination and use of the namespace and SAC 90 tries to go to a fair amount of detail into the source of name collisions and examples of why it exists. And there are some specific recommendations at the bottom and some details that go with that.

What I'd like to do is to take a step back and focus on three particular messages which I would hope you most get from SAC 90, which I think will help you in your deliberations in determining how to evaluate these specific actions that you want to take going forward. Right?

So, I think the first message to make sure that you take away from SAC 90 is that name collisions will always be with us, and they're not going to go away. The examples of this are -- the three that we have sort of outstanding are .CORP, .HOME, and .MAIL that we know exist today. And the problem is it's what they call private use names. The DNS, in many ways, is suffering from its own success. It is such a successful naming system that it is used everywhere by everyone for a lot of purposes. And .CORP, .HOME, and .MAIL have a lot of historical usage. And there will be more examples of that going forward because there's no way to control just as we have the issue with IDNs and, you know, predictability of confusing names, there will always be people who will use names and you can't control that. So, it's just important to acknowledge that. And so, we have to do what we can. So, that's the first message, just acknowledging that these things will always be here.

The second thing then is, it's important to control the things that you can control, and that's where predictability comes in. I

think that ICANN has responsibility to the community and to its -- specifically its own community but to the Internet at large, to make sure that at least the parts of this process and the parts of the namespace that it controls are predictable and they work in the way that -- that everybody can see from the outside very clearly. So, we do, in this document, identify a couple of specific places where there are multiple sources of names that are -- look like TLD labels. Okay. And just as we have with IDNs, Patrik in the previous discussion was talking about harmonization, looking for where there are discrepancies between elements of the system in IDNs, we have the same thing with respect to namespaces. We do need to take action to harmonize these separate lists and make the ICANN processes predictable.

This will help the rest of the community and the outside world as they figure out what they're going to do in response to private use names. A lot of this problem is on the users. A lot of this problem is on those applications and how they deal with the fact that they are leveraging the DNS and expecting certain behaviors from it. And we need to allow that to exist. You really -- we have no mechanism for controlling that, and we probably don't in the spirit of innovation. Okay. So, making our processes predictable and deterministic will help the rest of the community evolve into a better system for the -- for the users at

large. And there are some specific recommendations. In recommendation 2, we actually do detail some specific questions about a scope of work for when evaluating other processes in ICANN and how we evaluate names and what becomes a TLD and what doesn't. And so, I, you know, commend those to your attention.

And the third point that I would say is then you're -- since we recognize that we are not the only ones who will have names that will look like TLD names and the community is going to use that kind of stuff in an interesting way, in our desire to be predictable, we also need to have policies and procedures for dealing with other bodies that are going to be creating special use names and creating registries of special use names for their own purposes. The obvious example is the IETF. They stand out, and I think we're very familiar with the -- with the coordination that should happen there. The IETF does have its own special use names registry. And it is important to establish some regular communication, some policies about how we each recognize each other, because each of our lists of names, ICANN has the names in the root zone, the IETF has the names in its special use registry, those names collide and they do interact with each other and we do affect each other. And so, it's important to establish, you know, how we're going to work

together and what we mean to each other and what those lists are going to mean. And we have to make our processes predictable, given the existence of that list. And then in addition, set ourselves up for potentially others who may want to create lists of names. I mean, if we're not going to -- I think that there might be other organizations, and this is the -- we don't really mention any others in our document, but we should consider the fact that there may be other groups, other organizations, other bodies that will have a special use domain registry, and we should give consideration to how we want to deal with that.

So, three things, right? Name collisions are here to stay. Number two, be predictable, and three, be prepared to deal with other groups who are going to have their own lists. Thank you

RAM MOHAN: Thank you. Very briefly, Jonne from the IETF liaison perspective perhaps some commentary. Then Steve is in the queue. Are there any other Board members who would like to be in the queue? Please let me know, and we'll move this. I'm just aware that we have about nine minutes left in this session.

JONNE SOININEN: Okay, thank you. So, first of all, thank you very much for your great document. That was a great help for us to start deliberating on what the Board should do and what the -- what ICANN maybe as a community should do about this.

This seems to be an excellent time, actually, to talk about this. We actually had this topic to come up also in the discussions with the contracted party house earlier this week which was Tuesday, as this seemed to have come up in -- on the radar of many people now.

Coincidentally, we also started the discussion between Goran, me, and David Conrad and Jari Arkko about what we should -- could do -- how we should start a better dialogue between the ICANN community and the IETF about this and what would be that start. We don't have a plan yet, but at least we have started to plan a plan maybe to have one day. So, this is a great time for this.

Just to kind of point you out also, the special -- I'm noting most probably many of the SSAC members are -- know about this, but there is a process ongoing in the DNSOP working group where the kind of -- there has been a document prepared on the special names issue -- special names problem statement. I think that

has gone already through the working group last call, but it might be good also to -- for this community to take a look at it.

RAM MOHAN: Thank you, Jonne. Steve.

STEVE CROCKER: I want to continue partly with what Jonne said and partly with what Jim raised with respect to coordination, particularly with the IETF. The IETF has a special names list, a reserve names list, but my understanding is that that's not a definitive list in the following sense. It takes a while before a name gets onto that list. So, it tends to be on the conservative side. There are other names that are in use but have not gone through an IETF process. From where we're sitting over at ICANN, if we want to be conservative, we would take into account not only were the names on the reserve list from the IETF but also other names where it's evident there is usage but nobody has come along and said we're going to -- you should reserve this and reserve this and so forth. So, I would think that our obligation is to have a somewhat wider field of view, including not only the official list but also what's actually happening in the real world. And I can anticipate arguments that say well, there's no official reason to reject this name, therefore you must accept it. I would say just

the opposite, that we have an obligation to be careful, and if we see reasons why a name should not be allocated, then we have that authority, we have that obligation to do that and to err on the side of caution there.

RAM MOHAN: Thank you, Steve. In the queue are Rinalia, Jonne -- on this topic, Rinalia, Jonne, and Kaveh, and then Khaled has another topic and I know that we'll then run out of time. So, Rinalia.

RINALIA ABDUL RAHIM: So, I'm not quite sure how to classify the problem. I mean, the simple way, I would just call it a naming problem. It's the issue of emojis. Yesterday I had a conversation with someone from the Unicode consortium who flagged to me that the Unicode consortium is coming under pressure regarding emoji from the public. There's a lot of interest in it. And there is the concern that ICANN is not really thinking about emojis as an identifier. And the question that I would like to pose to the SSAC is, what is your view as there are some TLDs that are offering emojis already at the second level?

RAM MOHAN: Patrik?

PATRIK FALTSTROM: Thank you very much for that question. SSAC is actually at the moment looking at emojis as used in domain names. The short answer is that we are concerned enough to look at it. We should all understand that emojis are not allowed in -- according to IDNA 2008, and I think we should just stop there.

RAM MOHAN: Thank you. Suzanne.

SUZANNE WOOLF: Sure. Thank you, Ram. I just wanted to say, I'm here -- well, first, I'm here as an SSAC member, but I've also done a lot of work on the namespace discussion in the IETF because I serve as co-chair of the DNS operations working group and I'm a member of the Internet architecture Board. Although I do not speak for any of them. Just from that perspective though, I want to really amplify and support what Steve said about, because of the way we've created and administered these systems, people really are free to use whatever they want for the names in their network, and the coordination problem isn't between specific groups or bodies so much as setting up mechanisms and expectations because so much of what makes domain names useful is that you can expect them to be unique for your use even if you're not using the DNS protocol or you're using them in some other novel

or innovative way. So, the important property to preserve is that people can know when they're getting names that won't collide with other uses, and that's a rather larger and more abstract question than how to administer a specific registry. But getting the registry policies right is -- is an important way of -- part of doing it.

RAM MOHAN: Thank you, Suzanne. Kaveh, briefly, and then over to Khaled.

KAVEH RANJBAR: Very quick about the SAC 90, because you mentioned the three categories, or the two but you're thinking about the three. The continuation of what Steve and Suzanne said, basically what about the others who have actually force or -- the power to force something on us? Let me use an example. Chrome, almost all the stats I say more than 50% of Internet users browse use Chrome. If tomorrow Google -- and they have -- keep in mind that updates come automatic. So, if tomorrow Google decides to add .BROWSER for internal use for Chrome and they deploy it, almost half of the Internet users who browse web will use .CHROME. So, do you consider them on the third category or a fourth. Because actually in my mind, that would be a fourth category and a different way of dealing with it.

RAM MOHAN: You want to answer, briefly, Jim?

JIM GALVIN: So, actually the answer -- that is one of the questions that we think needs to be directed back to the community to develop a policy for how to deal with those issues. I mean, you can imagine in the next round, you know, when it comes around for gTLDs, you're always going to have this conflict with private use names, and that really is the issue that we're raising here. That the fact that that exists, that question exists, people can game the system in that way, and you need to develop a policy for how you're going to respond to those. That's part of the predictability answer that has to be provided about asking for a gTLD. What do you do about the fact that it has -- may or may not have already been in use.

RAM MOHAN: Thank you, Jim. Khaled.

KHALED KOUBAA: Thank you, Ram. I think my question was about the same thing than Kaveh. I was wondering about coordination effort the SSAC is doing with the policy development to ensure that the next round of strings would not be prevented in a wrong or good way

to be asked by the community or any other private person using the SSAC 90, so he used the example of Chrome. I can think about a lot of other examples, but you answered already part of the question. So, it's important for us to make sure the community will be able to apply for any string they want without being prevented by any -- by any things like SAC 90 or other things.

RAM MOHAN: Thank you, Khaled. Patrik.

PATRIK FALTSTROM: We are doing -- we have sent a few old advisories of ours that we think still are relevant to the new gTLD process, the first thing we have done. Secondly, we are started to evaluate things like emojis and other things that might be important to, from our perspective, scope the new process as early as possible. The other things, which is related to this, which you bring up regarding SAC 90, is that we are trying, together with ICANN communication team, to do a better outreach to let people understand what the situation is and know what we in SSAC have been talking about, and that is something, outreach, that everyone can always do better, including us. But we are working

really hard. So, those are the three -- sort of what I would say are the three main issues.

RAM MOHAN: Thank you very much. Steve.

STEVE CROCKER: It's a real pleasure to see how full this room is, truly. Thank you, everybody. This has been a pretty substantive interaction actually, and from the Board 's perspective, we treasure and respect the expertise and dedication from SSAC. So, you guys keep it up, and we'll see you again real soon.

PATRIK FALTSTROM: As the chair of SSAC, I would like to thank everyone in the room and everyone here on the table, SSAC, Board members, and thank you, Ram, for running this session.

RAM MOHAN: Thanks. We're adjourned.

[END OF TRANSCRIPT]