ICANN79 | Prep Week – Name Collision Analysis Project Study 2 Update
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KATHY SCHNITT: Hello and welcome to the Name Collision Analysis Project Study 2 update. My name is Kathy, and I'm joined with my colleague Jennifer. We are the remote participation managers for this session. Please note this session is being recorded and is governed by the ICANN expected standards of behavior. Please note we will read aloud comments and questions submitted in English within the time set by the chair of the session. If you would like to ask your question or make your comment verbally, please raise your hand. When called upon, kindly unmute your microphone and take the floor. Please state your name for the record and speak clearly and at a reasonable pace. Mute your microphone when you're done speaking. To ensure transparency of participation in ICANN's multi-stakeholder model, we ask that you sign into Zoom sessions using your full name. For example, a first name and a last name or surname. You may be removed from the session if you do not sign in using your full name. And with that, I'm happy to hand the floor over to the NCAP co-chairs, Suzanne Woolf.

SUZANNE WOOLF: Thank you very much, Kathy. Couple of things before we get going. The way we're doing this, I'm doing a few comments here. And then we have a recording that my co-chair Matt Thomas did. It's an overview of the study to report, and including the recommendations and rationales for them. That's under 45 minutes. And any questions or comments I'll take

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after that. And we've also got the chat there. That is a little bit of an unusual way to do this. But it turned out to be the best answer for Matt and me. So much appreciated. And thanks to our staff support for making it work. So we'll do that. And just note that in addition to ICANN 79 coming up on us, the draft Study 2 report is out for public comment until 28th of February. So you can see the full report there. And also, please consider contributing to the public comment proceeding.

Front and center, this report represents a very large amount of work by the cross-community discussion group that was formed after ICANN board tasked SSAC for coming up with a plan for dealing with name collision issues and risks in a new gTLD round. Quite a few people contributed quite a lot of time and thought. And I see several of them have joined us. I think the whole community owes all of these folks a real debt just for their time and effort and thoughtfulness.

The first thing that might jump out at you if you're looking at the report is that there's a lot that hasn't changed since the recognition and discussion about name collisions as an issue in the 2012 gTLD round. At the same time, it's the internet. It's always changing. And a number of things that are relevant to analyzing and managing name collision risks are different. And we had to address those issues. We've tried to be clear about what we feel has changed and what the responses to those need to be.

Another thing we tried to emphasize in the report is that, as with many other attributes of the decisions about new gTLDs, there aren't many simple answers. The report talks a lot more in terms of risk management than mandates. There's a toolkit and a workflow for

finding and mitigating name collisions. And we've tried to make all of that actionable. But there are trade-offs everywhere, just because it is the internet.

So let's go ahead with the video, if we're ready with that. And we can talk some more on the other side or in the chat.

MATT THOMAS: Welcome. My name is Matthew Thomas. And I am one of the co-chairs of the Name Collision Analysis Project. And I'm here today with my other co-chair, Suzanne Woolf, to give you all an update about the NCAP Study 2 project and its recent publication of the Draft 2 Study Report.

As a refresher, for those of you that may not be as familiar with NCAP, NCAP came from a request from 2017 in which the ICANN board asked SSAC to conduct studies and present analysis and points of view about certain topics related to name collisions. Specifically, they were asking for advice regarding home, corp, and mail, three strings from the previous round, as well as general advice regarding name collisions going forward.

The NCAP discussion group, which has been meeting several years now, working towards addressing those board resolutions, is looking to provide our analysis and our recommendations to help preserve the security and stability of the internet as it relates to name collisions in subsequent rounds of delegations of new top-level domains or TLDs.

So at a high level, what did we find so far in our work with the NCAP Study 2 report? Here, I'll just highlight some of the key findings from the

report. This is by no means an exhaustive list, and I encourage all of you to go out and to take a look at the Study 2 report that is currently out for public comment. We would greatly appreciate the community's inputs and insights regarding the report so that we can better tailor the final report to include all the answers needed by the community.

So one of our key findings is that we still have observed that there can be significant collision strings out in the wild, and that certain strings, such as corp, home, and mail, have actually seen impact increase over time since the last round. That impact is typically defined in a quantitative measurement called critical diagnostic measurements that the discussion group has come up with, in which those critical diagnostic measurements are ways to quantify name collision DNS queries at various vantage points in the DNS hierarchy.

Now, critical diagnostic measurements, while these are quantitative, we also know that there is a very valuable qualitative aspect of name collisions that need to be gathered and assessed to provide a more holistic view of the potential impact a collision string may or may not have.

Through the analysis of historic name collision reports observed by ICANN, or that were reported to ICANN, researchers have also seen that some of the TLD delegations with name collisions have ranged from severe impact to minimal. We have also noted that the private use of DNS suffixes in name collision strings appears to still be very widespread, and underlying causes such as DNS service discovery protocols and suffix search lists are a major contributing factor as to why name collisions still persist. At the end of the day, the key summary

of what we found is that name collisions will continue to be a difficult problem to identify and to remediate going forward for a foreseeable amount of time.

So, based off of those findings from the work that the NCAP discussion group has done, the group has formalized a set of tentative recommendations of what ICANN should do about name collisions. Again, this is not an exhaustive list. I encourage all of you to go visit the draft report and review the findings and recommendations in detail, but here we'll summarize these quickly at a high level.

The first recommendation, which is a large one for creating a sustainable, repeatable, and deterministic process for assessing name collisions going forward, is ICANN should establish what has been called a technical review team function. We'll talk a little bit more about what the roles and responsibilities of that technical review team, or the TRT, is in future slides here. But the highest order principle, I think, that's coming out of the recommendations is that ICANN needs to treat name collisions as a risk management problem.

Then, we have also found that in order to have data to support that risk management quantitative and qualitative assessment, there needs to be abilities to improve or conduct name collision risk assessments by making data more readily available, and this can be done through a variety of different technical techniques that we'll talk about later in this presentation.

Finally, we also have the replacement of the current name collision management framework with the name collision risk assessment

framework that we'll describe herein, which also includes the creation of a collision string list in which known problematic strings can be placed on, as well as developing and documenting a process for emergency changes during temporary delegations for TLDs during the application process.

And then finally, there is the Study 3 that was scheduled to be performed after this report for name collisions, but the discussion group has, based off of its analysis and discussions, determined that the scope and remit of Study 3 is not warranted and that there is no need to actually perform Study 3 at this time. Thus, after the Study 2 report public comment period ends and revisions are made and the final report is published, the discussion group's work for the name collision analysis project will be concluded.

So to give a little bit more color about that process and timeline, here are some of the key deliverables and timelines. January 16th, the report went out for public comment, or I'm sorry, on the 19th. That public comment period closes on the 28th of February, and we are targeting, I believe that might be a typo there, I think it's May 13th, not March 13th, for the publication of a final Study 2 report.

So what's all included in the Study 2 report? There are numerous different appendix documents that are quite lengthy and technical in detail. Study 2 scope and objectives included doing three specific case studies. The first one was a case study of collision strings on corp, home, mail, lan, local, and Internal using data from A&J root servers longitudinally going back at least, I think, six or seven years. And that report highlights some of the changes over time on the properties of

DNS queries and the traffic alterations as a result of the DNS evolution over that period of time.

The second study that was conducted was also a perspective study of DNS queries for non-existent top-level domains. And this study really tried to aim to understand where and how name collision telemetry can be observed, gathered, and analyzed at various vantage points in the DNS hierarchy, and what are the pros and cons of those different analysis. This was really to provide some insights into potentially when the data is gathered and analyzed. Is gathered in it and used to assess name collision risk, what guardrails need to be applied when performing that analysis by the technical review team function.

And then finally, there was also the root cause analysis study that was conducted, and it was looking at the historical risk reports of name collision problems that occurred due to TLD delegations over the last decade that were reported to ICANN. And that report really tried to analyze the underlying root cause of why those name collisions were happening and what kind of severity they had in terms of impact.

Beyond those three case studies that are part of Study 2, we also had the board questions that were specifically directed towards the discussion group. There were nine questions that were largely focused on six key areas, the first of which was defining name collisions. Name collisions have had an ambiguous connotation and denotation of what it actually means over the last decade. So the scope here of that question was trying to solidify a firm denotation of what is and what is not a name collision as it relates to this particular project.

The other sections really focused on the role of negative answers being returned from the root server system to these systems that are leaking name collision strings and what kind of role that negative response plays. There was a question focused on what potential harm may come from name collisions, followed up by what types of actions could be done to mitigate that harm. There were also sections talking about the risks of delegations and what kind of guardrails should be could be placed around that. And finally, the last topic really focused on undelegated strings and collision strings in general.

So along with all of that, the three case studies, the board questions, the Study 2 document actually also provides a lengthy amount of background about the name collision analysis project going back from 2012 or earlier to right now, providing the various different major milestones in which documents either from SSAC or other industry partners were provided, as well as a lengthy section about all of the discussions and tabletop exercises and other workshops that the NCAP discussion group performed over the last several years that ultimately builds up to the section of its findings. And here I'll just quickly walk through the findings a little bit. And again, we'll encourage you to go to the report and review the actual findings there to have the supportive text and context around why each finding is documented as it is.

The first finding is again around the definition of name collisions. And this finding really goes to talk about one of the first aspects of the name collision analysis project Study 1 goal, which was the creation of a formal definition that is to be accepted by ICANN and the community of what is and is not a name collision.

The second finding really looks at what kind of name collisions still exist and how they can be identified and how they can be measured. Some of those sub findings include that name collisions continue to persist within the DNS. There are limitations now with the data that did not happen back in 2012 in terms of how name collision data can be assessed at various different vantage points. We've seen a string such as corp, home and mail have also demonstrated that even though they have high query volume, that is alone not a sufficient measure for analyzing the potential of name collisions. There are other quantitative or qualitative measurements that need to be taken into consideration as well.

We would also note that it is very possible that future name collisions that are on the scale of corp, home and mail may rear its head in any time in the future in an unpredictable manner. And finally, that it's really impractical in advance of subsequent procedures or the next round to create a do not apply list of strings.

Then speaking of data and how to assess name collisions, the discussion group also note that there are concerns or risk around data manipulation. So when we use these critical diagnostic measurements or CDMs, there still is an opportunity for data manipulation and that data manipulation may have additional ramifications that are not within the remit of NCAP, specifically in terms of what analysis might incur when in the process of contention sets or application processing or whatnot.

Finding 4.4 really again focuses on both the quantitative as well as the qualitative measurements of name collisions and that both of those

need to be used together to provide a more holistic view of name collisions to better understand the potential risk or impact that that collision string may have. Finding 4.5 really focuses on another key topic that was very heavily discussed in the discussion group and that was notifications to users. And it is noted that we the discussion group felt it is a critical function and it is separate from the actual assessment and remediation.

In the previous round, controlled interruption was used as a notification method and it was determined via the root cause analysis it was effective in some but not all instances. The discussion group has also noted that there are other methods for notifications that could be useful but they currently are untested.

And the final sub-finding there, 4.5.2, is that the criteria for the use of ICANN's name collision reporting form potentially negatively impacted its use. The terms used on the form in which impacted parties may report their troubles related to name collisions was potentially set too high and may have discouraged people from actually reporting name collision issues.

Finding 4.6 also talks about predicting the rate and scale of change in the route is not possible in advance of a new round of TLDs. There was a lot of discussion within the discussion group and contained within the Study 2 report about the rate of growth here. So again, I'll encourage you all to take a look at that in the Study 2 report for more details.

And then we also have finding 4.7 in which there is no process for emergency changes to the root zone when considering temporary

delegations of strings. The term temporary delegation of strings here will probably make a little bit more sense when we get into the proposed workflows and tooling that is being suggested in the recommendations of how to assess name collisions going forward.

Finding 4.8 is talking about IPv6 adoption and it has been found that IPv6 has grown significantly since 2012. This will be important, as we'll see, when we get to the recommendations about talking about controlled interruption and other notification mechanisms and that there needs to be mechanisms to support IPv6 now, not just IPv4.

And finally, finding 4.9, reserved private use strings may mitigate the risk of name collisions over the long term, but not the short term. So while we know there is work going on right now, potentially selecting .internal as a string, that is something for the long game and not a panacea to fix name collisions here in the short run.

So this really takes us into the proposed name collision risk assessment framework, which is the core of what the discussion group really focused on for the last several years. And this is probably a bit above and beyond just looking at the case studies and the board questions that were directed to the group. But this is looking to answer the higher order questions of how can ICANN do a sustainable, repeatable, and deterministic process for assessing name collisions and what are the best tools and methods available to make the data available for them to make their assessments on name collisions going forward.

To this end, the discussion group really came around to the idea that name collision analysis is simply a risk management problem and that

the ICANN board needs a methodology for evaluating and reducing that risk of delegating potential and applied for new TLDs. And this methodology that is proposed herein is really targeted to identifying high-risk labels or collision strings that should not be delegated. That in turn somewhat implies that other strings would not be blocked as a result of collision strings alone.

So the goals of this proposed name collision risk assessment framework really are to ensure that name collisions can be assessed. And in order to assess them, we need to make that collision data visible if they do exist. Furthermore, we want to ensure that there is an opportunity for applicants or those interested in a particular string to provide mitigation or mediation plans if the string warrants some type of action based off of the name collision risk assessment.

The discussion group talked about this at length and based off of the analysis and findings of looking at multiple name collision strings in the past, it feels that the group feels that all of those remediation plans are purpose built. There is not a simple solution that will fit all collision strings, but each plan will need to be tailored for that particular string and optimized for the root cause of why that string is leaking.

The name collision risk assessment framework really has three different kind of periods or times that we should talk about here to provide some context. It includes multiple assessments by different parties throughout the entire process. The first process is really before the application submission, and this begins with the applicant identifying what string they would like to potentially apply for, and then looking at publicly available data sources such as ICANN's magnitude database or

ICANN's ITHI data sets that both provide insights about collision strings that are being observed at ICANN's L-root server.

Now, this by no means provides a guarantee that that string is free or void of name collision risks, but it at least gives an opportunity to the applicant, a priori their submission, to be somewhat cognitive of some potential around name collisions in the strings that they're selecting.

Again, this process then stems forward into the applicant submitting their application, this technical review team then starting to do their assessment again, which they will perform their own similar analysis by looking at data sets such as ICANN's magnitude, ITHI, and any other data that they have gained themselves or are available to them.

Here, then they will make a preliminary judgment if the string is satisfactory in terms of low risk or acceptable risk to try a trial delegation into the root server system so additional collision data can be gathered and assessed for collision risks. That last page is the name collision assessment period, which involves using various different tools to gather name collision data that we'll talk about in just a little bit.

So the name collision data collection processes and tooling was another major area that the discussion group focused on for a long time, and the discussion group really came to a point in which it felt that there are numerous different ways in which collision data could be gathered and analyzed, and instead of there being one single best way, the discussion group wanted to present its findings in a collection of tools that can be used for name collision assessments. Each tool has its

pros and its cons, its ability to collect data versus privacy, potentially, but it also provides different mechanisms that can be used by this technical review team to gather the data that would be useful for them to conduct their risk assessments.

The first tool is really focused on creating a no data, no error response in which it somewhat preserves the non-existence response that these collision strings were being received or receiving from the root right now. This technique relies on the TLD that is being assessed being temporarily delegated into the root server system and delegated down to an authoritative name server for that TLD, in which that name server would be controlled by the technical review team. The zone for the TLD would be essentially wild with a wild card for an HINFO record in it.

This technical detail, while I won't go into it much more here, is a smart and clever way to get over some of the data impairments of using name collisions telemetry at the root server by getting around things like QNAME minimization, aggressive NSEC caching, as well as performing more of a system-wide collection for a tailored string rather than relying on passive sources only at one or a subset of root server operators that may be only performed once or a few times a year in data sets like DNS OARC's Day in the Life or DITL.

The other tools include using essentially controlled interruption again at the authoritative name server for the applied for TLD that's run by the technical review team. This provides additional data gathering but also performs an important function of user notification. And then we also have tools that look at transport layer rejection via actual routable IP addresses on the internet. Tools three and four use different ways to

actually gather additional data by having connection attempts to a honeypot be logged so the underlying reasons why the name collision is occurring may be better understood as well as this approach then has the benefits of not being reliant on understanding the queries that are coming up that are persisting from recursive resolvers but are instead the actual end impacted systems that are dependent on the name collision strings.

So the technical review team has clearly a big, large role in name collisions going forward that's in this proposed framework. The TRT really needs to be an independent and neutral set of experts who have you know some very specific knowledge and expertise related to DNS, DNS infrastructure, as well as the ability to gather, collect, and analyze that type of data within the risk management framework and context that we've been describing here. Therefore, responsibilities are really focused on assessing the visibility of the name collisions, documenting their data, their findings, and a recommendation as well as assessing mitigation and remediation plans if needed for a particular string as well as performing any other kind of emergency response function that may or may not be needed throughout the assessment period.

This leads us into the recommendation section of the Study 2 report. I'll quickly go through the next several slides of the recommendations. The report clearly has much more detail. Each recommendation in its area also is cross-referenced by the findings that support that recommendation along with relevant context. So I'd encourage you to take a look at those recommendations in the report in section five. That being said, I'll briefly go through those here.

Recommendation one, as we've mentioned multiple times already, is that ICANN needs to start considering name collisions as a risk management problem. Recommendation two goes back to the definition that we talked about, and that is ICANN should develop or accept and adopt the definition provided by the discussion group that went out for public comment actually in NCAP study one several years ago. But this should provide a formal and consistent denotation of what a name collision is and how it pertains to certain systems within the context of ICANN.

Recommendation three again is a continuation of its education and outreach efforts to the community on name collisions and that ICANN should continue those efforts. Recommendation four looks at the specifics for creating mitigation and remediation plans for high-risk strings. Those include things such as corp, home and mail through the name collision risk assessment process.

Recommendation five really looks at ICANN must support the delegation of strings in order to improve the ability to conduct a name collision risk assessment. This is one of the core recommendations to support the framework that was provided within.

Within the Study 2 document, there is a section that talks about the technical gap that happened in between the last round and now in terms of how the DNS ecosystem has evolved. The DNS ecosystem over the last decade has introduced new protocol changes or ways the DNS are used that significantly impairs the data that was used back in 2012 for name collision assessment. Technologies that enhance the privacy

of queries such as QNAME minimization also impact the ability to do better qualitative and quantitative measurements of name collisions.

Other technologies such as NXDOMAIN [cut,] aggressive NSEC caching and so forth have also impaired the DNS telemetry at the root server system which was traditionally the primary source of name collision data. That being said, the recommendation of doing a temporary delegation followed by the various four tools that we previously described about collecting data gives the ability for the technical review team to gather more data related to name collisions and to make a better assessment of the risks based off of that data.

Recommendation six then is taking a look at building longitudinal data patterns of DNS name collisions, and this is really to help inform the name collision risk assessment process for the long run but also to help overcome any data manipulation challenges that might come up.

Recommendation seven is more of a formal recommendation around describing and establishing a dedicated technical review team function to do the data gathering and assessment of name collisions. And recommendation eight then is at the core replacing the current name collision management framework with the name collision risk assessment framework described within Study 2.

That recommendation has a few key subsections in which I'll just briefly highlight them here in which ICANN should not reject a TLD solely based on volume of name collisions. There are other important factors into name collision data such as source diversity and other qualitative assessments that need to be taken into consideration.

8.2 is ICANN should request special attention to strings with high impact during the name collision assessment process. Thus, not all strings should just immediately go into a trial delegation. There needs to be due diligence and prudence taken when these strings are being delegated into the root server system for the name collision assessment purposes.

And 8.3, ICANN should update its public facing name collision reporting process. As I previously mentioned, the discussion group's finding identified that maybe the wording on that reporting function was a bit too high bar and it disincentivized or discouraged people not to actually report name collision issues.

And then finally, the last three recommendations are recommendation 9 around ICANN creating a collision string list. This is a list or a registry of known strings that have name collision issues, but ICANN should also support a mechanism to allow applicants to request a string to be removed from that collision string list, provided that there is a proper remediation or mitigation plan that can be done or data is now showing that the threat or the risk of the name collision is no longer present.

Finally, we have recommendation 10, then, which talks about developing and documenting a process for this emergency change related to anything related to the temporary delegation of the collision string. And finally, recommendation 11, that ICANN should not move ahead with NCAP Study 3. Thus, this will be the completion of the NCAP discussion group project. With that, I think I will turn it over to my co-chair, Suzanne Woolf, who will maybe add some additional color on any

other topics that I glanced over, and then we can open up the room for Q&A from the audience. Thank you.

SUZANNE WOOLF: And I have to say I have great appreciation for Matt going ahead and doing all of that. And now I'm here to answer questions of which we already have some. I don't see raised hands, so I guess we can go to the Q&A.

KATHY SCHNITT: There's the first one from Bill. If a term is found to be problematic in one script, will that automatically be propagated to other scripts as well?

SUZANNE WOOLF: If I understand the question, it's different IDNs, the same word or the same concept in multiple scripts, well, multiple languages, which may be in different scripts. It's a little bit hard to parse that, but what I would say is that no, there is not an automatic association between any two sets of names for purposes having to do with name collision. With that said, that's one of those things that the technical review team is going to have to, if there is a hard and fast rule, they will have to make that and consider that. But my personal answer would be no, we don't really need to assume that. You can't assume that. Next.

KATHY SCHNITT: Thank you, Suzanne. This is from Avri regarding building a do not apply list. Impractical but possible. What is the difference?

SUZANNE WOOLF: I love that question. Thank you, Avri. It was really difficult to word that, but basically the conclusion we got to was that you could write a do not apply list, but it's likely to change relatively quickly. Like if you're getting it from, you know, the CDMs, the measurements around a particular set of strings and how frequently they occur in root name server queries and so on, that tends to vary a lot with how and where you're sampling, and it also varies a lot over time. So hypothetically, you could make such a list, but it would be very, very hard to keep comprehensive and up to date and useful. Does that attack the question?

KATHY SCHNITT: Well, I haven't seen Avri raise her hand, so we can move on.

SUZANNE WOOLF: But yeah, I hope that's a good attempt at the question. Just because this is how this works, a lot of the things around name collision, this is how it works. It's you make the most, you make the firmest rule you can, but there are always going to be things that are a little bit different. There are always going to be exceptions. There are always going to be, you know, it depends exactly what you're looking at. So sort of sifting through that as to being able to make definitive statements about risk and harm is kind of the challenge here.

KATHY SCHNITT: The next question is from Ashley. “In an earlier iteration of the name collision mitigation workflow at ICANN 78, I think, you had attached approximate time frames to the different stages of the workflow. However, I didn't see any frames attached to the workflow in the draft report. Unless I am simply missed it, can you please explain the thinking behind not including estimated time frames? Thanks. “

SUZANNE WOOLF: Sure. If I recall correctly, we had a very different diagram of the workflow, and the timing was between the different stages. And I think what we ended up discovering was that we weren't fully comfortable with those numbers just in the discussion group, and that to a great extent, what numbers are appropriate—And I don't think we had the more detailed document, the more detailed diagrams that were in slides, I guess, 16 and 17 in this presentation. And we moved from numbers we weren't sure we were comfortable with to a more detailed description of things that have to happen. So I hope that's helpful.

KATHY SCHNITT: The next question is from Susan. “How does recommendation five work when the contract is not yet signed until the name collision risk is determined?”

SUZANNE WOOLF: A delegation decision and a delegation contract are after, but a test delegation comes before that. A test delegation into the root in order to determine what issues might be, might, and I don't think you would get

to this before looking at other sources of data, other critical diagnostic measurements, but it is possible to have a delegation in the root that is under the control of IANA, and then it's part of the assessment process. And then depending on the outcome of that assessment and all the other activities that go into making a final decision about the delegation of a new gTLD and entering contract discussions and so on, name collision is one of the many prerequisites that have to be met before the delegation can be made to the applicant and the contract can be finalized.

KATHY SCHNITT: Thank you. Adebunmi, "We have a related article that could assist the community understand the issue. How do you advise that we proceed, share before publication or go ahead to publish?"

SUZANNE WOOLF: Do you want to go ahead and clarify?

ADEBUNMI AKINBO: So the article is related to the subject in question. And since one of your recommendations is that ICANN continue to inform, orientate or educate the community, I am of the opinion that if, for example, some of us, like I run DNS Africa and we're all about media and trying to educate people more on certain issues that ICANN is expected to do as our own form of support, do you advise that we send in the article to the team in question that has been on this issue for a period of time or we go ahead to publish? This is to reduce any form of conflict. And based

with one of your recommendations also that says that ICANN should define what this particular subject matter is all about so that we do not keep off the definition or reinvent another definition that may not go along with what you would want it to be for the general public. Thank you.

SUZANNE WOOLF: I'm still having a little bit of trouble following the question, but I think I get what you're asking. There is some pretty extensive documentation, you know, in the report, of things like the history, the antecedents, the sources that we consulted and so on. So it would probably be good to be familiar with the report, but also certainly I would not discourage anybody from publishing their opinions and views. Also, if you have strong feelings on this subject, please consider contributing to the public comment process that is open on the ICANN website to comment on the Study 2 report as well as working on your planned publication.

KATHY SCHNITT: Thank you. We have a question from Benjamin. How does IPv6 come to play in NCAP?

SUZANNE WOOLF: Well, it turns out that we do have to measure what's going on with IPv6, and work on some of these methods for data collection are going to be different for IPv6 transport, but a fair amount of Internet traffic does occur over IPv6 transport today, a lot more than 10 years ago, probably less than in the future, and it does seem like something we need to take

into account. We don't want there to be situations where people get really used to using particular names for, you know, their private use or their specific use and have a problem only appear when they start using IPv6 alongside IPv4, for instance. So there's a little bit of complication as far as adapting the data collection methodologies, but I think it's fair to say that the study group felt that some provision should be made for being able to understand what's going on over IPv6 transport.

KATHY SCHNITT: Thanks, Suzanne. And we have a comment from Avri. "So you're building a post-determination list. Cool." Avri, go ahead.

AVRI DORIA: Yeah. Thank you. Thanks. It's Avri speaking. So it does sound like there is a list that's being generated. You probably got corp, home and mail kind of almost on it already. And I was wondering, though, as it's going through the process that you're recommending, names will pop up and perhaps not because they're appealable. These are absolute no-applies. But these are ones where, you know, you really should give it 10, 15 thoughts before you do kind of lists. And it seems that that would be growing all the time. And certainly you'd have collected one before yet another round occurs, one of those being the offing.

SUZANNE WOOLF: Yeah. The position that we ended up taking on that is, first of all, you're right. We're talking post-determination. You know, we're talking having data and then determining that there's a collision risk. And we also

talked extensively about, given how dynamic the collision landscape can be, it did seem to us that we should also make sure there's some provision for people being able to get off of such a list, for instance, by coming up with a mitigation plan that lets them reduce the risk of harm from name collisions with a label that they want with something they've applied for.

So let me see. Yeah, recommendation nine, ICANN should create a collision string list. I'm looking at slide 22 in the presentation. Recommendation nine, ICANN should create a collision string list. Those would be strings that have been found to be an issue. 9.1, ICANN should also support a mechanism that allows applicants to request a string be removed from the collision string list. Because otherwise, you're right, it would sort of grow indefinitely. And, you know, as we said about making a do not apply list, the landscape is dynamic enough that it doesn't make sense to only have the list go in one direction

AVRI DORIA: So it seems that you are indeed building a list, just building it slowly and by accretion over time. And so I think that's great. And that's why I said cool at the end. But thanks for helping me understand it. Thank you.

KATHY SCHNITT: And Suzanne, we have no further questions in the Q&A pod or in chat.

SUZANNE WOOLF: Anybody? Okay, great. Thank you. I do see a couple of members of the discussion group here. I'm not going to pick on them. But if anybody has

something to say, feel free to go ahead and raise your hand, especially if you think I got something wrong. And I see Anne's hand. Go ahead.

ANNE AIKMAN-SCALESE: Great. Thanks. No, Suzanne, I don't think you got anything wrong. One thing that I wanted to point out in terms of how all of this relates to SubPro recommendations, there was concern in SubPro about delegation rates and how quickly we add names to the root. And we got some advice on that. And so that concern was raised in connection with the discussion group deliberations on the test delegations prior to contract award. So the test delegation prior to contract award is something that is done to the point where the technical review team is going through this process of analyzing strings to see what the risk of impact is and whether or not a string can just go ahead and go forward, whether it needs a mitigation plan, whether it goes on to the collision string list. And so we did fairly extensive consultation with IANA about delegating to the root during test delegations prior to contract award. And so we have confirmed that that's doable. And it would only be done when ICANN assigns that task to the TRT, the technical review team, and that it can be appropriately managed, in particular with strings where names are not being sold at the time of the test delegation. If I got that right, Suzanne.

SUZANNE WOOLF: Yeah, yeah. And I think it's worth pointing out, you know, we did consult certainly the existing record back to 2012. And there's nothing as far as we know or intended, there is nothing in the report, in the name

collision report that is inconsistent with RSSAC advice on the subject of growth rate to the root zone. Anybody else? And we are right at time. How did we manage that, Kathy?

KATHY SCHNITT: Because you're magical, Suzanne. You did wonderful.

SUZANNE WOOLF: Thanks. But I think we are, in fact, at the bottom of the hour. And so the public comment is still open. And we do encourage people to look at the report, comment on it, a bunch of the discussion group, a bunch of SSAC folks, Matt Thomas and I will be at ICANN 79. So we're happy to discuss any of this with anybody. So thanks, everybody, for your time.

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