TORONTO – Universal Acceptance of All TLDs
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ICANN - Toronto, Canada

FRANCISCO ARIAS: Good day everyone. This is the session on Universal Acceptance of TLDs. We are about to start. We are just finishing setting things up. Gervase, can you try talking on the phone bridge please?

[technical difficulties]

GERVASE MARKHAM: Hello, can you hear me? This is Gervase Markham.

FRANCISCO ARIAS: Excellent. We can hear you. Is there an issue with the sound?

Okay. Testing, Testing. Okay, excellent. Thank you. So good day, everyone. My name is Francisco Arias. I work for ICANN on the technical side. This is a session on Universal Acceptance for TLDs. We are pleased to have here with us four panelists. Well we have three in person and one remotely. We have Gervase from Mozilla. We have Jordyn from Google. Dr. Sun from CNNIC and Edmon Chung from DotAsia.

Without further ado, I would like to start with the presentation. The format of the session is we have short presentations and then we will

start with the discussion and questions and answers. We'd like a part of the session to be very interactive, so we invite everyone to participate. We have a wireless microphone here that we can circulate for those that would like to participate. There seems to be an issue with the sound, Gervase is saying.

[background conversation]

FRANCISCO ARIAS: Okay, excellent. It seems to be working now. Next slide please. Next one. So the Universal Acceptance Project that is ongoing is for ICANN, with the world, to raise awareness on the issues related to the diversity of the domains. And in this case, both ASCII and IDNs, also gTLDs and ccTLDs. I just want to be clear that this is not about policy aspects, about what domains should be allowed or restricted. It's only about the technical issues that are related to programs with the way the software is implemented. Next slide please.

So why is this important? Since we are in the new TLD run and we are about to add a few hundred new TLDs, this is of course an issue of importance for ICANN and the ICANN community in general. The intention is, of course, to minimize the compatibility issues with software so that email, browsers and any other application in the Net could work as it should. Next slide please.

This is an example of the kind of issues that we are talking about. This is a web form, an application in which you enter your email and, as you can see, you have to choose from a restricted set of TLDs which doesn't

seem to be updated very frequently. It seems there are some of the current TLDs missing there. Next slide please.

Also, there are examples on code. This is a fragment of a programming code and, as you can see, there are hard-list codes of TLDs, some of them which do not exist anymore like ".cs" from the previous Czechoslovakia and ".geo", a TLD that so far does not exist. Next slide please.

Another example would be in regular expressions. Regular expressions being a mechanism in IT to, let's say, define what the structure of a string should be. And in this case this regular expression is about a TLD and you can see that it's limiting the size of the TLD to be between two and four letters, and these are ASCII letters. So there's one word for a number of ASCII TLDs that exist right now. And of course it won't work for IDNs since the encoding in ASCII for IDN TLDs is more than four characters.

So the example causes of some of the acceptability issues are the improper logic in software for checking for valid domains, particularly on TLDs as it was. Also another issue is the lack of IDNA support. Next slide please.

Some of the activities that have been done so far, and this is the ICANN community not just the ICANN the company, is to create a discussion forum and dedicated webpage you can access there. And there are some resources that may be interesting for you. We a have proof-of-concept TLD verification tool. We have made some consultations with ICANN stakeholders who try to find out what the issues are, also with registries and registrars.

There is also an ongoing effort on the Joint IDN Working Group; I hope I got the name right. Edmon, I think, is going to talk about that since he's the co-chair of that working group and they are also doing some activities in this regard. We also have some technical recommendations and an outreach campaign.

So this is a very big issue and it's not enough with only having ICANN doing something, ICANN the company. But in this case we need to have a coordinated effort between many of us here to make this work. This is of particular importance for new TLD applicants, of course, because once you have your TLD approved you may face some issues. So you are probably interested in making this work. You can start by checking that your own applications do support all the TLDs, and there is this email address where you can send us your ideas of what we should be doing. Last slide?

Besides the outreach campaign, we are working on evolving these proof-of-concept TLD verification libraries to make an open-source project that can be used by developers. To do it in the right way, by that I mean checking the DNS from time to time to see what the TLDs are so you don't have a hard-code list. And, of course, we are asking for suggestions. Thank you.

So now I would like to ask Gervase from Mozilla to give a brief presentation. Gervase, can you hear me?

GERVASE MARKHAM: Yes I can, can you hear me?

FRANCISCO ARIAS: Yes, thank you. Go ahead.

GERVASE MARKHAM: Excellent. So I just want to say a little bit about the way that Mozilla thinks about IDNs and TLDs and those two subjects. We have two principles when we come to this question. Firstly we want to, as far as it is possible, to get equal treatment for all TLDs and all languages and all scripts.

And the second principle is that what we want is reliable behavior for domain owners worldwide. We want domain owners to know that if a particular domain works for one customer in Firefox it works for all our customers in Firefox, no matter where those customers are located or how their machines are configured.

We think that only that way can we really meet that first criteria of equal treatment. If a domain owner can't know that if their domain will work or not, it will disincentivize them from using domains outside of the historic and most common ones. However, Mozilla software does have built-in barriers, sort of lists and checks, about this. And the reason that we have those is that we started out by meeting those principles I discussed by just allowing everything, we'd have no restrictions whatsoever.

And then there were the various problems with IDN spoofing, paypal.com with a Cyrillic "a" and so on. And we appeared to cop a lot of the blame for that and so we needed to protect our users while trying to maintain our principles.

And the way we decided to do this was to have, within the software, a white list of Top-Level Domains in which IDNs would be permitted. And we populated that white list based on the registries having a stated policy where it was clear that they were aware of the homograph problem, they were committed to doing something about it, and they were committed to doing something after that time of registration.

We didn't think that a domain owner should have to go through a complicated domain name dispute policy to solve a name problem. It should be just sorted out before registration. We also have an auxiliary black list of individual characters so that we never, at any point, allow characters that look like slashes, characters that look like dots. Those would allow someone to fool you in to thinking a domain is devised in a particular way when it wasn't actually. And in fact, IDNA2008 I think probably picked up and deleted most of those characters we were discussing.

So that's our mechanism. Other browsers have other mechanisms. Chrome and IE use some kind of language or configuration-based system, so a Japanese TLD will work if you claim that you speak Japanese but not if you don't, a Japanese IDN, Domain Name. We think that that breaks the "works for one person, works for everyone" principle which we like. And so someone who wanted to use such a domain name could not know how many of their customers' browsers it would work on, so we don't use that type of system.

Safari white lists individual scripts worldwide and so, to start with, I believe their default is Cyrillic, and Greek IDN is just not permitted and you can turn it on if you like by reconfiguring Mac OS but then you can

be phished. So it's a choice between don't have it or be phished. We don't want that either.

Opera has a white list just like us, although the details of their implementation differ. That was all very well, but then it turned out that this doesn't really scale. When we're thinking of considering adding hundreds of new TLDs, and maybe hundreds more after that, something which we are generally in favor of although we think that there are certain TLDs which should be reserved or ones that shut off and you can turn on in a large number of companies even if they don't have any official status in IT. But we're generally in favor of the implementation of new TLDs, but this procedure doesn't scale.

And so what we decided to do was we decided to try and do something programmatic that would detect the worst problems. And if you did a web search for Mozilla IDN display algorithms and you will come up with the URL, which actually I can put in the chat. There we are. And what this is is this is a new mechanism whereby we can leverage some work being done by Unicode technical people. UTR #36, it's now UTS #39, and we're quite up on their internal processes but they seemed to change the name of the document, and they have profiles.

And so we start with the IDNA2008 character list and then we permit labels in any single script or Latin plus any other single script except Cyrillic or Greek or on various exceptions where they accept the characters in Japanese, Korean or Chinese. And that's on a per label basis.

So that doesn't get everything, it doesn't capture everything. Those automated checks can't make the difference between something that is

in Latin and looks exactly the same as something that's all in Russian letters, but we hope it will deal with most of the problems. And we feel that at this stage registries should be very much aware of this problem and if there is ever an issue of this again we are going to say, very loudly, that it is the responsibility of the registry to prevent its customers abusing each other in this way. And we will not accept any of the blame.

So that's our position, if you like. So we do hope registries will have a homograph policy. We hope that registries which don't will look bad in the market, but if ICANN were to legislate that they must have one...I guess we're not calling for that, but we're not opposing it either. So anyway, that's a brief overview of Mozilla's attitude to TLD acceptance in IDNs.

FRANCISCO ARIAS: Thank you, Gervase. Now I would like to ask Jordyn Buchanan from Google to give us a short presentation.

JORDYN BUCHANAN: Hello. I realize I haven't sat up at a presenting microphone at ICANN in a number of years, and the last time I was doing it I was talking about WHOIS so it's a pleasant change to be able to finally talk about a different topic. In the last session where this was discussed at an ICANN meeting in Costa Rica it was interesting, I think almost every single one of the panelists mentioned that they had had at least one problem getting their TLD to work with at least one Google service.

I was saddened to hear that, especially since it seemed hard for various people to resolve it. So the good news is Google's also, through our subsidiary Charleston Road Registry, an applicant for currently 98 Top-Level Domain Names as part of the new gTLD program. And the other bit of good news is generally within Google our engineers can work on any part of our code base, so I suspect that we will have a bunch of highly motivated people, in the very near future, who are going to be working diligently to discover and resolve the sorts of problems that were discussed in Costa Rica.

And having done a cursory search of our code base prior to this meeting, I think the examples that Francisco gave at the start of this presentation and that people talked about at the Costa Rica meeting...unfortunately there are many areas, many libraries, many places within the code base where it's possible to make mistakes and to not correctly handle Top-Level Domain Name either parsing or acceptance.

And one of the things that we will be doing as we roll out our own TLD program is we will have test engineers working to ensure that the proposed TLDs in our set will be capable of working with all of the various Google properties and services. We think that that should extend to making it work for all other applicants as well, and all other functioning TLDs. We've applied for IDN TLDs in addition to ASCII TLDs so the issues that IDN TLDs, in particular, might otherwise face I hope that we'll be able to troubleshoot in advance of them becoming problems for other applicants.

And we have another great set of tools to allow us to audit code and to have continuous notifications given if certain bad patterns appear back in the code base and to have an engineer be alerted and work to quickly resolve the problem. This is all slightly theoretical at this point, but I wanted to mostly reiterate that we want to be incredibly engaged in this process going forward.

I think we'll be working closely with ICANN as reports are given of problems with TLD acceptance. I think we want to make sure that we have a close relationship and we'll be working with them as well as working...we'd really like to see some sort of forum convened where we can get both TLD operators as well as developers across a broad spectrum together in order to make sure that we're not solving this problem just at Google but that we create a set of tools that are useful for the broader development community.

And I think with that, I'll mostly reserve time so if we want to have discussion amongst the community on this topic that we can do so. Thanks.

FRANCISCO ARIAS: Thank you Jordyn. Now I would like Dr. Sun from CNNIC to give us a short presentation. Please go ahead.

XIANTANG SUN: This is Xiantang speaking, from CNNIC, and obviously China has one of the largest IDN potential users. So here I will take this opportunity to share some of our experiences of how we will improve the universal acceptance of IDNs in China.

So before I start to introduce our strategy, I would like to give very brief information. So by the end of the day, we have more than 600,000,000 users and most of them have broadband access. At the moment, we have around 4,000,000 ".cn" names. Unfortunately, we don't have a large number of IDNs, only 300,000.

So obviously the market is quite large, so we're happy. We've got quite a big potential IDN user group but, on the other hand, by seeing this small IDN number the recognition of IDNs in the market really needs to improve by continuous effort and input. Next slide please.

So this is our recent work. We sent the first Chinese email in June of this year, so at the moment the biggest email service provider in China, Netease, is updating their system to fully support the IDN address. Next slide please.

So this is our communication campaign to improve the universal acceptance of IDNs. Our strategy is quite simple. There are two points to mention. The first one is we try to locate the end user as wide as possible and as matched as possible. And two, we try to set a good example to influence and give a good example to the public.

So the first one, we start strategic collaboration with the biggest instant communication provider, probably what you know the software as called QQ, which has more than 600,000,000 and also 100,000,000 users online every day. So it's a very large user group. And also we collaborate with the Chinese Consumer Association to set a very good example to promote our IDN strategy and also exercise trust. So it works quite well. Next slide please.

At the moment, most of the browsers in China support IDNs but the issue is that the older versions of the browsers, again as mentioned before, they don't fully support. So we need to develop some plug-ins. So here is the mobile system and also the good news is most of them support IDNs.

And for the search engines, we have some good news from Google. Thank you. But the bad news is that we don't have very support from the local search engines because IDN users, and we don't have a large number of IDN users, so they're not that interested or very motivated to do more work and invest more. So this is the end of my presentation.

I would like to share some ideas and issues for us. We believe the RFC is very important. For us it's not only a standard for software developers to do something standard, but also it's a very symbolic signal to the market stating the thing is ready and please go. And then we found the government attitude, from a regulation policy, they clearly support IDNs which is obviously very good news for us.

Our strategy is very end user focused, so we believe in having continuous work on instant and sufficient...on the end user will be...works very well long-term. So this is the end of the presentation. The next slides will show our future work.

So again our strategy is very end user focused. So at the moment we have collaboration with instant communication providers and also search engine providers. So our next goal is to focus on the microblog. In China the microblog is becoming one of the largest and most powerful information sharing platforms, everyone is using it, so if we can turn the URL shown in the microblog and fully support it, and the

IDN fully supported version, so that will be works quite well. So thank you, this is it.

FRANCISCO ARIAS: Thank you Dr. Sun. Now I would like to ask Edmon Chung to give us a short presentation.

EDMON CHUNG: Thank you, Francisco. This is Edmon from DotAsia. As a new gTLD, that launched five years ago now, we faced many of the issues that like ".info" or ".coop" or ".museum" faced when we first launched. And I think a lot of this has been well documented and talked about so I just wanted to bring our attention to a few highlights of which. Next slide please.

One of the things is that people always talked about this issue as a fairly trivial issue, it seems, for technical to update. One of the biggest problems though is that they're so widespread. Here's just an example I tried this morning. And this involves IDN TLD. So by putting in an IDN TLD email, it won't allow me to register. And there are thousands or hundreds of thousands or even millions of websites that take registration based on your email address or your URL or domain, and that's kind of the scope of the problem we're dealing with.

Not all of them are incompliant, but many of them are, especially when we talk about IDNs. Of course, as the new gTLDs come along, the longer TLD they would face a similar issue. But once we talk about IDNs, it's also an issue with ccTLDs as well. So that's also, I think, an important part.

And in the next slide one of the things that people say...I guess there was an example earlier about ".china" being accepted by Google. One of the things we found when we first launched was that the different places on a Google result page could be different. For example when we first launched actually the search results, which is the organic search results, would have already supported ".asia", the bottom part of which. However, the paper click stuff doesn't allow you to put in ".asia" yet.

So that takes some time for that to be able to be done. And then there is if you put an ad on Google that is yet another team that does it. They need to allow our customers to put in a ".asia" name. So even for one particular company there are multiple places where that happens. I actually had a...I was supposed to have a slide of Google Apps as well. And Google Apps is another challenge.

After you bought a domain, often you put it on Google Apps so your email works and you can put up Google sites and stuff. Sorry to pick on Google. I don't intend to pick on Google, but all the other providers as well. In fact I actually should add this. Google has actually responded relatively quickly on all those areas, but because the technology is relatively more centralized in terms of development.

But for companies like Yahoo it requires us to go to multiple countries and multiple departments to tell them, "Hey, '.asia' has just been delegated. Please update it." And a lot of times the marketing guys and the technical guys don't necessarily talk to each other that much and it is a very challenging process to get that done.

So that's the scope of the issue, and now it sort of brings it to the heart of what I really want to talk about, especially in this community. We've

got to get our own act together. One of the things that we have found is that even registrars who are offering IDN registrations, offering IDN TLD registrations...in this case you can register somedomainname.china in Chinese and you can put it in the shopping cart, you can register it.

But if you try to use that same domain as your email address or as your name server that fails. So this is the kind of issue that our own industry needs to suck up to as well. There are systems in place within the industry that needs to take into account universal acceptance as well. Next slide.

This is a redundant slide, actually the next one. So one of the things that...and recognizing that this is part of what the Joint ccNSO-GNSO IDN Working Group is trying to work on...next slide. Just a very quick background, it's a group that is different from the staff team that is working on it. But this is working it from the community point of view as well, and we identified some issues that are common between the ccNSO and GNSO, and IDN TLD acceptance is one of them. Next slide.

And I think the issues, we've put out an initial report but we haven't received a lot of feedback. But we are pushing forward on some of the recommendations after getting the feedback from the community. Next slide. So we did explore a number of areas where there...Francisco earlier mentioned that there are no particular policy implications to this, but there might just be. One of the things is that we're trying to figure that out. Some of the things that I just mentioned, for example, is to get our own registries and registrars "in line". Make them also support universal acceptance of TLDs and IDN TLDs. Next slide.

And we've also figured...I think Gervase earlier mentioned that there's this Public Suffix List that's I think maintained by Mozilla. And also Francisco showed one of the other types of lists that are being maintained could potentially contain TLDs outside of what is ICANN TLDs. And that has implications on the unique authoritative root as well, because as we go down...I think the Mozilla list is great that it doesn't do that strange stuff, but there are other lists that might do it and Francisco actually showcased one earlier. Next slide.

And besides its technical lists, there are also these kinds of lists that exist, like even in Wikipedia there's a list of the TLDs. And in the future, with all these new TLD additions, how do we keep this updated? So it requires a lot of coordination as well. Next slide.

And we're now working on a set of recommendations for the community to consider, one of which is, as I mentioned, to request for the IDN TLD operators to at least support a universal acceptance. Registries and registrars that offer IDN TLDs, please at least support it in your other parts of the system, because you might have forgotten the email part, the name server parts, those are also important parts of the whole system.

And we're also looking at, like the Public Suffix list and Wikipedia list, what are these lists providing that IANA is not is not providing? Why wouldn't people just refer to IANA's list and why are they being created? There must be some services or uses that IANA hasn't provided, and perhaps that's another area that the ICANN community can look in to. Next slide.

And so we're trying to complete the final report. We hope that we can get your participation as well. Next slide. And most importantly, more volunteers are welcome. And if you care about this issue, shoot me an email or check out the JIG part and we welcome volunteers and observers. Thank you.

FRANCISCO ARIAS: Thank you Edmon. So we are on time. I would like to now open the floor for questions from the audience. We have a wireless microphone if anyone would like to raise a question, particularly new TLD applicants. If you are here and you would like to make a comment or a question, please.

GERVASE MARKHAM: Can I say a couple of things in response to that presentation?

FRANCISCO ARIAS: Sorry, I could not hear you Gervase.

GERVASE MARKHAM: Could I say a couple of things in response to that last presentation?

FRANCISCO ARIAS: Sure, go ahead please.

GERVASE MARKHAM: Okay. The first is the question of non-ICANN TLDs, TLDs from alternative roots, in the Public Suffix List and the IDN TLD white list.

Mozilla is all about making life better for users. Our current position is that alternative roots make things more complicated, not easier, and we have rejected applications in the past when non-ICANN TLDs to be added to those lists weren't in tune.

It's not utterly out of the question, in the future if the management of the root policies were to change at ICANN in a way that we thought was very detrimental to users...I can't see that happening immediately, but you can't rule out the possibility, then we would change that policy. But we have no plans to change it at the moment.

The other point I wanted to mention was about the Public Suffix List, which I didn't address in my remarks earlier. The Public Suffix List is an unfortunate artifact, I would say. The Public Suffix List is an unfortunate artifact of the fact that the DNS has a non-uniform structure in terms of where things can be registered.

And yet there is Internet security mechanisms and other things that rely on browsers having at least some knowledge of that structure. I would say that if a Top-Level Domain is not in the Public Suffix List that doesn't mean it doesn't work. There is a default rule in the Public Suffix List that it's treated just like a flat domain. So like ".com" or ".org", where all registrations are directly underneath the key ID and anyone using the Public Suffix List would need to implement that rule. It may cause the security to be a bit less than it would be those domains, so for example for cookies or it might cause highlights in the URL bars and not quite highlight the right pieces until the Public Suffix List is updated. But the domains would still very much work. That's all.

FRANCISCO ARIAS: Thank you, Gervase. Now when you mentioned about where the registration happens, I remember there has been a couple of votes in the ITF but I don't remember if they have reached any final solution, any consensus solution on how to identify where the registration happens. And so perhaps this is something that could be of interest for some people. Thank you. Joseph?

JOSEPH YEE: Joseph Yee from Afilias. First of all, thanks to all the speakers for the presentations. One observation being made is the usability and usage problem from what I've observed seems to be more downstream than what has been covered already. So I have been listening to this for more than years, and most of the acceptance issues have been focused on the registry side and on the browsers, and that seems to be pretty much resolved.

So now when you talk about the usage problem, it's actually how the domain or how the email or how the TLD...everything that associates with the TLD being used. So when you have the acceptance issues, you're not only having it in the TLD, you're also having it with the domain, with the TLD, with everything that's associated with it. If it's only the TLD, you can just tell the people who write the registries to relax the rules and just write to every technical blog and say, "Hey, we have this new live gTLD on site. Update your code." and you will have your problems done.

But that is not your case. Your case is starting to be usage already. So some specific examples, just like the Facebook email example, that one is a little bit wrong because right now the current email standards still

only accept ASCII. So when you have to the ".china" in the IDN at the end that would not be accepted.

But that would be an interesting case, not for the end users but to the service provider, when you have names like that where you can translate in to Punycode, do you do it or do you not do it? So you're not only for the acceptance for the end users problem, but also for the service provider and how they're going to manage when such a scenario comes in.

I hope that when the new email standards become standard that will become more clear for everyone. So usage, anything...not just TLDs, but anything associated with TLDs. So it's not just email, but the URL path as well. Think about it. If it's only just a domain name and how the user name associates to it...many, many URL paths right now are associated with the user name, with the hashtag.

If you think about Twitter, if there's another app movement going on, for good or for bad...we're not going to get in there. But if they want to use the Arabic and they don't have a good TLD or good Arabic right-to-left name to it that's going to make people go back to the English. That means the usage end options will be not there existing any more. So there is the issues of...these are some of the usage examples that are to think about.

This is further downstream than registration and typical browser address anymore. It goes beyond that. Applying email to the usage of the applications, applying to how the path is being constructed, these are a few of the examples that are associated to TLDs. Not just TLD problems that ICANN and everyone is facing.

So that's just some directions and scope that I hope ICANN and everyone would think more deeply on. And there are many, many great examples already, like the TLD lease and Kim Davies with the GHCO 42:46] point. That's great, but you have to go further deeper with other collaborators and communities to go deeper off the open-source.

So like Google's some of co-programs or some other co-communities that collaborate with...go engage, go reach them and say, "Hey, we see the limitations or issues that you have with the domain name parts of your applications, and we're willing to contribute resources to help." Whether it's manpower, knowledge, or money, who knows?

But it doesn't have to be done by ICANN, it can be ICANN grouped with some other partners as well. So with Google or maybe with some ccTLD, because they know where these communities are in their countries. So don't do it by ICANN yourself, you don't have enough resources. You want to go with everyone and at the end, if it goes well everyone's got the benefit of it. Not just ICANN. So this is a message that is worth to bring up.

FRANCISCO ARIAS: Thank you Joseph.

JOSEPH YEE: Not yet, the last point. With all the co-repository and all this stuff, this is great. But as a programmer in the background, if I need to every time visit the Mozilla list or the wiki, that may be a little bit tough. How do I know when you get a new update? So maybe something like API Systems that can check whenever there's a new API...I mean whenever

a new TLD or some of the validations that it could check, that would absolutely help.

I know that there will be some operations concern there, but that may be something to partner with someone to host it or limit it. I don't want to go in to too many details on it, but that's something live and easy to get notified about and would be beneficial to the programming community, because you're having the tools that helps for the producers and they could help the consumers. And you will break your chicken and egg cycle in that regard. I could go more, but I will leave time for the other people.

FRANCISCO ARIAS: Thank you Joseph. Indeed we believe that the issue is bigger than the ICANN company and we need to coordinate a force in order to do something to solve them. We have a remote question; can someone read it for me?

FEMALE: Hi, this is from Trent Harvey. Will there be anything published as a "best practices" when launching a new gTLD, i.e. notify the relevant search engines, ISPs and browsers, etcetera?

FRANCISCO ARIAS: Would anyone on the panel or in the public like to comment about this? Edmon.

EDMON CHUNG: Yes, this is Edmon here. That is exactly one of the recommendations from the JIG currently, proposed recommendations, is to have a set of sort of checklists or guidelines for new gTLDs, especially IDN gTLDs, to say, "Hey, I need to look at these areas and check with those people to get my TLD working." So I certainly would support having that.

I think that needs to be a community effort, we need to draw from the knowledge from those who have launched before, like ''.asia", ".info", ".coop", all those. We went at it at different times and to different people, and we need to collect that information. And there we probably will need staff support in compiling that and making that happen.

GERVASE MARKHAM: I'd be happy for us to be on a contact list for something like that.

FRANCISCO ARIAS: Go ahead, Gervase.

GERVASE MARKHAM: I think an automated API for updating the list may not work very well. The reason I think that is because sometimes it's a judgment call as to exactly what example the Public Suffix List should send.

FRANCISCO ARIAS: I'm sorry; I could not get the last part.

GERVASE MARKHAM: I said that sometimes it's a judgment call as to exactly what the Public Suffix List should say.

FRANCISCO ARIAS: Okay, so you said...

GERVASE MARKHAM: It's not entirely obvious. You couldn't really just get someone to submit a change, and how would you authorize that change and so on?

FRANCISCO ARIAS: Okay. You're saying in order to compile the tools like the Public Suffix List there has to be some sort of judgment applied to it, right? Are there any more comments or questions from the floor? Joe?

JOE WALDRON: Joe Waldron from VeriSign. I appreciate the work that's gone in to this and the presentations today. Francisco, you also mentioned...can you hear me? There you go, okay. Francisco, you also mentioned the outreach campaign, and I think that that's absolutely important because I don't think we'll ever solve the usability problems if it's just the people that are in this room or participating in ICANN.

And I'm just wondering what kind of ideas people have for how we really extend the reach out to really have a mechanism for getting to some of those application developers and the other services that are really relegating IDN Domain Names today and for a long time, as well as the new TLDs, to really second-class citizens where they're not as

usable as the kind of standard ASCII names that we've seen on the Internet for a long time.

FRANCISCO ARIAS: Thank you Joe. Would anyone like to comment on this? Any ideas on what should be done? Jordyn?

JORDYN BUCHANAN: This issue obviously extends beyond just the technical community. I think a huge challenge that all TLD applicants have is educating people about the fact that there are TLDs other than the ones that they're used to using. I think outreach to the technical community is part in parcel of that effort, but there's people coming in to the technical community all the time so this needs to be a...it's a continuous process, right? It's not simply a matter of doing outreach once and getting to the right people.

We need to make sure that there's an ongoing education awareness. I think that's really incumbent upon all the applicants more than anyone else, right? We're the ones that are invested in making sure that the program is successful and that people are aware of new TLD applicants. Obviously to the extent ICANN can help out with that is great, but I think we're the ones that will be most motivated and have the resources to make this happen, and can tell the best stories about how these new TLDs are going to add value to the Internet.

Because that's ultimately what will motivate people to make changes. A developer has to spend time writing code in order to address these issues, and if they think that it's not a real problem because no one uses

those TLDs or because they're just a passing fad or something like that obviously that's going to make a much steeper uphill climb.

FRANCISCO ARIAS: Thank you, Jordyn. We have a question on the floor.

LUCAS VALL: Hello. Lucas Vall from Brights Consulting. I just want to bring one issue to take in to consideration where we're thinking solutions, which is dotless domains. I'm surprised when you put out that...

FRANCISCO ARIAS: Excuse me; can you talk closer to the microphone?

LUCAS VALL: Hello? Hello?

FRANCISCO ARIAS: Thank you.

LUCAS VALL: When we think of solutions we should also take in to consideration dotless domains. When you put the regular expression with GREP you actually put the problem was that you have a limit of characters from two to four. But we're actually generating a problem for the future if we actually want to implement dotless domains.

Today it's one of the recommendations that we don't have dotless domains because at IDNs is the programs that actually have problems with it and it's because maybe the solution we actually implement to recognize TLDs. At the end of the day...actually I haven't seen, for example, the solution from ICANN in the GitHub repository, but at the end of the day it may actually include some kind of script that doesn't allow you to put a name without a dot. Which in the future, when we actually want to solve that problem we will actually go to backtrack to the solutions we are already proposing and we will have to go again through this process and find a solution for that too.

FRANCISCO ARIAS: Thank you. On the topic of dotless domains, I believe tomorrow SSAC is going to talk about that. Steve, do you know about that?

STEVE SHENG: Yes, tomorrow SSAC public session to talk about dotless domains.

FRANCISCO ARIAS: That's at 8:30, right? Tomorrow, in this room? Harbour C.

STEVE SHENG: Yep, so you can also bring it up there. Thanks.

FRANCISCO ARIAS: Are there any other questions or comments from the...oh, Edmon.

EDMON CHUNG: Thank you Francisco. I just want to also respond to what Joe said, and I agree very much. This is a reach beyond this community that we to do. But I do want to emphasize that we've got to get our own act together. That's I guess all that I've been saying in the presentation.

I want this not to be lost, is that we've got to make sure that our registries and registrars support this universal acceptance. Because there's one particular time that I went out and talked to people about it and then they tell me that when they register a name...it's a little bit different. But anyway, the registrar doesn't support you. I can't register your name. So how do you beat that?

And now there's a situation, there are registrars selling IDN TLDs that don't support it within their system. That needs to be corrected inside the industry, and we need to have some processes to encourage them to do that first, and then we go...I mean this may be in parallel, and then to go out.

The other part is that within the community there are certain things that we can do as well. One of the suggestions from JIG or findings from the discussion is that yes we have these Public Suffix Lists and other lists, but why are people using them? Not to say that they're bad or anything, but are there services that ICANN or IANA can actually provide to those that those Public Suffix Lists or other types of lists are providing, that maybe this community can provide.

Therefore, applications and all those other things can point to this list rather than that one. So that also helps the enforcement of the single authoritative root. So there are certain areas that the community can do, and in fact these are just some of the things that the SSAC report

from maybe ten years ago did identify but we never followed through fully. So I guess my point is, not to emphasize it too much, is that we've got to get our act together and then we've got to go out in full force, with the ccTLDs, with the gTLDs, with ICANN staff and try to convince the world that this is important.

FRANCISCO ARIAS: Thank you Edmon. Quick comment, Joseph? We're about to finish.

JOSEPH YEE: Yeah, second to Edmon's concern about getting the registries and registrants together. It's great being shown from the registrant side or the registrant ecosystem that everything is IDN capable is great. But then maybe there's an operational concern because many people using third party services and things.

So might actually need to go in further, so you want the registrant ecosystem side to get their acts together, but meanwhile they need to reach to the community or producers of the code base or the documentation to help them. Otherwise I could foresee many registries and registrars saying, "Hey, I'm using Gmail or Yahoo Mail. If they cannot do IDN email for me, I'm stuck."

So there will be a balance there, so the order is not wrong but you just have to go multiple ways at the same time. So my question would be there seems to be some information and educational materials ongoing to sites. I'm just wondering what's the progress and if there's something that gives [us] publicly available for the moment.

FRANCISCO ARIAS: Okay, thank you Joseph. We are overtime and there are...please, quick comment.

XIANTANG SUN: Sorry, it's just a variation of the comments. So most of the topics focus on how to improve the universal acceptance of IDNs, so I have another comment. Probably we should also focus on researching how to use IDNs, because if we know how to use the IDNs, what kind of a channel can the end user really use the IDN, then we can definitely improve the effectiveness and also the efficiency to improve the issue. And CNNIC has a very large user group, so if an organization wanted to do some research or collaboration we're here to do so. Thank you.

FRANCISCO ARIAS: Thank you Dr. Sun. Thank you everyone for attending. Thank you Edmon, Dr. Sun, Jordyn, and Gervase. We will continue working on this and we would appreciate your input. Here is the email address: tld-acceptance@icann.org. We would appreciate your comments and suggestions. Thank you.

[End of Transcript]