

FINISHED TRANSCRIPT

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UNIVERSAL ACCEPTANCE: BEEN THERE, DONE THAT.
LOOKING BACK TO LOOK FORWARD.

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>> DON HOLLANDER: Welcome to the session. My name is Don
Hollander from Wellington, New Zealand.

My objective today is to get a clear -- so, just to get a
clear understanding of what universal acceptance is. What it
means, get an up-to-date view of what's happening within the
region. And see if there is some regional and local activities
that can be carried forward to better achieve universal
acceptance for all TLDs, that is IDNs, EAI, long ASCII and
recently established gTLDs.

So we have a number of participants, some of whom are here.
So I'm Don Hollander, a member of the Universal Acceptance
Steering Group. And I'll be covering what UIA. Pensri is from
THNIC, who will talk about their push technically and
administratively, to get greater adoption of dot Thai, one of
which is to learn how to install a Thai keyboard on your
computer. She showed me that earlier today.

Edmon will talk about DotAsia and their efforts with IDN.

And hopefully Jin Huang will show up and talk to you about the new gTLDs.

And Jonathan Shea, who I hope is online, will be joining us from Hong Kong. And Marvin Wu will finish talking about EAI -- the Coremail implementation of EAI.

And Laura from Microsoft is going to share with us in an informal and unofficial sense some of the stuff that they're doing in that space.

So that's my plan for today and then we will have time for some questions.

All right. So, that's hopefully what we're going to do. And we will start with a little video. And we're going to try to make some technology work. So I'll give this microphone to Pensri.

So for those of you who have not seen this, it's lovely. And I just need to have two computers up. No -- I just need to sync two computers up. No worries.

>> PENSRI ARUN: Maybe start with my presentation.

Hello, everybody. Today I would like to give you an update on that IDNN EIA activities. And the first thing I would like to give you a background of the dot TH.

Okay.

So dot TH was dedicated in 1988, 27 years ago. So we passed a lot of process. Currently we have seven subdomains under dot TH, and I would like to point out that dot Thai, which is the IDN for ccTLD, it has been dedicated to us in 2010. And currently we have 6300 -- 63,000 domains under dot TH and we have 16,000 domain names under dot thai as of 2015.

And this picture shows you the Internet penetration maps of Thailand. So you see that the biggest number is 49 in some province, but we have less than that around the country. So the total amount is less than 30 percent.

So among other causes of the penetration, we think that the language is a barrier.

I would like to show you the videos.

(Video)

The previous video is about IDN. And this video is about the -- e-mail address.

(Video)

Okay. Sorry the voice is not exactly synced with the video.

Okay.

Let me move on.

So I attend the EAI workshop in Beijing last year. And after that, in Thailand we organized a Thailand EAI workshop on May 8 with support from many organizations, and we had speakers from ICANN, Coremailarmel, Coremailnnic and other countries and

also Edmon from DotAsia. So the objective of the workshop was to raise awareness to the Thai community about high IDN and the users EAI. And we introduced the issues of the technical of EAI and introduced the Thai EAI platform.

From this discussion of the panel, we have an idea that we will form a Working Group to work on -- through the next steps to implement the Thai EAI.

We are also working -- under this, we also tried to do the research, to like set up an e-mail system, and try to make a step for the small hosting provider that can follow to provide a Thai EAI system for their customers.

After the UN, the newspaper published our activities. And other activities that we are going to do -- is ongoing for us is we contacted some district administration organizations to promote the uses of the Thai IDN so they will build a website in the Thai domain and we will do like a magazine to publish all the activities.

So that is all for me.

>> DON HOLLANDER: Thanks very much.

Now what I hope we will do is get Jonathan Shea coming in through the Adobe Connect room. And hopefully the people upstairs can make it so that we can hear him if he is online.

So not yet?

So Jonathan, if you're talking, we can't hear you. So what we're going to do is we will just go to Edmon. Edmon, do you want to talk from there or do you want to talk from here, where you can see the slides?

>> EDMON CHUNG: As we wait for technology to connect John Jonathan from Hong Kong, thank you, Don, for having me here. This is a topic, for those of you who know me, this is a topic of much interest for the last 15, 16 years already. IDNs. I think they are important and I guess I'll talk a little bit about why I think it's important and why this is the time to really pay attention to it.

This is, you know, this is the future of domain names. I think right now most -- a lot of people may know that there is an expansion of the Top Level Domains that, you know, eventually we will see many more Top Level Domains like beyond dotcom. Like dot music, dot movie, both Vox. Whatever you can think of. But whatever is more important of that expansion is about expanding into the possibility of using domain names in native languages. And that's what IDN is about, Internationalized Domain Names.

And this is not something that has just happened. As I think Pensri just mentioned, it's been happening for the last five, ten years. And in the last five or six years, many country level Top Level Domains are able to be presented in

their own native language as well.

So as we work into this world, often I get the question of: So I don't know how to type Chinese. I don't know Thai. Does that mean that I cannot use the domain name? So my view of that, and that has been a question for the last, you know, 15, 16 years that I've been working on it. My view is that it's a matter of world view. There are people who believe that what, you know, what internationalization means, what globalization means, is that everything is homogenized and everyone is fit into, I guess, the lowest denominator, in this case, English alphanumeric domain names. But I think there is a different world. There could be a different view for global Internet, and that's about diversity. And IDNs is about that. It's about being able to express your identity in your own language online and talking to your own friends in your locality, now only person-to-person but businesses as well. Businesses that are focused on their own native language and their own local audience and customers, IDN is a very important part of expressing their own brand. And this is, today, millions of small-, medium-sized companies that cater to the local community actually communicate and maybe their customers only know them in their own native language. Because businesses themselves are really really known in their own languages, where they are.

And here in Asia Pacific, especially, we are in a situation where in Chinese, Japanese, Korean or Indian or even the Arabic region, these are characters and these are names that are reflected in their own native language, and IDN is a very important part of it.

However, there are still challenges. And this is what we're talking about. Not all of the systems on the Internet is aware of IDNs. And they sometimes have problems. Even though, you know, as simple as registering a Chinese domain name or other languages, that's probably being solved. But further on, let's say if you want to use an e-mail address that includes a Chinese character or a different, other than A to Z and zero to nine, you may bump into problems and that is the challenge that we're talking about. And developers and companies who are offering Internet service, we are calling on you to look into the issue and calling on you to think about how to address these new domain names and new e-mail addresses that can actually serve your customers better.

And that's, you know, one of the things that we are trying to do also is to take a little bit about the e-mail address. Because when we talk about universal acceptance, often it goes and talks about a number of different things. The Top Level Domain, the domain name, not necessarily IDN. It could be a long domain or dot museum, for example, is -- a lot of

developers think that the Top Level Domains are only dot com or just three characters long. And that's a problem in itself.

But the advent of IDNs and the Advent of what is EAI, which means e-mail address internationalization, means that emails themselves can be expressed in the different languages. And if you solve the problem for e-mail address in your system, that actually -- systems, that I should say helps you solve the universal acceptance issues as well. Because that is really what we need to drive for. And that is also the user case as well.

But in looking at the issue, I should really say that it is not, in a very beginning point, you might think that it is very straightforward. Just about accepting a few more characters in the domain name. Well, I'd like to say yes, the basic principle is not that difficult. However, the scope of work is sometimes a little bit broad, broader than you might think.

So this is something that we would like to call upon you to think about as you think about new Top Level Domains and IDNs and accepting them in your system. It's many areas, the input, the output, the analytics that you do and how you store them in your database.

Let's take e-mail as an example. Not just the to and from fields will have the e-mail address. In the body of the e-mail, how do you represent that? A lot of e-mail clients will automatically create a link when you have a domain name or e-mail address. How should those user experiences be updated? And once you get into that, you would understand that there are a number of touch points that need to be taken into consideration. However, is it dangerous as well? You know, it's another question about are these things dangerous? Because we don't really know them that well. Do we know if it's going to be spam, is it going to be phishing? Is it going to create more problems for Administrators? And IDNs, how do we deal with that?

So in here -- actually Don asked me to talk a little bit about homographic attacks. But I wanted to, more importantly, distinguish what we call homographic attacks with actually what is called an IDN variant. What we usually call IDN variant is much more of a linguistic variation of domain names. There are certain challenges, still, that we are coping with in terms of policies and implementation of IDNs, and IDN variance is a good example.

Imagine, again, this is a worst but easiest to understand analogy. Imagine when you register right now a domain name, right now, English domain name, and that upper and closer case characters are actually different. And in order to register a domain name and to avoid other people registering it, you may

have to have register multiple versions of it just to cover what you do.

This is very very analogous situation with the Chinese IDN, like simplified Chinese and traditional Chinese. Those are two different ways of writing the same word or phrase in Chinese. And that's what IDN variants are. There are different policies that can be addressed. The registry can implement policies to address these issues. So that at a policy level, those two domains are given to the same registrant.

But a homographic attack is a little bit different. The best to understand it, but again it's the best way or the worst way to understand it, but the easiest way to understand it is, for example, like the numeric number 1 and L. Today, if you register Goog 1 E, that would be like a homographic attack. But homographic attack can be launched using IDNs. Because of the situation, like, for example, Greek. The upper case alpha is exactly the same as the Latin alpha. And that creates an issue when, you know, if those two domains -- if one of those domains are being used to pretend they are the other. And that is what we call homographic attack.

Yes, that is a problem and yes that produces challenges. But what is interesting to note is that in the last ten years of implementing IDNs, understanding that there is this homographic attack possibility, in fact, very few attacks happen, actually. Looking at the statistics from APWG, in fact, if you look at the top left, those are the total number of phishing domains that are used, about 100,000 of them. And if you go down a few lines, to the second last line, the number of IDN domains used in phishing is only about -- (Music)

-- 1 percent? It's almost zero point 1 percent of the domains, where phishing is actually using IDN. And an even more important statistic is that none of them, none of the 100 IDNs used for phishing attacks were actually abusing the homographic situation.

Does the statistic mean that it will never happen? No. Of course, it could happen. But the reality is that that is not really the issue at this point.

And to address these types of issue, there are different types of abuse policies that registry could put in that is different from the IDN variance. There is APWG, which is the Anti Phishing Working Group, which does a lot of work, and DotAsia worked closely with them on a number of projects to address these abuses and domains and to take down.

So at end of the day, one of the key messages is one at a time. So there are challenges --

(Echoing)

Just like this one. Technical challenges.

But now is the time to look into the future and now is the time to implement these IDNs. One of the things I recently is came across, there was a note that says domain names are going to be useless in the Internet of Things. But I want to counter that and say the Internet of Things gives a huge opportunity to domain names to name the things that you have in your home with a domain name. Because they are fully connected.

Every device, every appliance in the future will probably be able to be assigned with a domain name. And at that point, I guess for Chinese using a fridge in the home, I hardly think they would prefer an English domain name over a Chinese domain name.

But ultimately, I think domain names are really about identities that connect with people and IDNs are a big part of that. But the key issue right now is that we need the community to pay attention to. There are still some Kinks in the technology that need to be smoothed out. And this is a time to make sure that those changes are in place.

And because this is really a very important part of it, if there are names that cannot be used because of certain technical limitations, consumers will lose trust in the entire system for DNS, and this is, I think, where I want to end. And I want to say the main message. This is the time to think about your systems and how they are compliant with the acceptance of IDNs.

Thank you.

(Applause)

>> DON HOLLANDER: Thanks very much, Edmon.

I think Edmon makes a very clear and compelling case for this.

So some people complain that ICANN takes a long time to do stuff. But Edmon points out that this has been going on for five years. fifteen years, actually, depending on when you start counting. But for the past five years, we have had IDN ccTLDs available. And for the past couple years we are getting ASCII gTLDs, IDN TLDs. So the Internet is moving. But the people who are providing applications that make use of the Internet haven't caught up. And it's just time to do that.

So the key message is if you have systems, or if you have influence on people who have systems, whether you're a Coremailio or a Coremaileo who has a Coremailio, or you're somebody in the organization who has a Coremailio, go back home and say: Did you know that this is coming? Not "Coming." This has been here and there's opportunities as people look to identify themselves, either through an IDN or through an ASCII, new ASCII TLD, and you need to be able to support it.

So thank you very much, Edmon. You were far more eloquent than I will ever be. But this is a big issue in the IDN space,

in the community, for the people in the back blocks of wherever who wouldn't know an L from a T or a Coremail from a B or an O in the English character set, which is challenging, at the best of times. Let them use the Internet in their native tongue. And let them use your services in their native tongue.

Now, as we start looking at what are the big issues, how do we get the message out? What are the big impediments to getting a full adoption of all Top Level Domain names, within systems, the big obstacle at the moment is e-mail. So there's an e-mail standard called EAI, e-mail address internationalization. It's been ratified by the IETF for a number of years. CNNIC has been instrumental in producing some of the RFCoremails. So the RFCoremails have been there. And just waiting for the e-mail software providers and e-mail service providers to come to the party.

And in China, two hours away, we have Coremail who may have just done that. So, Marvin, do you want to talk from there? So we have real live actual implementable and running EAI system, and then we will hear from others. We will have discussion here as well.

Thanks.

>> MARVIN: Hi. I'm Marvin Wu from Coremail, China.

Yes, I think an IDN may be like a girlfriend and boyfriend. Also like same friend and different place we have a meeting.

Okay. My presentation includes three parts. First I'll talk about the EAI and Coremail and how to implement EAI and some EAI strategies.

Here are this friends and your friends may wonder who is Coremail? It's a small company. Not Google or Microsoft. We are only doing focus in the e-mail area. There are only 16 years we are only into e-mail. So we catch more than 600 million users in China. The number is fairly huge. I think the Chinese people is so huge a number.

Okay. So in 2012, the world's first multi-language e-mail account was sent by a professor. And this is how Coremail has started.

Okay. Now, this year, Coremail, now, an EAI solution often has Web mail. So no client can support EAI. So Coremail has released one client to support EAI. It includes a mobile client and PC client. This is our flash mail for Coremail, PC client. And also, we can support mobile client in APP. This page is a plan of registration. You also can apply for a Chinese domain name at this platform. This contains more than 50,000.

This is a player. Someone likes it because this is very cool. A few people use it, so I think it's a challenge.

And now we have upgraded our e-mail clouding service, trying to support EAI. In other words, more than -- millions of

users in China are available to the Chinese to send and receive e-mail. The only thing that they have to do is to buy a Chinese domain name and create an EAI e-mail account in our e-mail system.

So what is EAI e-mail? It includes -- the Protocol includes (inaudible), RSC 6531, 6532, 6835, 6856, et cetera. This is our e-mail system. It includes three parts. 12 modules. And e-mail -- e-mail ID exists at will.

Our system modules, it took us a long time to optimize EAI e-mail application. It's a legal problem. So the most difficult part is compatible between Internationalized e-mail and traditional English e-mail. So we tried to solve the problem. And each EAI e-mail has two accounts. Main account is supportive of ODF8 (inaudible) and alias account is ASCII.

Okay.

This is our interface. When you send this to someone, e-mail, which does not support EAI, Coremail will automatically switch the Chinese sender to an e-mail sender. Its alias. The switch is easy. This is the system will receive the e-mail by IFC 6531. If not, it will receive the e-mail by 2821, IFC 2821. While sending all e-mail is more complex, the e-mail system shows and makes a smart judgment. Therefore it's safer to support EAI. They build a cloud to judgment. Email will be formed by IFC 6532 and send by IFC 6531. If not, the e-mail will be from by IFC 2045 and sent by IFC 2821.

Here we have some optimizing. When you log in Chinese webmail or feeling it is safe with a Chinese domain name, it supports this. A Chinese force up will automatically switch to English. Period.

Okay. About our solution for EAI e-mail. We have a lot of challenges. We need more e-mail operators to support EAI and more kind to support EAI. Because the e-mail, e-mail is a communication for everyone. If no one supports it, it can't be played and then can't work.

And now, e-mail account, as a registered IP is becoming more and more population for education software. But the system compatibility of software is not enough. We also need more support.

Okay. That's all. Thank you.

(Applause)

>> DON HOLLANDER: Don't go away. So I have a question, just to make sure that I understand. So if -- so I have my Coremail, Chinese e-mail address. And if I send it to another member of the coremail, no problem, it goes straight through, stays Chinese the whole way through.

But if I take it, my Chinese e-mail address, and I send it to somebody who does not have an EAI compliant mail server, the

mail still gets through, but you transfer it to an ASCII address until the other guy finally gets his EAI compliance.

Is that right?

>> MARVIN WU: Yes. If the receiver can't support EAI, we transfer to ASCII.

>> DON HOLLANDER: So it's like the beginning days of faxes. You're too young to remember fax machines. But when you were the only one who had a fax machine, it was not very useful. So you needed your friends and your friends' friends. So, finally, many people have fax machines, so it is more useful. So I think we are at the early days of fax machines.

>> MARVIN WU: Okay. I think Coremail is a small company. But we love e-mail very much. So we need technical to lead the Internet, of course. EAI is a chance.

And coremail has a lot of patents in China, a lot of patents in China, but most of them are about antispam. So another technical, we like it. So it's a chance.

But I think we need more and more operators to support EAI. So the EAI account can be used, not can be played.

>> DON HOLLANDER: Very good.

Now, questions or comments? Do you want to talk about what Microsoft is doing?

>> AUDIENCE: Sure. Universal acceptance is a really important topic for Microsoft. Part of our mission is to enable every organization, every person on the planet to do more. So this is really a big topic for us. And we have a lot of work to do. So we are definitely making some huge improvements as far as being able to support different e-mail scenarios and collaboration scenarios.

But, you know, mentioning, I guess, as the other panelists said, there are a lot of problems. So in addition to supporting and making advances in the collaboration scenarios, we are thinking about other things we can do in the ecosystem.

So Microsoft provides developer tools. You know, what can we do to increase, you know, make -- make developer tools that will enhance universal acceptance. Spam filters, other things like that, they are definitely on our radar and we are working hard to kind of close the gaps on this.

>> DON HOLLANDER: I just point out that APTLD had a workshop in Oman last year on IDNs, and we had a representative from Microsoft there. And to give us a sense of the scale of the challenge for Microsoft, he said there are over 100,000 different places within the Microsoft product sets that they had to have a look at. And some things they had to look at and they could deal with relatively quickly. And some things they looked at and it was not such a pretty picture.

So I'm delighted to hear that Microsoft is actively

involved and there is a group which I'll talk about at the end called the Universal Acceptance Steering Group. And Microsoft is actively involved in that, as is Google and DotAsia, of course.

So I think we have Jonathan Shea. Jonathan, can you hear us?

(Echo)

>> JONATHAN SHEA: Yes, I can. Can you hear me?

>> DON HOLLANDER: I will press the button as you tell me.

(Echo)

>> JONATHAN SHEA: Hello. Can you hear me?

Hello, can you hear me?

(Echo)

Hello?

Okay. Thank you. I'm Jonathan from Hong Kong. Thank you. Thanks, Don, for inviting me to take part in this panel. And so I'm going to spend a few minutes to give you an update on how the Chinese domain name has been introduced in Hong Kong.

HKRC is the registry, administering HKPRC and provides registration services through our registrar.

I am going to skip a few of these so that we can focus more on the Internationalized Domain Name. We introduced the Chinese Domain Name Registration under.HK as early as 2006. And we also introduced the Chinese Domain Registration in dot Hong Kong. Chinese characters in 2001.

So at that time we think that we had the application to offer the local users the Chinese versions of .hk, because we conducted our business and day-to-day affairs using both Chinese and English. And at that time we did not consider a lot about whether all the applications support Chinese domain names seamlessly or not. And we have to be patient to see how things go and to see how all the support will come in terms of supporting the use of these Chinese Domain Names.

As you can see on this table, on this slide, we offer for each type of -- for .hk, we offer corresponding Chinese variation. So basically you can register the same domain name - - I mean, for the same organization, both English and the Chinese version.

Well, and in terms of supporting a Chinese domain name registration, we have to offer both what we call the traditional and simplified Chinese support. So, basically, when you register a Chinese domain name under dot Hong Kong, Chinese, you get both the traditional and simplified version of the Chinese characters. And you get these for no additional charges, as long as you have purchased an English dot HK domain name from any of our registers.

So in terms of adoption, there are about 11 percent of our

total domain name are dot hk and dot Hong Kong based which are registered in Chinese, so it's not that much. But as far as I understand, 11 percent is more or less the same for most of the other Chinese speaking countries or economies in this region.

So I think I should stop here for now, in case Don or any of you have any questions for me. And sorry, again, for the inconvenience caused by the remote access and the remote participation. I apologize for any inconvenience and lack of quality as a result.

Thank you.

>> DON HOLLANDER: Thanks, Jonathan. Any questions?

So I'd like to just have one last update from me, and then we can have generic questions or we can break for tea early.

So Edmon talked to us earlier, he had a slide with the five circles on it, about what are the bits associated with universal acceptance. So it's how you deal with accepting the -- entering the information, how you store it, whether you're storing it as 7 bit or 8 bit, how you process it, how you display it. So those are the core issues around how you deal with new domain names, new e-mail addresses. And when you're entering it, how you accept it and validate it.

So I don't know how many people here have ever been computer programmers. But computer programmers are nice people.

(Laughter)

So everybody here clearly has been a computer programmer, because you know that's true. So computer programmers like to make things easy for people. They have a saying in computer programmers, garbage in, garbage out. So computer programmers like to make sure that the information is filtered as early as possible. So that's why you'll, if you enter an e-mail address into systems and you mistype something, it will say oh, I don't think that's right. But the validation rules that people have applied to e-mail addresses or domain names have been stuck in almost last century.

So we had an example recently where you could have any Top Level Domain you wanted, as long as it was 2, 3, 4, or 6 characters. Now, it wasn't a really good validation because if you had a dot XX or dot YY, if that's what you entered, it would accept that even if those were not valid top level domains. So you have to make sure that the rules are not based on heuristic rules, but based on actual data. And remembering that domain names will change rapidly. So at the moment we're adding one new top level domain virtually every day of the week. So computer programmers just need to catch up.

So that's the issue of what universal acceptance, the concepts are. Edmon was far more eloquent. So what's happening to address it? In January there was a flash meeting in

Washington, D.C. where about a dozen people, including Edmon, got together and said let's take this seriously. Let's move things forward. And so that group said yes, let's create something. And they decided to call it the Universal Acceptance Steering Group. It got validated at the ICANN meeting in Singapore in February. In March, a charter was produced. In April positions were elected. So we have a Chair. We have three Vice Chairs. Edmon is one of the Vice Chairs.

And then in May we started filling in the project group. So there's four project groups. There is a top line issues, top line and technical issues. There is an International group focusing just on International issues. There is a measurement and monitoring group, and then a community outreach group. So those groups started working in earnest in May. And in June, which was last month, outputs started happening. And we had a face-to-face meeting in Argentina during the ICANN meeting there.

So what's happened out of those first couple of months of the year? We have a second draft on specification and good practices in the universal acceptance space. Much thanks to the folks from Microsoft, who are leading that work. We have got focus on the top issues that we're going to look at in the next trimester. EIA -- EAI, sorry. EAI amongst really large players is a top issue. So we have Microsoft onboard, we have goggle onboard. We have Coremail involved. We're looking to get involved and identify maybe the top ten e-mail service and software suppliers and make sure that they are working together and that they talk to each other, so that they learn from each other's experiences. So that's one issue.

We're also looking at smaller programming. So top issues for the big guys, and smaller organizations, software development, looking at software programming languages and libraries.

So a very limited scope. But the goal is to get something actually done before the end of the year. So that's what the UASG is. And we're very keen for a few additional participants. So we have four groups: Top line and technical. International. Measurement and monitoring. And community outreach. And if you have any interest in participating in those, let me know. Let Edmon know. There is a universal acceptance wiki page and a number of e-mail mailing lists available. And those will all be in the slides that will be available from this session.

So that's all I have. What we see, Thailand is developing a model for national engagement. They've already started that. They brought a whole group of people from within Thailand together with some external parties saying this is an issue. How do we get it addressed? And they have a goal by the end of

this year to have another meeting and monitor and measure the progress. Yes? So there's a lot of parties involved, THNIC is involved. The Government is involved. Some ISP sort of organizations -- ISP hosting organizations are involved. So they are making progress.

Coremail has an operational platform, so people are able to test. And ICANN is doing some technical validation, where they have registered ICANN.whatever, including ICANN.ILoveYou in Chinese. And they are running tests around the world to make sure that there is no network level accessibility barriers.

So I think that's my story about universal acceptance. I'm happy to answer questions or take comments from the floor.

Yes, ma'am?

>> AUDIENCE: Thank you. Thank you, Don. Asha Hemrajani from ICANN. I have three questions. The first one is split in two parts. It's on IDN variance. So Edmon was -- had a slide where you talked about IDN variants. And I should know this, but since I'm new to the space I wanted to make sure I understood it correctly.

So the issue with IDN variants, for example, is it like if you had a website with mixed use of simplified and complex Chinese, is that the issue you were referring to?

>> EDMON CHUNG: Not really. And I was trying to flip it through quickly so that there were no questions.

>> ASHA HEMRAJANI: Okay.

>> EDMON CHUNG: No. Not really.

So I think that the main issue is that when we --

(Microphone feedback)

Is it me?

-- When we finalized the technical standards for IDN, the decision was that case mapping and also these types of mapping between characters that are identified to be, you know, to work the same statistically, are not mapped together. So kind of unlike -- that's why linguistically is the worst way to think about it. But actually, technically, in today's world, in domain names, the capital letter and small letter, they are mapped together. So however you type it, it's the same. But in IDNs, we no longer have that capability. So especially for languages like Chinese, where there are at least two scripts that are -- I shouldn't say that. But two forms that are being used, which is traditional Chinese and simplified Chinese. But as a Chinese, you would use them interchangeably. In that case, we need to have a policy mechanism such that the different domains are mapped together in a way that is a policy that it said okay, if you register this name, we will also give you this name. Because some users may be typing in this name to try to access the domain.

So that's what the IDN variant issue is really about, especially describing the Chinese situation.

There are other ways of thinking about IDN variants as well. Because some other languages have different linguistic nuances of how they are. But, fundamentally, I think that's the issue. Linguistically, two characters are seen as the same or two strings are seen as the same. But technically they are not in the DNS. So therefore we -- you know, in terms of policy, we need to map them back together.

That's, I think, the crux of the IDN variant issue.

>> ASHA HEMRAJANI: Thanks for that explanation. That's really helpful, Edmon.

So the second part of this question then is for Coremail. Is that something that is an issue? IDN variants, is that an issue for IDN clients? If so, how is it solved? Or is it not an issue.

>> MARVIN WU: Maybe I need Edmon's help.

(Speaking Chinese.)

>> EDMON CHUNG: Let me add to that, just to summarize what was said. Currently, the Coremail system treats them as separate accounts. Let me add to that.

So similarly in the domain situation, they are treated as two different domain names and entries into the DNS. And so looking at it, an e-mail address, there are two main parts, right? The domain part which is after the at sign, and the user name part, which is before the at sign.

So the domain part that is after the at sign, what you do in terms of the set up of the e-mail is that in your e-mail server you set those two domains to be equivalent. When you set up the e-mail. Because you can actually set two -- any two ASCII domains you can set as the time. DotAsia, DOT.asia and at registry DotAsia, it goes to exactly the same mailbox for me. So that's how it's set up for the traditional and other Chinese.

The user part, that's up to the e-mail system and/or the e-mail Administrator. Today, actually, today, the e-mail standards for ASCII for English also have systems that make capital letters and small letters different accounts. Even for English. That is currently today. Certain mail systems do that, and that's entirely up to the mail system configuration.

So I guess in the future, if Coremail, I guess the customers require them mapping together, I'm sure that that feature will -- could be included in some way, shape or form. So I want to distinguish between the two. The standards for e-mail user name part, in fact, you know, do treat them as potentially two accounts. And it's up to the Administrator or the e-mail system to determine that.

>> AUDIENCE: Thanks for that, Edmon, that's also very

helpful. So I guess if this is subject to a different interpretation by different e-mail client companies, it also could open the door to a whole new set of problems.

>> EDMON CHUNG: That is the e-mail we have today. Even with English. So it's a nonIDN situation. It's similar for all e-mail addresses. Even today, you know certain systems take capital and small letters as different accounts.

>> ASHA HEMRAJANI: Then the third question is for Don. So, Don, thanks for that quick summary on the UASG. And thank you very much for that summary you sent me, the two-page write up that you sent me.

So my question is: Has there been any discussion on KPIs? What sort of milestones need to be reached by when, in terms of the progress? Thank you.

>> DON HOLLANDER: Let me add to what Edmon said and then I'll ask the question.

One of the things the USAG is looking to do is to develop good practice guides. Not best practice guides, but good practice guides. So we're early in the life of IDN at the local part of the e-mail address. So we're looking to see if we can just get some good practice guides, recommendations, not standards, but recommendations as to how to work.

So your second question is does the UASG have specific targets. And the answer is not yet. The UA issue is a marathon, that's the approach we're taking. And it will take a long time to see the fruits of the labour. So the best time to plant a tree was 20 years ago. And the second best time is today. So we have started -- we have planted the tree. And now we're nurturing it and watching it grow.

So in terms of expectations of achievement, nothing's published yet. And the group itself is trying to get itself informed.

I have expectations that by the end of next year that EAI stuff will be well and truly on its way, that we will have at least the top five e-mail service and software suppliers EAI compliant or pretty close. And that will be a big hurdle to get things addressed.

So I put my CIO hat on, so when I was young and stupid as opposed to being old and stupid, I was a CIO. And we had a presentation at the ICANN meeting from ICANN CIO. And he gave us -- you know, he's going to talk to us over the next year, giving us updates, saying that the first thing he has done is evaluate -- not even evaluate. He has done an inventory of all of his systems. He has at least 84 systems on 12 platforms, some of which he can control and other ones he can't control.

So that's the first step is to get an inventory and assess each of the applications. And helping with that. And one of

the things that we see early on is e-mail is a barrier. So if you start accepting IDN e-mail addresses, and then you can't do anything with it because your e-mail system says nope, then you're not going to pursue it very much.

So that's why we're seeing EAI as a priority issue, focusing on getting it done and working on good practice guides. So that's our goal. But in terms of specific dates and achievements, not yet.

That was a long answer to say no.

>> AUDIENCE: Olish (inaudible) from the University of Oakland.

I've got a concern that comes with a question sort of attached. And I do pride myself a bit, but I -- I do a bit of programming myself but I also train other people to program. So I see basically almost every programming language on this planet is English. You know, one way or another. And it's using ASCII. And, you know, okay. There are some that also use UNICODE, and I'm seeing the critical views coming over here from Microsoft.

But let me put my open source hat on for a moment. Now, the moment we start or run towards accepting this, what we're also asking open source developers to do is we're asking open source developers to also take this into account so they can compete with people who build commercial software with a great deal of resources.

And my question is: What will this do to the open source movement? Now, of course, the open source movement has the advantage in that it's already an open International network. So I don't see a problem for the larger open source applications. And, of course, e-mail clients are one thing. But emails these days are not just for actually sending emails. They are typically used as user names in a large number of apps.

Now, when you've got Microsoft involved, at least Microsoft, at least I hope that you guys have an inventory of the software that you have so you can actually go through this and you can say okay, we're using an e-mail address here and here and here and here. Or a domain name here and here and here.

The problem is that such thing exists for open source software. And one thing with open source software that sticks out very, very clearly is the amount of dependency of different packages on each other. Since there is no end to end control over all of those packages, even though I might update my package, the package that it depends on may not necessarily be able to support this.

So my question really is what kind of roadmap do you see towards implementation of this that is not going to put the open

source community on the back foot on this one? Because they might not have the resources in order to tackle something like this for their software.

>> DON HOLLANDER: So I like that question because we already thought about it. In fact, ICANN has been working on this for a number of years. And for those of you who might know David Conrad or Kim Davies, they already developed some sample code that they put into gethub. So I haven't programmed in a hundred, so maybe I'm using the wrong term. So the goal is to identify programming languages, to identify library modules or other applications, whatever the terminology is, I'll use a library. That sort of shows my age. But identify the libraries, and get those libraries fixed with good practice, so that people can apply either that library or at least become aware that there is an update to that validation library.

Does that answer the question?

>> AUDIENCE: Okay. It answers part of my question in the sense that you've outlined a way in which, you know, this can be tackled.

But what it doesn't outline for me is how you motivate heterogeneous community to actually get involved in this. My question is: What percentage of the community is aware of it? What percentage is going to be willing to engage with it? And, you know, how many of them as a result are actually going to update those bits and piece of software?

I mean, sure enough, the technicality of actually doing it is relatively easy. But how are you going to change this huge existing body of software that, you know, has, to a certain extent, incomplete guardianship attached to it.

>> DON HOLLANDER: So I understand the question and I understand the issue. And the issue, that's that big gigantic enormous million people that you have to communicate to. So what we are trying to do is get the big obstacle sorted first. That's E mail. No point in telling people that there is this great opportunity if the first thing they say is I'm sorry, I rely on a third-party e-mail solution which is not ready, so I'm not going to bother you.

So we're trying to get the big things that we know are going to be obstacles, sorted. And in the meantime, we're working on communication strategies and channels on how to reach out to every software developer effectively in the world. So we will go through channels, through Government, through accounting firms, through software firms, through the gigantic web-based solutions like Facebook and Wabow and eBay and Alibaba and Trademe you would be familiar with, and get them to say -- make them aware that here is an opportunity that they probably did not see happen, even though it's been -- apparently, I'm told,

not everyone in the world pays close attention to what ICANN is doing. I don't understand that personally.

(Laughter)

But apparently not.

So ICANN is -- has been listening to the community at large. For five years these have been available for five years, and people haven't figured that out. So a big part of what the UASG is about, it's about reaching out to the communities and saying the Internet has changed. You need to change with it.

>> EDMON CHUNG: I wanted to add directly to the response. I guess a few things. First of all, as Don mentioned, the approach is to -- the UASG approach right now -- and first of all, I should encourage you to participate in it and join the main list.

The discussions up to now is to create the critical mass first as the top priority item to identify the large e-mail providers, and get hundreds of millions of users already in. Yes, there are going to be hundreds of millions of other software that is not updated. But part of the strategy, if you ask for a roadmap, part of the strategy is to get more bang for the buck to start and create critical mass when this is built.

So this is the proactive side. You have to create instances and get people to create software and create the patches that could make it work.

The other thing that is important to note is that in the design of the Protocols, these things failed gracefully. So yes, if you don't update it on the user experience side, it's not as good. But technically, rest assured in a way, they fail gracefully if it doesn't pass through. So this is a very important part of the design of the Protocols that I want to mention.

And which leads me to the third point, which is the phased implementation. We expect that companies and even software will have a phased implementation for these things. But when we talk to people, we tell them about the ultimate goal of the fully Internationalized e-mail address. But perhaps the phased implementation would be to accept them first. Not to register them or, you know, the next phase is to use -- allow IDN domain names first. And then finally to allow user addresses.

And similar to the open source software situation, you know, the updates or patches that come in may have to be done in a phased approach. And how we motivate them? We need your help to figure that out as well. And I hope I have the answer, but I actually don't. I think the motivation is that this is something that is the standard. This is something that is good for the Internet. But exactly how to motivate, we still need ideas.

>> AUDIENCE: Yes, I would like to comment on what you are saying. I think we have to understand IDN. It's an equal system.

First of all, I have to say, this is in my personal capacity, nothing related to ICANN at all. It's my personal capacity.

I think for the IDN we have to understand whole ecosystems. ICANN is not a software company. ICANN cannot design a protocol. ICANN Can only do one thing: It's a policy design. Edmon, you know that very well.

So in here, in the very beginning, we are talking about what is going on. And actually, in the very early stage there was an IDN, when we push the ID into the ID of IFC. And I think you know that the junk cleansing helped a lot. Without that, it cannot go into IFC. Because a lot of people are against that. Everybody knows that.

There is a simple reason, you know. One of the reasons is some of the people arguing, saying if I receive an e-mail and my system don't speak English -- don't speak Chinese, your e-mail header comes to me as a kind of stumble. I don't know who you are. I don't know who you are. It confuses me. So I should take it as a spam e-mail or I should take it as serious as regular mail. It confuses me, so I think there is a big argument in the IETF.

So if Jonathan is pushing into the IFC, his idea originally was that it should go to the ccTLD first, the country code. Because the country code, that means, for example, like China, China most of the people speak Chinese and English. So they have a system in there so they know who usual.

But to be honest, in the ICANN community, a lot of businessmen and legal people from the generic Top Level Domain level name, they don't want CC to go first. They want to go at the same time, because they want to make money. And now you are complaining saying universal acceptance. But you knew ICANN is not a software company. It cannot be a software company. Not only because of a conflict of interest (inaudible) to maintain their software is a big business. A lot of things.

And so I think in the universal acceptance particularly I agree, Edmon, you're saying one thing. Unless they are developing a mass, enough the mass, so a lot of people are waiting to register, for example, a lot of people like to register with the Chinese domain names.

So you have enough business and the software companies want to jump in. And I remember many times asking in the ICANN public forums and people say why isn't Microsoft or Google not doing that? Well, I think why you are expecting Microsoft or Google to do that. They will do that only for their business if

there is money there.

There are a lot of software companies in Chinese, why they are not developing the software by themselves? You could go ahead of the Microsoft and the Google and take their business. Kick off the Microsoft or Google dominations.

So I think that universal acceptance, particularly in the IDN issue, I really see if you really believe this is a good future, I think every software company should take this as an opportunity, ahead of the Google or Microsoft, because they have a lot of thinking. Their thinking of course is -- well, of course, they have a very, you know, the business of money growing for them to implement the IDN.

And at least in Chinese, some of the big Internet software company, Badhu, Solhu, Alibaba, whatever, why they don't spend the money going that and expect Microsoft or Google do that for them?

So I think universal acceptance is not only expecting someone -- actually, you can do that in your home. This is common. You know, and don't forget, the whole ecosystem, ICANN is just a policy design. You know very well. You know. And so if we want to talk about how to have a software available and how to make it really accepted by the user or in the market, I think maybe the local domestic have to take a chance to do that.

>> EDMON CHUNG: Okay. I think that's quite correct. And especially for ICANN in terms of not being a software company and all that. And letting the market run itself.

I think it's very important. But I think ICANN has some role to play to advocate this issue, just like you said as well. And this is what we're doing right now, and this is why the UASG is not producing the software, but getting out and getting people to do it.

I would add one thing. Yes, we can believe in free market and the market mechanism. But I think this is a classic case of market failure. When we have a market failure, it means that there is a latent demand that is not met by market mechanisms. And that means we require additional help to get the market started. And that's really where we are right now. Once we get the market started, and reverse the market failure, then we can go back into the free market mechanism. And I think this is, in many ways, a classic case of that. And we just need a little bit of push. And I think once we get that little push, which is the critical mass that I mentioned, then the market mechanism can roll in. And, exactly, I think the market is where it's useful in China, and probably in the mid Middle East where Arabic is the case, those markets will start to strive and really get the implementation.

And therefore back to the cases, we look at it as a

marathon, not a Sprint. But we need to get the marathon started and good is the starting point.

>> AUDIENCE: I think basically I have no question about your solution. I think I support it. And, actually, just I'm saying in the ICANN public forum, we answer many times about that.

And I just wanted to take an example to share with everybody. Sometimes you just need time. For example, IPv6. How long are we talking about IPv6? Since the 1996. If you remember in 1996, when the Internet was growing, a lot of people said oh, the Internet will crash, because the bandwidth goes so fast. There was not enough bandwidth. Not enough cable can run some of the traffic. But Internet doesn't crash. And the problem is IPv6.

From 1996 until now, how many percentage of the traffic from IPv6, just roughly about five to six percent.

And I do agree one major difference. The one major difference is the IRR, the number community. Continue pushing the IPv6 every year, every six months. I agree.

But we have to remember one thing. GNSO and ccNSO is pushing the IDN right after the San Francisco meetings. And somehow start doing in Singapore. Not the last one, the previous one in the Singapore meetings.

But how much of the GNSO the ccNSO push the IDN? The GNSO and the ccNSO continue asking somebody to do it, but they don't do it. They make -- the person making the money is the GNSO and the ccNSO. But the neighbors spend time to push what they say. But compared to IPv6, you see the number community, even there is more than ten years to go to IPv6, but we need to stop pushing and let the world understand how important IPv6.

So I think that the community needs to work it out. Just, you know, not just asking somebody else, I think GNSO, ccNSO, may have to take some responsibility to educate or promote IDN.

Sorry. Really, if you really believe the IDN, I think you should do something.

>> DON HOLLANDER: Of course.

>> PENSRI ARUN: Pensri. So we do something -- we did -- we are still making something. That's why we come into this activity. We promote the uses of the Thai and trying to push EAI. It's like a chicken and eggs. EAI, you cannot just be only one part. We need collaboration. We need equal system. So we cannot just imprint by our own. Even we have a system like Coremail, e-mail, Microsoft, we still need other applications, like Facebook, to allow the EAI to be used as an account error.

So this is a big issue. It's not -- yes. I agree that this will take a long time. But as Don said, we need to start.

We need to create awareness.

Thank you.

>> DON HOLLANDER: So two more questions. Because we're five minutes late, before Edmon takes the stage again.

>> AUDIENCE: I'm Alvin from CSC. We represent a large number of brand owners. One of my observations here is that when we do a lot of (inaudible) applications in IDNs, most of the brand owners do not think that they will use it. They just do it for brand protection. Even for ASCII applicaiton, when we ask them if they are going to use the IDN on the second level, they are basically thinking whatever. I don't care. That's basically why the market is impassioned at the moment about the whole IDN acceptance issues.

That leads me to thinking that when we come into these meetings, when we are talking about universal acceptance, I think it's really IT focuses, really a technical focus. But what is going to drive universal acceptance is in the marketing area. You know, if we think that it's a market failure that IDN is not being accepted, then the issue is really on the market side. We haven't found that market for someone to actually make a profit of this.

So at the moment we're relying on the Microsoft and Google good will to make changes. But good will only goes so far. There needs to be money behind it

And the second observation is on Coremail. One thing I noticed is that when they do Chinese acceptance in e-mail, one of the things that they do is they translate the e-mail address into English as well. That works in dot China, dot CN because there is a Chinese and ASCII equivalent. But if you're thinking about new gTLD, the website, for example, the example that Edmon used before, in Chinese, there is no equivalent in English. Or even if there is, it's probably owned by another company. So there can't be that translation there.

So for me, as a businessman, if I am going to use IDN e-mail address, that doesn't really make sense for me. Because I can't send it to -- I can't use it as a global tool, which defies the purpose of e-mail already.

So that makes me think that when we are thinking about universal acceptance in this way, will the end result really be universal at all? It might be separating the Internet into different language groups.

So that's something that I'm observing. So hopefully you guys would consider that as well.

>> DON HOLLANDER: Let me just respond to that. So a lot of the discussion is technical at the moment, because if we take the next step -- actually, I don't think the UASG will take the next step. But if the registries and their registrars take the

next step to actively promote them, and then people find that they get frustrated, because they are not as useful as an ASCII address. So the goal is to get the technology to the -- the big parts of the technology to work before a big marketing push.

I'd just also like to make it clear that it's very clear. Universal acceptance is about all TDS. And while we have been focusing on IDNs, which makes sense because we're at an IGF and we're in Macao, it's also about new ASCII TLDs, which also have challenges. So there are browsers, for example, that when you enter a new Top Level Domain in a very recently delegated domain name, they will treat it as a search term instead of an address. So it's those whole bits.

One last comment.

>> AUDIENCE: Thank you, Don. And I have to speak in the capacity of the Thai GAC. Why we are working together with ccTLD.

I would like to raise a point that we talk about the next billion. But the challenge is the next 15 million people. And Government do see the importance, after coming out and really make a strong position to support. Because we found that we studied one of the student loan cases. 6 million people involved. It's a mess. Because our country, people they don't even know the correct language. No way to communicate. Everything is manual because you cannot have the access to the Internet e-mail and they have to go to the Internet cafe, pay for everything through the Internet cafe.

When you look to 50 million people more in Thailand, it's really a Government position that we have to understand.

And we have every week technical suppliers come to us. The bank, six of them visited our office and said we support you and we go together and how should they start? And I think if we start to work, they will come to us for sure. Not to mention Microsoft, how big support they have. The whole team. It's worked together. Google is there. But now we even go to the detailed technology supplier that supply authentication frameworks for the banks, they want to make sure that they will be ready.

I think I will bring this up. So whether we need to have a constituency between the USAGs and the GAC to help the awareness that the governments have a certain role to communicate. That this is the way that we outreach the next million.

The second issue, this is a second issue coming out. What is a conformance mechanism? Is that in place? Because people would like to know that, okay, this is EAI ready at least for Thailand and maybe the USA to have to come out with this strategy as well. Otherwise we have to try to work together with ccTLD to help them that they already invest, the user must

need to know that okay, this platform is ready for EAI. So if you have the mechanism, that would be great help. Thank you.

>> DON HOLLANDER: So the last question. We recognize that having a UA ready certification of some sort is on the cards, but not for this trimester. This trimester, very narrow, very focused, e-mail programming languages. But keep that thought there, and it's certainly been talked about already.

So we're now late for the next session. I'd like to thank the panelists, both here and who are here virtually. So Jonathan if you are still there, thank you very much. And thank you for the discussion.

(End of session, 17:45)

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