COPENHAGEN – ccNSO Members Meeting - Day 2 - (pt 3)
Wednesday, March 15, 2017 – 13:45 to 15:00 CET
ICANN58 | Copenhagen, Denmark

ABDALLA OMARI: Good afternoon, again. I know it's a difficult concentrating after lunch. But I'm sure the presentations this afternoon are very exciting. My name is Abdalla Omari.

Just hold on for the interpreters. Okay, I've been given the signal to continue.

My name is Abdalla Omari from .ke registry. That's Kenya. A small housekeeping for my team. We have a timer there, the lower part means you are within the eight minutes. The second going up means there is one minute remaining. When it turns red, it means, stop. I'm sorry.

So this afternoon we have exciting presentation on development of IDN .vn, that's from Phan. We have the delegation of dotAFRICA, the current news and the trending topics from Lucky. Promotion, Chinese E-mail Address Internationalization from Ian. Registries for South Eastern Europe working together from Barbara. The registry of the future from Cristian Hesselman. Now I would like to request Phan to continue with her presentation. Thank you.

PHAN THI NHUNG: Okay, thank you, Omari. First slide please.

My name is Phan. I'm from .vn registry, VNNIC. Today, I would like to share our story, a little bit about the development of our IDN .vn domain names. I think you know the Vietnamese internationalized domain name IDL or second level IDN under ccTLD .vn and managed now by VNNIC (Vietnam Internet Network Information Center) and this domain name progress were associated with our research. On the application of Vietnamese language for the domain name system in order to promoting Trademark on our local language and we want to also to preserve and promote the character of Vietnamese culture on the Internet.

And also here are some milestone of our IDN. So, we start with our IDN from 2001 and 2003 our research was awarded VIFOTEC third price – Vietnam Technical Creation Award. And from 2004 to 2006 is a public trial registration. After that from the March 2007, it was launched officially. Actually, it's a sunrise [period]. So, it was limited in 2014. During the free registration of IDN .vn, the active IDN .vn rates only varied from 15% to 30%. So, beside the extension of making some web commerce or online newspaper etc., we think that most [registration] of IDN .vn want to reserve in advance.

One also concern IDN .vn we [now] propose for improving that situation. We have a period of filtering and revoking some IDN with our [propose]. So, it should be a permanent solution.

So, facing that reality, we have done a survey in summer of 2016 to evaluate the [obstacle] in using the IDN .vn and we recommend that the first one obstacle is the keyboard and the way to carry an IDN .vn because Vietnamese language is written in Latin script with diacritics. So, when using the English keyboard, we have to type base letter and follow by one or two character that represent the diacritics marks. So, it can easily cause some typing error. So, it's the most obstacle for IDN .vn.

And the other thing is, the low user [inaudible] about IDN .vn. I think it's the same situation in the world. In Vietnam or Vietnamese people or Vietnamese speaker cannot recognize an IDN and they can't distinguish between an IDN and an ASCII coded domain names. So, another thing, another difficulty is the Universal Acceptance of IDN in general. We think that the support for IDN until now is very poor and some other difficult about the marketing and support quality and registration policy. But, it's not so important.

Understanding the obstacle we are trying to figure out some solution to improving that situation. Firstly, we want to make it easier to carry an IDN .vn. So, our technical team have created

predictive text extensions for some browser like Chrome or Internet Explorer and Firefox. With this extension, the user just has to type some word or some expression concerning with the IDN. So, the extension will give us the list of suggestions with the most correct IDN .vn they are searching for. So, we have just the true, the correct one.

Now, we are in the trial period for that extension and as my information, I think we will publish that in the next month in April. For the other solution, we think that the user [inaudible] about IDN was the key driver for this progress. So, we will have a different campaign, a marketing campaign via social network like Facebook or [inaudible] Vietnam and media to enhance the user [requirements].

We also promoted some research to improve the Universal Acceptance for our IDN too. And finally, it's not the real solution, like I said. Since 1st January of 2017, our procedure and policy of IDN .vn are the same as the ASCII .vn coded domain names. So, the use of IDN .vn will be certainly easier. And I indicate above the [bit boy] of our development of our IDN .vn.

That's all I have today and thank you so much for listening. I give the floor to you.

ABDALLA OMARI: Thank you, Phan. That was a very exciting presentation. Quickly, are there any questions the audience wants to direct to Phan? Yes, please.

UNIDENTIFIED MALE: [inaudible]. I have a question on the number of domain names because you mentioned that there is one million, if I got it right, IDN domain names. I went back to your site and in your site, I found out there is a million Vietnamese domain names. So, it's a million ASCII domain names and you have now a million or more of IDN, or I didn't get something?

PHAN THI NHUNG: For now we have –

UNIDENTIFIED MALE: How much you have for ASCII domain names and how much you have registered for IDN?

PHAN THI NHUNG: For now, the price you want to say about… The price?

UNIDENTIFIED MALE: Not the price, the number of registered domain names.

PHAN THI NHUNG: For now, it's about 900,000 because we have reached one million in 2014 but after that, we observed that there are lot of IDN without use with our reviews. So, we have filtered and revoking about 180,000 domain names.

UNIDENTIFIED MALE: And for the ASCII .vn, you have like a million or something like that. I saw on your website.

PHAN THI NHUNG: Yeah.

UNIDENTIFIED MALE: Okay, thank you.

PHAN THI NHUNG: Okay, thank you.

ABDALLA OMARI: Thank you, Phan. Okay, one last question.

LARS STEFFEN: Thank you. This is Lars Steffen. I'm with the Universal Acceptance Steering Group. I just want to ask you which

concrete steps do you do to improve the Universal Acceptance for IDN? Thank you.

PHAN THI NHUNG: For the user requirements, you meant to say?

LARS STEFFEN: Do you have any outreach approach to get some of the key players in your market to onboard to get them UA ready, for example.

PHAN THI NHUNG: Actually, I'm not the expert for that IDN. So, I think you should send us an e-mail in the last slide and I will contact with our team for that.

LARS STEFFEN: Yes, I will do that. Thank you.

PHAN THI NHUNG: Okay. Thank you.

ABDALLA OMARI: Thank you. Sorry, I may need to continue to the next presenter. If we get time at the end of the session, we may continue the question.

Now, I would like to request Lucky Masilela to proceed with his presentation. Thank you.

LUCKY MASILELA: Thank you, Chair.

Okay, dotAFRICA. Finally, this evasive name that has been difficult to get, difficult to get delegated has finally been delegated and we now are ready to do the real work of getting not only this connection but to address the social economic issues, cultural issues, and trade related matters around the continent. We see this project as one that would be building roads or building bridges and building connections for the continent of Africa. And, what we are seeing is the brand or logo of dotAFRICA which we are very proud of and we think it does talk to the bright continent, Africa.

Now, having got into this, I would like to talk to you about dotAFRICA by numbers. Obviously, if I were to start plugging the real numbers, the real days before the application and after the application and the 24th of March which was the signing of the agreement in Singapore, I would need about 15 slides to tell you

exactly what happened after the signing of this agreement in Singapore. The litigation, the months that we spend you know through the IRP and finally in the courts in the U.S. and all the long stories that can be told, you know, I think it makes a good story for any young budding lawyer to study our case on what happened.

The journey was beautiful, others painful, and very costly. But, nonetheless, on the 22nd of December 2016 when lot of people were enjoying their Christmas holiday, Judge Halm was quite busy making pronouncement and he ruled in favor of ICANN on the preliminary injunction and again somewhere in January there was a temporary restraining order that was applied to the courts by DCA and the judge was again back to work requesting supplemental documents that would be considered. And, on 23rd of February again Judge Halm held on to the decision that any further delay to that delegation of dotAFRICA is of harm to the African people in using their unique identifier dotAFRICA. And, again he ruled in favor of ICANN that the preliminary injunction is declined.

And, it meant then, we had to go back into hard work because initially when this project was suspended, it was suspended when the pre-delegation testing had commenced and so we had to go where we had terminated or where the suspension had been imposed at that period.

The 11th of February, the token was then released for us to commence creating dotAFRICA. Now, this date for us, the 11th of February is an important date in the sense that 11th February 1990, Nelson Mandela was released from prison after having spent 27 years in prison. And, 27 years later the name dotAFRICA is created in the web. If you take these 27 years of his imprisonment and you take the 27 years after release, you add 27 plus 27, you come up with 54. 54 is the number of countries on the continent. So, this is just proper for the continent.

On the 15th of February, finally we got delegated at 14: 58, 59. nic.africa could then be reached and published on the net. It was a big step for the rest of the continent. Having done that, we then started working on our launch plan and this launch plan that I'm showing here is something that is subject to approval by ICANN.

So, we are planning the Sunrise phase which should be starting on the 4th of April. This is all the trademarks that will be available for 60 days and this will then be followed by landrush which is your premium names. This will commence on the 5th of June and it will run for 30 days.

Then on the 4th of July, now again, the numbers, we thought of Judge Halm, when he said the harm to the continent, the people of Africa and we thought it would be a good gesture to celebrate

with the Americans the 4th of July the Independence Day and say, "Okay, we will have the general availability now happening on the 4th of July and this is where everybody can apply for their name, first come, first served."

Now, quickly to show what we intend to put in place to ensure that we provide support for our registrars, particularly those in Africa. If you look at the structure where these registry RA, which is Registry Africa, this will be the entity that will be running or administering domain name dotAFRICA and beneath it is what we call AfRAR. This is the registrar that will be applying for accreditation to create reseller market in the rest of the continent.

It is quite costly to be – how do I say – difficult to be ICANN accredited and we have less than seven ICANN accredited registrars on the continent. So, if they were to acquire or to attempt to acquire the name dotAFRICA, it will be very difficult and futile. So, AfRAR is intended to do the heavy lifting and make it easy for the rest of the registrars on the continent to onboard as registrars and this model is quite happy to ensure that dotAFRICA is made available to the continental participants and players.

Now part of the requirement around the name dotAFRICA. Africa is a name that is under the custodianship of Africa Union

Commission and we are required to protect or defend certain names and this would be your Government Reserved Name List. Each country is expected to be reserving certain names and those names would be geographic names, names of religious, cultural, linguistic, offensive names that we don't want them to be used or names of the rivers like our river Nile that cuts through our continent from Uganda all the way through Egypt and those are some of the names that need to be reserved. But of course again there is going to be allocation and ensuring that those names are allocated to the right persons. So, thus far the status regarding the names, we have at least 30 country representatives on the database and 1944 names submitted with 1487 that are moderated. So, 457 are pending moderation and the number will be growing as more African countries sign up for their registry Reserve Name List.

Out of the dotAFRICA project, we are about to create a foundation which has four core mandates or four core areas that needs to be delivering upon. This is emanating from the support that we got from AUC and this project is very close to the African agenda. It's not diverse from the African agenda. Thus, these elements, duties and functions are part of the Africa Union Commission.

On that note, I want to thank you so much for listening. A few days ago, we did a big celebration in Ethiopia where we had the

launch by the outgoing Chairperson of the African Union Commission and the incoming Chairperson of the African Union Commission and eventually the flag of dotAFRICA was hoisted at the main entrance of African Union Headquarters in Addis Ababa. So, you will not be lost if you come to the African Union Headquarters. You will see the dotAFRICA flag on the masthead and you will know that you have arrived. Thank you.

ABDALLA OMARI: Thank you, Lucky, for that interesting and exciting news. Are there any one or two questions which the audience would like to ask Lucky on dotAFRICA launch? Alright, I think I may have a question. What's the number of Reserved Names limit per country in Africa?

LUCKY MASILELA: Each country is limited to 100 names as a limit.

ABDALLA OMARI: Okay, thank you. Let me request Ian from. tw to proceed with his presentation.

IAN CHIANG: Hi, Good afternoon. My name is Ian from TWNIC. This is actually my first time to do a presentation in a ccNSO meeting. So, be nice to me. No tough question.

So, I am talking about what we do for the Chinese EAI Promotion and before that I would like to show you some statistics. There is a number we have IDN .tw and IDN .IDN registrations from 2001. So, we launched for IDN .tw in 2001 and in 2010 we launched IDN .IDN for registration. So, there is the number of the IDN but you may have noticed the number in 2012 to 2014, the number increased and decreased quite dramatically. That is because one of our registrar have a promotion. But somehow the renewal rate is not as good as we think. So, the number was back to the status like 2010.

So, for this case you can see, some IDN use case we found in Taiwan like when you go to the street you can find in the sign or on the ad of a taxi and also this something like that and you can see also in the back or in the tickets. You can see IDN in the web, the url as well. And one of our registrant, I think he thinks that IDN is too good to use. So, he even writes a book for the SO, that is the case to persuade people to use as more as they can for the IDN.

So, maybe we can see some cases in Taiwan but you may see the number was remain the same from the beginning to the end

until February this year. The supply is there, but question is: how can we increase the demand to use IDN? We think EAI is probably one of the opportunities to encourage people to use the IDN.

So, a bit of history about how we promote the EAI in Taiwan. So, this is probably four stages but I am not going to the detail about this. For the stage one, probably like the preparation, that is we set up a task force and we try to working with some ccTLDs and talk about this issue in various events like CDNC or JET meeting and even in the IETF as well. So, that is the preparation, we start to working about how we can do the EAI.

And in stage two, that is 2007 to 2012, then we conducted a testing plan to set up a test bed. Also, working with all the ccTLD to publish RFC as well but mostly in the stage two that is to find the best or the appropriate partner for implementing the EAI's RFC.

So, we find one of the partners. He is very enthusiastic to participate in this program and he has the ability to handle complex software. So, we found an Openfind Mail2000 that is he has a 20 million user account in Asia. In Taiwan more than 50% of the government departments and 80% of Telecom company and 60% of universities use their product. So, we're kind of lucky to find this partner to help us to do the experiment.

So, stage two, we use their platform Openfind Mail2000 version 6 to do the test. Also, to do the test across ASEAN, Singapore, Macau, Hong Kong and ourselves. So, we do the test between each [inaudible] in this stage 2. And we have a conference as well in 2012.

And, next stage, that is our partner Openfind to implement the RFC in the e-mail software, the server software. So, that is their step to one by one to implement all the RFCs.

So, in stage four, we try to encourage people to – not encourage – we try let more and more people to know about EAI and encourage the people to use the EAI. So, we have lots of our training courses for the vendors and users. And we also do some survey to understand how the vendors are willing to upgrade their mail server software and other software.

So, that is we encourage people. But in stage 4 we have done one of the trial, the program to allowing the users to experience what is the EAI. So, we provide an e-mail service with designated hostname IDN.IDNccTLD Taiwan [inaudible]. When the user register one IDN, they will get a one free EAI account. So, they can try to send or receive e-mail via the webmail, Mail2000 platform.

After that, we try to do some survey. In total, there will be nearly 650 people to participate in this program. 81% users feel

satisfied with the EAI experience and mostly important more than 60% say they will use, apply his own EAI in the future and they found easy to remember and personal representation is the most advantage of Chinese EAI.

After that we have done another program starting from 2014. So, they can use the EAI with their own IDN domain name. When they register one IDN, they can get a free IDN e-mail account at their own IDN hosted by TWNIC.

There are 666 people who join this program and this time it is nearly 90% feel satisfied with this program experience and 54% they were registered IDN domain name because of the EAI based on the experience. That is something we found out from these 2-trial program we have done.

For this current stage, since we know the Gmail and Outlook 2016 support EAI, we had to cut down in other program to which the users on IDN to do this trial. Users are required to add his account in the Gmail and Outlook 2016 and send or receive e-mails via Gmail or Outlook 2016. It is our intention to let users to experience what is sending or receiving e-mail with EAI is the same experience as the ASCII accounts.

So, we launched this trail program last month and that is the program website, the address, URL [www.twnic.net.tw/eai]. So, that is we do some demonstration to show the user how they

can add an account in the Gmail and when they complete, they can use the EAI to send or to reply e-mails to another EAI account as well. Somehow during the process, we found it might be difficult for the user to set up, to add one EAI account in the Gmail.

So, we have to publish a kind of construction, a handbook for them. When they have one Gmail or Outlook, how can they do to set up or add one EAI account in their Gmail?

Currently we have somewhere like 129 users to to join this program so far and about 25% has completely, the whole process and they also can they the EAI account. So, that is my presentation. Thank you.

ABDALLA OMARI: Thank you, Ian. You made a disclaimer that you don't want to be asked a difficult question. I request someone to ask him a very difficult question.

IAN CHIANG: Or you can ask me after the session. I think I will be happy to talk about this, because I know some of us doing the idea thing we can share our experience with others.

ABDALLA OMARI: Thank you, Ian. I let you off the hook. But that was a great presentation. Now, we request Barbara from .si to make a presentation. Thank you.

BARBARA POVŠE: Hi. My name is Barbara Povše. I'm working for the Slovenian registry. We're a small country and so is our registry. I'm going to give a short report on why being small is even more important that we close the corporate with other registries in the region.

So, how did it start? Two years ago, we got an invitation from Serbian registry. They organize every year annual conference on Serbian top-level domain name and it's a huge event for the registrars and the whole Internet community. And, after that event, they hosted the first Regional Internet Forum with approximately 40 participants with interesting discussion. So, we were quite interested to continue.

So, why for us? I think also for other registries in the region it's important working together. Since we are all members of CENTR and we share experience and knowledge in a broader region in Europe but still we share some common culture, business culture, economic situation, political situation. Also, we understand each other's language, we are of similar size of the registry. We're the small registries and our similarities makes our problems also, sort of, similar and we understand each other.

Our discussions are sometimes very detailed and we can easily understand each other's problems. We share all the details and it's convenient to do so.

Where do we meet? It happened for the third year, we met in Belgrade. The meeting is kindly hosted by RNIDS Serbian Registry. Every year, there is an organizing committee that is inside the Serbian registry because they hold the burden of organization. But, they also ask some representatives from the registries in the region to act in a program committee. So, we try to find issues that are the most hot issues in that time, what is of the most interest of the group participating. We prepare program and we invite some guests. So, this is how it goes.

Where was the focus of Regional Internet Forum? In 2015, when we met for the first time, we were discussing very regional things, IDNs, and some of Internet governance. Well, next one was more or less completely devoted to Internet governance and some legal issues with domain names. And this year, we felt that it is time to go back to real registry business, to core business what we do. We felt that we need to discuss this and we found some common issues.

How did it look? It happened just recently. It was last week. There were 67 participants from six countries and it was one great party one day before. So, you can imagine how we looked

after it, the meeting. Also, the meeting was very useful. The program, we started with a great presentation on content marketing held by Lazar Džamić, a former creative strategist from Google and, he made it tailored to registry business. How to sell something that's not hot potato, something that can be boring, and he did a great job.

Then, we had two panels. First was about the role of National Registry in the country, meaning how the communication between the government and registry should be. What is our role in the local Internet community? Are we supposed to have an active role in Internet governance? What are our experience with ICANN? I have just said it since we are small and our resources are limited, I think we have some problems to participate in the ICANN environment because of the huge demand of things and acronyms. And, so it's difficult to follow. We shared that.

Then, second panel was about Information security and national registries. We invited colleague from SWITCH-CERT that gave a great lecture on DNS vulnerabilities. We invited also some other CERTS and then we discussed how CERTS and registry could work together to improve information security in the registry, which we completely agreed it's very important.

The last session was about trying to find where we can find synergy and work together and make some common projects that would all the registries from the region benefit from them. So, we were talking about regional [inaudible] that would be may be an idea for us to implement because of our geographical proximity. We also discussed some issues with registrar accreditation.

It was a very fruitful discussion. I think, we were quite happy with the amount of involvement of all the participants. Besides all these meetings and sharing and asking, there was also some fun.

Now, I finished before the yellow light started. Am I supposed to sing something? Or I can just… Thank you.

ABDALLA OMARI: Thank you, Barbara. Alright, are there any questions for Barbara? Any remote participants' question? None? Okay, that is great.

Now we need to put on our creative hats on. Cristian is going to talk about the registry of the future. So, we have to be very much [native] before he starts. Welcome.

CRISTIAN HESSELMAN: Thank you. Alright. Hi, everyone. My name is Cristian Hesselman. I'm with SIDN, the registry for .nl, the Netherlands. I'm responsible for SIDN Labs, which is SIDN's research team and I'll be talking about the registry of the future which is basically our vision on the technical functions of the registry based on the resource projects that were running at SIDN labs. And, this is a collaboration with the University of Twente, also from Netherlands.

So, the key concept behind our technical vision is that of a TLD controlled plane. This is a modular system that focuses on enhancing the security instability of a top-level domain by using the different data sets that a registry typically processes. So, that's the registration database, zone file, and DNS queries. That should all look pretty familiar to you guys.

The motivation for doing this work is that we think that is primary importance to protect the TLD users from increasing number of threats such as phishing, DDoS attacks, malware and that sort of thing and that thus thereby enables a registry and it's ecosystem to increase the added value of the top-level domain. So, this is not just about the registry itself but the TLD as an ecosystem.

Our approach basically consists – built on two pillars. One is something that I sort of call it a collaborative security. So, that's

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sharing threat information with different kinds of players in the TLD ecosystem, getting that information by automatically analyzing the data sets that are mentioned in the first bullet.

Our second pillar is to more dynamically adapt the registry's DNS anycast services. I will be focusing on the threat sharing information part today because I don't have that much time.

So, today I will give an overview of the TLD control plane and try to illustrate what it means using various pilots we are running at SIDN Labs. This is a somewhat complex picture. You don't need to be able to read everything. I will talk you guys through it. What you see on the left-hand side, these are the required functions of the registry of the future at least as we envision it. On the left, there is the standards, registry functions such as domain name registrations and of course domain name publications through the DNS. And on the right-hand side, the green box, if you will, those are the functions that we envision and they basically extend the standard registry functions.

The first function that we need is a function that enables you to import, store, and retrieve the DNS traffic like you receive on your authoritive name servers. So, this needs to be put in a system that enables applications to query that data set. This is one of the data sets I talked about all the way at the beginning.

So, in SIDN Labs we are using ENTRADA for this component. We will be talking about that little bit more, later on.

The second function which builds on the data storage platform is what we call a threat detection. So, using the DNS query database basically and various other types of sources such as external threat sources and also the data in the registration data base to automatically detect potential threats in the TLD such as phishing sites, malware and that sort of thing. And, what comes with this second function is also sharing of threat information, for instance with ISPs or with hosting providers or with registrar. So, with a larger TLD ecosystem. And this is what constitutes this concept of collaborative security that I talked about before.

The third function we need is a component that enables us to more dynamically configure our anycast services so that we can more easily respond to changes in query load. Changes in query load may of course be of a result of a DDoS attack.

And function number four is TLD level-wide security and stability dashboard where you can see all kinds of information about how things are going within the TLD. So again, not only for the registry but for the entire TLD as an ecosystem.

Our fifth and last function is privacy protection because the data that we will be processing for instance, the DNS query data will contain   personally   identifiable   information   in   form   of   IP

addresses and domain names. So, therefore we need some sort of privacy mechanism. And as I said, SIDN Labs were doing that through a combination of an organizational structure in the form of a privacy board and technical functions in the system.

I just picked out three examples of pilots that we're running at SIDN Labs. The first one is ENTRADA. This is what we call a big data platform. It stores all the DNS traffic that we receive on our authoritive name servers. And what it takes is basically a large stack of hard drives as you can see on the top left picture. You need to extend it all the time because the traffic is growing all the time too.

On the top, right there is a graph that shows that we are currently storing about 400billion queries and responses in our platform. The graph below there shows how queries basically come from users through recursive resolvers to the authoritive name servers, .nl in this case and we will put into the ENTRADA platform by a software component that also makes it available to applications. And applications can be human users but this could also be threat detection modules I talked about before.

Function number two is collaborative security. This is an example of a pilot that we're currently running at SIDN. So, you don't need to understand all the details but most important but here is that we are working with the organization called Fraud

Help Desk. And they basically receive notifications from end users that report potentially suspicious websites to them. We help Fraud Help Desk by sending them information on how many queries we receive for those domain names.

So, to give you an example as part of pilot we received roughly 1100 domain names from Fraud Help Desk indicating that these were potentially suspicious. And we send them back the query profile for these domain names and as a result they were able to spot around 70 new domain names that they hadn't been able to spot themselves based on their data sets.

This is an example for the security dashboard we developed. Basically, what it does is it analyzes the registration traffic that we receive for our registration database and it takes a snapshot of the registration database traffic every 30 minutes. Based on an algorithm, it tries to analyze the traffic and spot anomalies in it.

I'm not sure if you can read it in the back, but what you see here is a batch registration of a whole bunch oddly looking domain names which may be part of a bug for an example.

This was a very quick overview of what we are doing at SIDN Labs in terms of the TLD controlled planes. There are other projects that I could talk about but unfortunately the traffic light

already turned orange. So, I'll just briefly talk about the next steps.

Our next steps are obviously to continue to work on this architecture and also incrementally take it into production. And, of course we plan to share our intermediate results to the technical community and with the larger ICANN community to collect your feedback and also share what we have learned.

In the longer term, we foresee that the TLD controlled plane will no longer be just with the registry but we think it also would be beneficial for every DNS operator would run something like this enabling all these different parties to also share information about threats and thereby making DNS as a distributed infrastructure and a safer place to be.

The work that I just described is part of a paper that we recently published back in January and the url is down there if you want to read it. If you have any questions, I would be glad to share them

ABDALLA OMARI: Thank you, Cristian. I hope the rest of the team has enjoyed the future. Are there any questions for him, please? Okay, we have a few minutes remaining. Are there any question which have not been asked?

UNIDENTIFIED MALE: Thank you very much for most informative presentation to all of you. But in particular, I would like to ask you on the collaborative study. Do you have information that you can share with some of us, with all of us or is that – remains at the research level? Thank you.

CRISTIAN HESSELMAN: You mean the collaboration with the Fraud Help Desk?

UNIDENTIFIED MALE: Yes.

CRISTIAN HESSELMAN: We have a blog post on that with what kind of information we share. I can send that to you and you can have a read.

UNIDENTIFIED MALE: Thank you.

CRISTIAN HESSELMAN: You bet.

ABDALLA OMARI:

Any other questions? Are there questions from the remote participants? No? Okay.

I would like to thank the panel for performing a very good job. I think it started with the Phan give us an insight on the IDN performance in Vietnam. Lucky introduced the new kid on the block on domains, dotAFRICA. We're excited about it. And Ian gave us information of their performance. Their statistics were interesting. There's growth within three years, then that drop. I will be doing an e-mail to him to find out. Barbara has given us an insight of how collaborations can benefit our region and it shows if you had numbers, you are able to get benefits of the economies of scale. Cristian has taken us to the future and we are happy at least, we are able to see that we are progressing on. Kindly a round of applause to the panel. Thank you.

UNIDENTIFIED MALE:

Dear all, as this panel was quite succinct, we have a coffee break until 3:15 now. So, we're catching up. At that time, we'll talk about the implementation of the future proposals, including an update by the CSC.

[END OF TRANSCRIPTION]