ICANN75 | AGM – NextGen Presentations (2 of 3)
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DEBORAH ESCALERA: ...reasonable pace to allow for accurate interpretation. With that, I'd like to thank you and welcome you to this session and thank our NextGen ICANN participants for their hard work in preparing their presentations. I would also like to thank my mentors, Sophie Hey, Dessalegn Yehuala, and Roberto Gaetano who have been working with the students over the past several weeks and guiding them through the ICANN meeting process. I'd also like to thank my colleagues, Betsy and Fernando, who will be running the slides during this session.

With that, I'm going to hand over the floor to our first presenter, Umair Ali from Pakistan. Umair, just give us a couple of minutes to put up your slides and then you can take the floor. Thank you so much. Go ahead.

MUHAMMAD UMAIR ALI: Hello, everyone. I am Muhammad Umair Ali from Pakistan. Welcome to the NextGen Presentations' second session. Before I go on, I would like to ask the people responsible for translating and transcribing if I am perfectly audible to them. All right. I'll proceed with the presentation.

The topic that I'm going to present today is visible on the slide saying "Transforming the Naming Systems." I would like to give this as a heads up that it's going to be a very significant presentation, not only

from the perspective of the technicalities but also it has the potential to revitalize or allow reconsideration for the work and the mandate that ICANN currently hold. Having said that, I would like to move on. Next slide, please.

Just to fill in some context, the Internet that we use today did not come in this shape. The people who have been here for quite a while know that it has changed shapes over the time. Initially, there was the first version of web called Web 1.0. And in that version, there was not much. Just static pages, less interactive, but it got the job done at that time. Slashdot is an example of the earlier websites that came into being. I'm not very much sure whether it exists or is operational today or not. But you can google it to learn more about how it looked and what job it used to do and how its interface looked back in the late '90s.

Moving on, we went to Web 2.0, which is in today's era. All the social media sites that we use, the music or the video streaming platforms, the interactive sites. Even the ICANN's website's quite a good one. The ICANN Learn platform, for example, quite an interactive one. All these are examples of Web 2.0 that we know today. And now that leads us to the question that what does the future hold?

The future holds Web 3.0 with technologies like blockchain, cryptocurrencies, and so on and so forth. The concept of decentralization and the concept of getting more interactive Internet, more interactive web servers and more interactive society. Can we move to the next slide please? Thank you.

In particular, I'm going to talk about Ethereum. Some of you may know it, some of you may not know it. Ethereum is a blockchain-based software platform and it has the second biggest market capitalization after Bitcoin. Bitcoin, although was created for disrupting the banking system, Ethereum, however, has a completely different perspective, and that is why I have chosen it to be the topic of presentation.

Ethereum allows decentralization, meaning that the people will get more hold of their information and decision-making. The applications that are created on this platform are called D-apps or decentralized applications. And the organizations that exist on this particular platform are the DAO, Decentralized Autonomous Organizations. The entire concept is that the organizational structure and the policy making is run by the people of the community rather than the traditional hierarchical centralized system that we still continue to see. That is the basis of blockchain, that is the fundamental purpose of existence of Ethereum. Next slide, please.

With Ethereum comes a bonus called Ethereum Naming Service. It is just like the Domain Name Service, the DNS, that we have all been aware of. But ENS is something new. Its uses are very broad, but I would like to pin down a few here. Just like the DNS that changes or that converts the machine-readable or machine-friendly form to a more human friendly form, taking the IP addresses and taking them into human-friendly addresses, ENS does the same thing, but only for Web 3.0.

If any one of you have ever been involved in cryptocurrency or crypto trading, you would know that every crypto trader has a crypto wallet.

Now, just like our e-mail addresses and phone addresses, crypto wallet also has an address that is a long string of characters, alphanumeric and so on. It's very hard and inefficient to memorize it or even to store that thing or you want to get that access to it. What Ethereum naming service allows you is to change that complex structure, complex reading into something very simple. So let's say I have a crypto wallet and there's a long address and you need to send me some cryptocurrency and I have Ethereum domain, so you just have to say umair.eth or muhammad.eth, whatever my domain is, and you can send me the value, you can access me. That is simple. Just like we do with the websites.

There are other factors here as well but I won't go into the details in the interest of time. However, there's one particular thing that is very interesting in the Ethereum Naming Service, and that is their vision to expand into the DNS domain. When we talk about expanding into the DNS domain—I would like to show you the next slide. Can we move to the slide, please? The one after this slide. Yes. Thank you. So this is how a website would look over if ENS expands into the DNS. Currently, organizations have websites. This is an example. These sites do not exist, just to make the case here. muhammad.org, for example, is a website of an organization. The people can use this website to know about Muhammad, the organization, the business and everything on the front end. While on the back end, if this company has an Ethereum domain name, they would have it mohammed.eth, and they will be allowed to receive or send cryptocurrency. It's just like that.

Nowadays, we have a website for a company for a new organization and a separate bank account. These are two different things. And obviously, the website is accessible, bank account is not. To perceive it in this way, that now, both the bank account and the name of the company, the website, will exist virtually here on the Internet. That is they can show people the information about the company and they can also send and receive cryptocurrency and value and information to the back end. This is the possibility of merger of DNS and expansion of ENS into the DNS space. Can we move to the next slide, please? Okay.

A very interesting slide. Here I have tried to compare DNS and ENS side by side. One thing that I've already mentioned is that DNS and ENS both act as a translation service given that DNS does this for Web 2.0, which we currently are all aware of, and ENS does that for Web 3.0. But a major difference is that DNS is centralized. And ENS, the entire concept of existence of ENS is decentralized. So it's 180 degrees shift from what we currently know and what we currently perceive. Can we move to the next slide, please? Thank you.

If anyone hasn't been paying much attention to the presentation yet, no worries. Just try to focus on this slide. It's the most vital part of the entire discussion.

What can ICANN do and what are the roles it can play and what are the challenges that are there? The list is inexhaustible, but I have jotted down a few things that I would like to suggest ICANN to go through. The first one is a holistically critical analysis of what I call a new web order. What's the new web order? It's the Web 3.0. Well, ICANN, being a

very resourceful organization both technically and otherwise, have the capability to analyze the potential opportunities that Web 3.0 holds. Now, when I talk about opportunities, I don't only talk about the financial opportunities but also the technical breakthroughs that Web 3.0 can offer in addition to a more enhanced user experience for the web services that are out there. Allowing that critical analysis of Web 3.0 will give ICANN the standing to see what can be done to inculcate this new technology into the existing system.

Up next, we have the thing of redefining the strategies and the standards. We know that ICANN has been around for almost a good two and a half decades, and the standards that are set up there, the standards that are documented, the ones that are practiced, the ones that are preached, the ones that are consulted upon, to the best of my knowledge, are best for Web 2.0 and DNS. But the question is that there is a new player in the market and that is Web 3.0 and ENS.

So the question is for ICANN, should they or will they be able to accommodate the new things? Will they make amendments to the standards, to strategies to inculcate Web 3.0 to accommodate it? Will they like to stay at a distance? Are they going to develop maybe a sub-organizational unit that would deal with Ethereum Naming Service or Web 3.0 and all of its aspects? How are they going to do is something that I leave to the community, to the senior, to the experts. But what can be done is something that I would like them to know.

I'm a NextGen and I'm 22 years old. What I would like to see in around 15 to 20 years, in my middle ages, would be a more competent, a comprehensive, more interactive and a more broader Internet. In my

humble opinion, that is only possible if we are open to adding innovation to the existing system.

Furthermore, as we know that DNS is centralized and ICANN is her manager or administrator, on the other side, ENS is completely a decentralized entity, meaning that their policy-making is done by the people who use the apps, they are who use the facilities available on the Ethereum protocol. So even if ICANN gets into shaking hands with ENS, the DNS and ENS gets together, there needs to be a balance point where centralization and decentralization coexist mutually. Because otherwise, if DNS moves to complete decentralization, that would be a massive change management challenge for the organization and for all the relevant stakeholders. If ENS gets to decide of centralization, then it basically kills the purpose of having blockchain in the first place. So it's the most sensitive thing that is there which ICANN will have to look into and consider while they're deciding the policy. Because ENS or the blockchain as a whole, Web 3.0, cannot be dictated or run by the centralized entities. That has been their purpose for creating that thing.

Lastly, Web 3.0 blockchain, these are quite big things. Among them is the use of cryptocurrencies and other relevant technologies. Over the years, we have observed that governments from different countries have demonstrated their reservations on its implication on its usability, for obvious reasons, of course. If ICANN goes on with the ENS thing along with the DNS thing, to convince the government and to formulate more holistic policies will also be a challenge for ICANN. They will need to have a serious workarounds for these kinds of things.

But what I can say is that as ICANN currently has a GAC, the Government Advisory Committee, and if ICANN takes up the ENS, the Ethereum facility as well, I believe that the role of the GAC would be more involved and more required, given the nature and reservations that the governments have shown in the past regarding the Web 3.0.

With that, I conclude my presentation. Thank you very much for paying attention. Before I turn off my mic, I'm thankful to the ICANN Organization for giving me the chance, especially to my mentor, Mr. Roberto. It has been an honor and pleasure, sir, to be your mentee. Thank you very much. Have a good day, everyone.

DEBORAH ESCALERA: Thank you, Umair. Very well presented. Are there any questions? Questions in the audience? Okay, let me check online. I want to remind you that you are on a 10-minute timer. If you hear the timer goes off, you've run out of time. Thank you so much.

Our next presenter is Phyo from Myanmar. Phyo, you have the floor.

PHYO THIRI LWIN: Thank you, Deborah. Hello, everyone. I'm Phyo from Myanmar. I'm a NextGen participant. My presentation topic is mainly for Internet because it's about my story to be here.

First of all, I would like to mention about my Internet age. Actually, I started using the Internet in 2015. The Internet was formed in the '90s. Because of the Internet censorship, we could only access the Internet in the 2000. But my first time accessing the Internet was at the Internet

cafe. When I started using the Internet, my parents don't agree with me for using it because of their concerns.

Because Internet cafe was one of the premier place for the gamer who loves playing game through using the Internet. So as parents of Myanmar, they're concerned a lot about me to go in there alone and use the Internet. And they're concerned about using the Internet for other sites of the purpose.

But for me, I know the Internet because of the entertainment. Back in 2000, we didn't know much about the Internet—next slide please—because of the censorship. As I mentioned, we couldn't explore the world and we couldn't open the communication with the international community. I know the Internet as Facebook where I can chat with my friends. And I know the Internet as a place where I can download the music because I'm interested in music and I love the music and I enjoy the music when I have the free time. Also, I know the Internet as a place where I can watch different kinds of movies, English movie, Korean movie. I like that. Also I know the Internet as a place where I can TikTok with the international friends. Next slide, please.

Where was my problem for using the Internet? Why I was using the Internet for the entertainment purpose? The answer is knowledge gap. Actually, in Myanmar, the foreign telecom has entered in the 2015 things. And after the 2011, the Internet censorship has gradually reduced. But so far, my friends and my community only know the Internet to use for Facebook only. They really don't know until now how to use the Internet and how the Internet is working. So I would

like to mention our community problem is knowledge gap about the Internet and how to use the Internet effectively and meaningfully.

Another thing I would like to point out is not having the community. To be honest, we don't have a wide community until now whom we share about the Internet-related information. We can only see two or three small organizations and new organization sharing about how the Internet is for, how the DNS is for. Just in 2022, because of the political turmoil, we have been aware of the DNS abuse, we have been aware of the Internet access and Internet censorship. So far, we are still lacking the community which can suppress and build the capacities of the local community to know more about the Internet. That one is a language barrier.

As for me, I came from a social science background. For me accessing say, information, using English language is very difficult. Every single word is very technical for me. I don't understand well at the time. Once I saw a word, I have to explore and find. For example, if I saw a word about a technical term, we have to explore more about that word. That was my problem. Also to provide Internet-related information to the local community, they are still having some language barrier to convert into the local language, even to enhance their basic knowledge about the Internet. Next slide, please.

During the pandemic period, I did know Internet as a social media, and I did know the Internet as a communication platform, and I did know the Internet as a place where I can do the business. Because I work at the online education platform and I started knowing about how we can take advantage on the Internet. Also, during the pandemic

period, we assess the information about the COVID-related information as well as assess the information about the COVID infection rate in my country. Next slide, please.

During the pandemic, what helped me to be here as a young woman who is so far away from the Internet community? I would like to mention that youth committee here, the first and foremost community that could help me to be here, because, as I mentioned before, during the pandemic, I could understand the Internet, I can use social media, and I can connect with friends, and I can know that social media as one part of the Internet. I could find the opportunity to explore myself and also to learn more about the Internet through the youth community. I saw a post about the Youth Internet Governance for [inaudible]. I can access information about that on social media and I could connect with the young people from the Asia Pacific region. That helped me a lot to keep moving forward and also to keep exploring about the Internet.

After that, I could find a place where I can access the information about the Internet, as well as the Internet governance. It's a new space where I can build my capacity, and it was Net Mission Academy 2020. I can learn about ICANN and ICANN-related policy there. But it wasn't very knowledge diverse and understand even for me because I really have to understand how the ICANN is working for and I could understand how that ICANN is impacting the Internet policy to shape the Internet community. That one is our issue in the society.

In February 2021, we, as Myanmar community, face a lot of challenges about the Internet issue such as the Internet shutdown, Internet

sanction, and so on. So our society face lots of Internet issues and that pushed me to get involved in shaping the Internet, to stay engaged in the Internet community for the betterment of everyone.

The fourth one is my curiosity. As a young woman, I'm very interested in the Internet. Also, I'm interested in the policy. So my curiosity also motivate me to keep going and keep moving forward, although there are the [inaudible] and there are the many challenges we are facing in terms of their particular situation, in terms of the economic hardship and so on. Next slide, please.

After engaging in this community, after engaging and after taking courses and after I have begun as NextGener, I know the Internet as a tool that we can take advantage on using it. If we can use the Internet for the purpose for the community, we can take advantage on using it. We can enhance the awareness and we can raise the awareness about many different kinds of things that will benefit to the community. Also about the Internet as a tool, that can be disadvantage on us if we don't know what about that. For example, cybercrime is one of the challenges. Cybercrimes are very challenging to our local community when there is no cyber police to protect us.

Also, when the telecoms entered the controls of the current authority, we have concerns about using the Internet as a tool that can be used for disadvantaging on us. So I do worry about the Internet can be a tool that can be disadvantage on us used by someone else.

Also, I do know about the Internet can be threat to our life. For example, there are many cybercrime on the social media in the local

community, even the hacker ask the money to the girl after hacking their account. We have no reporting system at all because of our political situation. Sometimes it has become threatening to our life to pay the debt. Also, you can find many news behind the Internet shutdown in Myanmar and when the groups of people are using the Internet as operation tool, it has become threatening to our life. But for now, Internet is meaningful for me because I can take advantage on using it for sharing about my story as well as my country's story. Next slide, please.

We still so far have to move forward for a meaningful Internet for everyone. Because we can see that the people from all around the world are facing different kinds of Internet-related challenge. But I believe that ICANN is the best place where we can shape the Internet policy to get meaningful Internet for everywhere. Thank you very much.

DEBORAH ESCALERA: Thank you, Phyo. Are there questions? We always have time for questions. Go ahead. Please state your name.

UNIDENTIFIED MALE: Hello. [Inaudible] and I'm from India. I want to ask at what extent do you think that removing the language barriers can help in reducing the knowledge gap in the community? Secondly, any suggestions to youth about what they can do to reducing the knowledge gap in the society? Thank you.

PHYO THIRI LWIN: I would like to answer the first question first. We have the different kinds of language and we speak the different kinds of language. Even we can see in the local community, majority speak the Burmese but they stay so for the ethnic language group. I believe that if we can converse the basic knowledge about the Internet, we can definitely pass it down to get involved in this community. So we are needing the landing material as well as space where it can provide the Internet-related landing material to the local community for processing then to get involved in the Internet community to shape the global community together.

To be honest, it's not my suggestion, it will be my recommendation. I recommend that young people to raise their awareness. For example, so far, we can raise the awareness. Even if we can raise the awareness to the wider community, we can raise the awareness to our family, to our friends as a baby step. So that was my recommendation. If you know more about the Internet and Internet-related matter, you have the responsibility to share your friends first, and then you can do more and raise awareness in your community. Thank you.

UNIDENTIFIED MALE: All right, thank you.

DEBORAH ESCALERA: Okay, thank you. Any more questions? Okay. We're going to move on to our next presenter, Bibek Silwal from Nepal. Bibek, you have the floor. Thank you.

BIBEK SILWAL: Thank you, Deborah. Thank you, everyone, for being here today. My name is Bibek Silwal. I'm from Nepal and I'm studying Data Science and Statistics. Today, I'll be presenting on bridging the digital divide to the same policy that ICANN undergoes, the global, regional and local approach, and what processes we need to proliferate the Internet accessibility to connect the unconnected and leaving no one behind. Can we go to the next slide, please?

Today, I'm mainly going to focus on three points, what digital divide is, along with few stats, what the present problem we have and what are the global, local and regional approaches we could adopt? Some are in the process of adaptations, but I want to focus on some of them. Next slide, please.

DEBORAH ESCALERA: Bear with us just one moment. We're ensuring that the presentation is shared with remote participants as well. Go ahead, Bibek. Thank you.

BIBEK SILWAL: Thank you. Okay. Simply, what is digital divide? Simply, it's the difference between those who have access to technology or those who do not have. It's like to say the one who have the access to the Internet or the digital space, the second one, those who are unconnected. So in

my discussion, I'll be mostly focusing on the connection to Internet as a part of digital technology.

The developing countries are more prone to the lack of access to digital content, technology and Internet services. It's due to the barrier of limiting accessibility, access to modern technology such as mobile phone and Wi-Fi access. While some countries are in modern era of Internet of Things, some countries have connection below 30%. That is the scenario of digital divide we have in the world. The divide exists between developed and developing countries, urban and rural areas, educated and less educated individuals, those who have the idea of digital literacy or those who don't have, or even with the gender which we are going to talk about in the next slide. Next slide, please.

I have generalized the type of digital divide into three categories. The first one is the gender divide. So if we dive into our developing countries with low economy, 90% are more likely to own a mobile phone. Men are likely to own a mobile phone than a woman. So that's the stats we have.

Talking about the social divide, there are classes of people we have in the developing countries. So the upper class don't want to or don't intend to include the lower classes. So the lower class don't feel that they have the importance to connect to the digital technology or the Internet.

The third one is the universal access divide, where I take it as a major or the broader one that causes the digital divide. It contains the

affordability, the affordable technology or other physical barriers that blocks the access to the digital technology or the Internet.

For example, Nepal is a mountainous country. We have a very remote place or even with extreme climate. So those are the barriers that caused the remote accessibility. Even there are other challenges with digital literacy and affordability in the space. Can you go to the next slide, please?

This is the general stat we have. So if we look at the eight billion population of the world, still three billion are remaining to connect. If we look right at gender, every day, 61% of the men and 57% of women go online. Again, if we look at the geopolitical location, the percentages of people connecting to Internet or any digital thing is really low than the developed countries. Can you go to the next slide, please?

The second point, I want to talk about what are the problem, challenges and opportunities we have in the space connecting the unconnected. Even though the access to computer and Internet continues to grow, the digital divide is dramatically still there. Even with the type of digitalization or go online policy we had during the pandemic, still we see a lot of digital divide. Next slide, please.

Our highlighted four major points are the problems we have in the space. The first one is obviously the digital literacy. If you don't know the know-how what a technology is, what it benefits to you, there's no point in connecting to the technology. The second one is political instability. My friends had already talked about. Some governments or

political situation that forced the closure of Internet, closure of access into technology that causes the digital divide. The third point is affordability. It's always a problem. We have a lot of divide in terms of income of people per capita income. That, I believe, is the major barrier to access to the technology, it's affordability. Again geographical location, which I talked about access to the rural location or any extreme climate locations are difficult. Can you go to the next slide, please?

I have done strength, weakness, opportunities and threat analysis of connecting the unconnected. Everything we do has a negative and a positive impact. So we need to analyze that to move forward on what policies or what technology or what ideas we need to actually tackle the threats or the weaknesses we have. So talking about the strength, the present multistakeholder model of Internet governance like UNIGF, ICANN, I consider it as a strength to involve all the community for the accessibility or connectivity.

The second thing is open standards and development we have right now. I take the development of TCP/IP as a major foundation of the Internet we have. What made it more innovative was that it was open standards and people were able to use it. So that made the present Internet. Involvement of different organizations like ITU, World Bank, then the digital space has proliferated the Internet.

So existing infrastructure. Infrastructure is really capital intensive project. Existing infrastructures, I take it as a strength and increasing awareness between people like involvement of us in the space and we go back and give them awareness is also a strength.

Talking about weaknesses. We have geographical complexity, affordability, digital literacy, which all talked about in the problems of digital divide. Not all governments see connectivity as the same important. So UN mandated in 2016 that Internet is a basic human right, but it's voluntary involvement of the government to actually accept this as a human rights or not. So the commercialization of the Internet connectivity is also one of the weaknesses I see. If there is no competition in ISPs on a place, the price of the Internet will be high or accessing digital technology will be high.

If we look at the opportunity, we can promote the online education. For example, me, I'm studying in MIT but I stay in Nepal and learn. That's the opportunity we can get. For the health services, telehealth services, for example, the people in rural Nepal gets a problem with the health but he or she can consult with the doctor that live in an urban area. Also, Internet is one of the major reasons in economic growth that we can see. Also, it has the ability to connect to friends and family online and also able to access to digital content or the digital technology we have. Also, it has the ability to contribute to growth of the Internet, the connecting the unconnected.

The threats I see as a problem or a challenge we need to oversee. The unethical use of Internet is undeniable. So if you're connecting three billion people, there might be some people with uneven interests or unethical interest. This is another major thing we need to oversee. Internet is occupying our major, crucial time in investing in unproductive activities. If we look at the stats, we have five billion people connected to the Internet, but 4.65 billion people are

connected to social media. Out of which, the major part is the only social media user. That's not the true problems of Internet we want to promote. The Internet users without awareness or any other ideas what the Internet space is or how safe we can be, it's a problem in the Internet space. Can you get to the next slide, please?

So I want to highlight on the global, regional, and local approach we should be taking to connect the unconnected. Also, given in mind that we promote the meaningful use on the Internet. Meaningful use is that if you want to connect a person to Internet, usage should be benefited in a socio-economic way.

For example, a rural village in Nepal that offers herbs or any herbal medicines that can be sold in a marketplace, the reasons should be connected in a way that they economize the place. So they don't just connect them to Facebook or social media, it has to economize the place or it has to help in the socio-economic development of the place. Can we go to next slide, please?

I want to highlight on the global approach, regional approach, and local approach. Some of the points here are already being taken under actions. At a global level, if we see the development of newer technologies, it might be voluntary or involuntary.

For example, in the pandemic situation, there was a mandate that a vaccine could be developed in six or seven years, there needs to be a lot of trials. But then there was a miracle, so it is developed a single year. Why don't we do it with the technologies? It's more to involve the

companies or the researchers or developers on developing new technologies.

Development of policies and strategies in a way that it involves the people their interest like ICANN. So there are policies like Universal Acceptance that brings people connected to the Internet providing a website or domain name with their dialect to do with their vernacular content. The multilateral agencies like ITU, UN, or even World Bank, it can work on a global level to connect the people. Incubating and scaling business model that promotes affordable technology, and partnering with large scale organization, like Meta, Starlink, or even Google, that promotes the Internet.

The other main important thing I want to highlight here is the involvement of youth community. Which is a part that we are here, we want to promote safer Internet and inclusive Internet. The UNIGF and multistakeholder platform also promotes the Internet and it shall work on how people can be connected or brought forward. Deployment of community networks, I see this as another important aspect to connect the last mile. I believe the last mile connection is the one when we reach the eight billion. We are somewhere in between.

For example, I attended a session in 2018 where there was a guy working in community networks where Internet was shared by a community radio station. Those are the things we can ensure to bring the people connecting in rural areas.

At regional level, we can do all the things that are in global and regional level, but we can also do further things like regional coalition

for the Internet connectivity. A similar reason has a similar problem. What problem is in Asia might not be in Africa or what problem is in Africa might not be in Europe. So there needs to be formation of a regional coalition for the Internet connectivity or Internet problems we have. Also the regional IGN plays an important role and regional policies and infrastructure development.

Again, I want to focus on a local level. We have policy formation. I think it should be learn global, go local. The policies should be brought forward to your localization but it should be molded in such a way that it actually helps in the local infrastructure development. Again, we have public awareness, the government or any institutions that are in the country should be focusing on public awareness. Partnering with the private organization or foreign sector is also an important aspect for least developed country like ours, to promote the Internet or digital technology.

Another thing I want to focus is national innovation challenges. We can conduct national challenges that promote a local infrastructure or local technology that helps in connecting the people.

Again, another important point is localization of the Internet content. As we are talking about Universal Acceptance or many other points, I think it's also important to bring the content actually where they access to it. Also global level, regional level, local level, all important, but at the end, it's a person that helps need to promote the Internet. Being in this Internet space, being in this policy development process, I think we all need to see forward how we can help the Internet grow, how we can help people. As there was one question before, how we, as

a youth, we can do that? Actually, we can go back. Even if you connect one people without the Internet to Internet, I believe that's a success. And also, we need to take in mind that we always need to promote a meaningful Internet that helps in socio-economic growth. Next slide, please.

Thank you. This is the end of my presentation. So if you have any questions, you're welcome. Thank you.

DEBORAH ESCALERA: Thank you, Bibek. We are 10 minutes left and we still have another presenter. So I'm going to ask if you have any questions for Bibek that you hold them until our break and you can ask him out in the hall. Because we're going to have a 30-minute break before our other two presenters. So our last presenter for this half is Romia Lasmin from Bangladesh. Romia, we will put up your slides. Then we're going to take a 30-minute break and come back at 4:30. Then we're joining a different Zoom Room because for some reason, we have to do that. Thank you, Bibek. It was very interesting. I'm sorry that we don't have time for questions. But we can take your questions out in the hall, or you can e-mail engagement@icann.org, or just meet them out in the hallway. Okay, Romia Lasmin from Bangladesh. Romia, take the floor.

ROMIA LASMIN: Am I audible? Okay. Hello, everyone. First of all, it's my pleasure to be here presenting today. I'm also very much delighted and honored to be a part of ICANN community. Hi, my name is Romia Lasmin, I'm from Bangladesh. I'm currently working for the Department of IT

Infrastructure and Planning at the bank, where I try to keep the banking information safe. For the security manager, I'll be discussing why DNS is one of the most powerful attacking vectors nowadays and why it needs to be protected and how it can be made mitigated. Going forward to next slide.

These are the headlines I'm going to cover today. Fortunately, there are many companies, organization and laws working to keep their Internet safe. But these efforts are not enough. So you may think when a computer system gets hacked, there might be a problem with the security design or their software. But however, 90% of the time, when a computer system gets hacked, it is not because of their security design but because of a single mistake made by human. So going forward to next slide, please.

Attacks using DNS growing at an alarming rate, which comes at no surprise and which is the combination of organization failing to secure their DNS traffic and also for the ubiquity nature of DNS itself, which makes it one of the most powerful tool for attackers to use. IDC research, I mean, International Data Corporation research has shown that 87% of the organization have experienced one or more attacks using DNS. And it has also identified that 85% of the recent days, modern days attacks use DNS at some point in the [inaudible] in 2021 report. So going forward to next slide.

Why are these attacks still getting through to the users? Let's try to understand the problem. DNS is everywhere. You have your network, you have your own DNS server and you have the Internet. If you look at it, every host and every system, in order to get to the Internet, they

have to translate their DNS names into IP addresses. That means DNS is required to run the business and it cannot be blocked. Secondly, DNS is a bidirectional protocol and it is Internet facing and it carries data. So all these characteristics make DNS as one of the most powerful and flexible tool for attackers to use. In this respect, DNS is more like web and e-mail. Basically, we all have a security solution for our web and e-mail. But the same cannot be said for DNS. DNS is often overlooked. Going forward to next slide.

IDC's research has reported that 42% of the organizations do not have a dedicated DNS security solution. If you're running a network without DNS, it means you have slowly keyed reliable data within your network and the Internet. This is available for the attackers to use. With this pipeline, attacks over DNS is growing, which is making this pipeline even bigger than before. Going forward to next slide.

In the recent past, we have seen attacks like [inaudible], Pegasus spyware campaign and Solar Winds supply chain attacks and many more that have used DNS in their attacking life cycle in 2020. Going forward to next slide, please.

Now the question is why can't the current solution keep up and provide protection against these threats? Because most of the organizations today rely on some kind of static domain block placed, but with the millions of millions of domains being released every single day, these static database signatures are not scalable and cannot keep up with the current emerging threats. Going forward to the next slide.

Today, in respect to these attacks, couple of detection techniques are introduced, which are strategically aged domain, wildcard DNS abuse, etc. So some possible mitigation and some best practices in our organization could be, number one, to provide visibility and security across all the DNS, including unexpected DNS resolvers, because it is hard to bypass and provide ease of deployment across the users and location without requiring any changes to your DNS infrastructure. Number two would be to build a detection engine with the machine learning model to look into these identifiable patterns to prevent these kind of threats. The last number, number three would be to provide cloud-based protection because being in the cloud always allows DNS protection to scale infinitely and always stay up-to-date without requiring any software or hardware upgrades or changes. So going forward to the next slide.

Now, why DNS encryption is important? Encryption makes readable things unreadable to anyone that might be snooping into the network. Today's secure communications are encrypted using 256-bit keys. But in the near future, we might have to increase the standard key length to keep up with the speed of the computers.

So now, there are two new DNS encryption techniques. Which is better, DoT or DoH? DoT refers to DNS over TLS and the DoH reference to DNS over HTTP. This is up for debate. From a network security standpoint, DoT is arguably better than DoH because it gives network administrators the ability to monitor and block DNS queries, which is important for identifying and stopping malicious traffic.

Lastly, as computers become faster and faster, we will have to develop new ways to make encryption too hard for the computers to break. This is what I do with my work and it's always changing. Going forward to the last slide.

Okay. To sum it up, DNS is the key infrastructure of the Internet and maintaining its health is of paramount significance. Thank you very much, everyone, for attending. You can ask questions related to this topic. And also, I can be found in my e-mail and social media link for further interactions. Thank you.

DEBORAH ESCALERA: Thank you, Romia. Okay. We are at the top of the hour. So if there's any questions for Romia or Bibek, I'm going to ask you to ask them out in the hallway because we need to take a break now. So we're going to reconvene in this room at 4:30. But we have a different Zoom Room that we're going to log into, which is a crazy situation that we had to break. And when we come back, we'll be hearing from Elif and Somaly Horn when we return. So please come back. We will start at 4:30 sharp. I need my presenters back at 4:15. So you have 15 minutes to take a break.

Thank you so much for joining us today. Thank you for our presenters. You did a fantastic job. Thank you so much. You may end the recording.

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