IGF Dynamic Coalition on DNS Issues

IGF2019 Post-Session Report

6 February 2020

The IGF2019 DC-DNSI session took place on 27 November 2019 at the Estrel Congress Center in Berlin. Photo courtesy Lianna Galstyan.

Dynamic Coalition on DNS Issues aims to build unique and constructive dialogue at the Internet Governance Forum on DNS issues that complements, but does not duplicate or compete with, work undertaken within ICANN and the IETF.

Key Messages

1. Universal Acceptance is a foundational requirement for a truly multilingual Internet, and a multilingual Internet supports Digital Inclusion.
2. Low awareness and coordination challenges stand in the way of Universal Acceptance;
3. Governments can include Universal Acceptance in their procurement policies for public-facing webforms, email services, digital identity systems, and listserv software; this non-regulatory measure could incentivize the private sector to develop UA-ready products and thereby broaden Universal Acceptance.

Discussion Areas

1. What is Universal Acceptance and why is it important?
2. What are current barriers to Universal Acceptance uptake?
3. How can the public sector help lower these barriers?

1. What Universal Acceptance is, and why it is important

Universal Acceptance (UA) is a measure of how well Internationalised Domain Names (IDNs) and new generic Top Level Domains (gTLDs) are accepted, displayed, stored and processed by the Internet's applications and infrastructure.[1] Software applications are "UA-ready" when they accept domain names or email addresses regardless of the script they are in, or their length. The illustration below shows three examples of domain names and email addresses that are *not* recognized by systems that are *not* UA-ready.

Source: Sigmund Fidyke, *Journey to Universal Acceptance Ready* (Presentation), March 2017, *available at:* https://uasg.tech/wp-content/uploads/2016/05/07-Sig-UA-ICANN58c.pdf

UA is important to different stakeholders for different reasons. For those involved in the operation, management, and coordination of the DNS, UA-readiness is a matter of enhancing its utility, relevance, and legitimacy. For industry, UA-readiness represents a market opportunity worth approximately $10 billion a year.[2] For those engaged in the Sustainable Development Goals, UA can play a role in SDG 9

[1] For further background on Universal Acceptance, see the following page of the IDN World Report website*:* https://idnworldreport.eu/2019-2/universal-acceptance/what-is-universal-acceptance/

[2] Michael Kende and Andrew Kloeden, *Unleasing the Power of All Domains: The Social, Cultural and Economic Benefits of Universal Acceptance* (White Paper), Analysis Mason, (11 April 2017)*:* https://uasg.tech/wp-content/uploads/2017/04/Unleashing-the-Power-of-All-Domains-White-Paper.pdf*; See also* Chris Mondini, *Universal Acceptance is the first-mover advantage that may be worth billions*, Tech Crunch, (19 December 2019)*:* https://techcrunch.com/2019/12/19/universal-acceptance-is-the-first-mover-advantage-that-may-be-worth-billions/

and certain of its targets.[3] For civil society, UA-readiness is a tool that can alleviate the digital divide, particularly by enhancing linguistic diversity in cyberspace. For governments, Universal Acceptance can enhance e-services for citizens and help fulfil digital inclusion mandates.

The people who are needed to make systems UA ready include: software developers, website owners, IT managers, CTOs, policymakers, and other decision makers.

Universal Acceptance relates both to Internationalised Domain Names (IDNs) and to new gTLDs, including those in Latin text. But, within the IGF2019 environment, including during the DC-DNSI session, discussion focused most naturally on the power of Universal Acceptance to foster digital inclusion on the basis of language.[4]

Universal Acceptance is about making the Internet's applications and infrastructure embrace the multicultural and multilingual community that the global Internet now serves.

Most of the world's population does not use the Latin alphabet, but most of the software relevant to Universal Acceptance only works with code based on the Latin alphabet.

People in regions of the world where scripts are not Latin based oftentimes cannot use their own names in their own email addresses. This is not because email addresses in non-Latin scripts are not available – they are. However, they do not work in a predictable manner because most systems are not UA-ready and therefore do not recognize them. Accordingly, for these Internet users, accessing online services – including government services – means using email addresses (and visiting domains) that are in a foreign language.

Here, the crux of the problem rests with the shortcomings of legacy technology on an increasingly cosmopolitan Internet.

[3] In preparation for the Dynamic Coalition Main Session at IGF2019, which focused on the Sustainable Development Goals, DC-DNSI members considered the extent to which Universal Acceptance relates to Targets 9.C and 9.B from SDG 9. While not all members agreed that Universal Acceptance alone promotes access to ICTs, several were in accord that it would decrease barriers to inclusive participation and access to information. And several members commented that having UA-readiness, where domains and email addresses in local scripts are recognized, would stimulate local content creation and domestic technology development. For a summary of the DC-DNSI's contribution to this main session, please visit the DC-DNSI page on the IGF website: https://www.intgovforum.org/multilingual/content/dynamic-coalition-on-dns-issues-dc-dnsi

[4] The multilingual aspect of Universal Acceptance was the natural focus at the IGF given its relevance to Digital Inclusion, though the DC recognizes that Universal Acceptance issues are much broader in scope and directly relevant to the successful exploitation and use of new generic top-level domains.

2. Current challenges to Universal Acceptance-readiness: low awareness, coordination

One of the challenges standing in the way of widespread Universal Acceptance is a lack of *awareness*. Most decision-makers do not know what UA is, understand why it is important, or appreciate the opportunities that UA-readiness stands to bring. A related challenge lies in the *coordination* required across a range of different players to make an organization UA-ready. This is particularly true in the case of the public sector, which was the specific focus of the DC-DNSI session in Berlin.

One discussant attributed these challenges to a failure in the market on the supply side. The supply side consists of a variety of actors, including:

- software developers who make UA-readiness technically possible in UA-ready software;
- website owners or IT managers who update their systems to become UA-ready;
- chief technology officers who approve the updates necessary to become UA-ready;
- policymakers who specify UA-readiness requirements in procurement policies; and
- decision-makers who can mobilize the resources that enable the above.[5]

The demand side consists of:

- Internet users who access websites or applications using IDNs, as well as those who have registered domain names and/or email addresses that are in non-Latin scripts or have new gTDs.

In most cases, supply side actors, whether they work in technology or not, are not aware of Universal Acceptance or the demand for it. Even if a few are aware and supportive of making their organization UA-ready, it is a challenge to raise awareness and coordinate across the other offices needed to begin updates for UA-readiness. Because the supply side presents no solution to the problems that the demand side encounters online, the demand side is equally unaware of what to ask for.

[5] These roles may overlap or change according to an institution's structure.

Supporting Digital Inclusion: Enhancing Linguistic Diversity in Cyberspace

Research has shown that IDNs help enhance linguistic diversity in cyberspace, but IDNs only work with systems that are UA-ready. An anecdote shared during the DC-DNSI session showed how IDNs sit idle in an online environment without Universal Acceptance, leading to lost opportunities for local content development and linguistic diversity on the Internet.

One discussant explained that after launching the IDN ccTLD in their country, there was a rush of over 3,500 domain names registered in just a few days. Clearly, the desire to use domain names and email addresses ending in this IDN ccTLD – in this case, in Arabic – exists.

After some time, however, registration numbers plateaued. The discussant noticed that the new domain names were parked – websites were not being used; the associated email addresses were not being used, very likely because of low UA-readiness.

A presentation on the *2019 World Report on Internationalised Domain Names*, given by its authors during the DC-DNSI session, revealed that 81% of IDNs, globally, point to parking pages. Looking at the IDNs that are not parked, however, shows that the associated website content is more linguistically diverse than that of traditional domain names.

If UA-readiness is an obvious tool to support digital inclusion, why aren't we using it?

The World Report on Internationalised Domain Names is available at: https://idnworldreport.eu/

3. How the public sector can advance Universal Acceptance-readiness

Discussion during the session focused on how governments, as purchasers of ICT equipment and services, can drive Universal Acceptance. A clear, non-regulatory path that governments can take is to specify Universal Acceptance requirements in their procurement policies. Doing so creates an incentive for private industry to develop UA-ready products.[6]

But since UA-readiness is little understood by most, the question is how best to connect with government officials to explain why they should devote resources to becoming UA-ready.

One discussant who has worked on promoting UA to several different governments shared a few observations. He explained that early outreach efforts employed a top-down approach – contacting the CTOs, for example, to the exclusion of other government employees. They learned over time that the best progress on UA is a result of reaching out not only to the political or senior staff in a government organization, but to the IT departments and their internal developers and webmasters. "If a developer

[6] DotMagazine, *Leveraging Governments to Encourage Universal Acceptance*, Interview with Ram Mohan, December 2019: https://www.dotmagazine.online/issues/trust-in-digitalization/digital-inclusion/leveraging-governments-to-encourage-universal-acceptance

is not even familiar with email address internationalization" he noted, "then it would not make sense to lobby his boss."[7]

The conclusion was that the best way to raise awareness about Universal Acceptance in the public sector is to use a simultaneous bottom-up and top-down approach, which helps address both of the challenges described in the section above.

Policy Recommendations / Suggestions for the Way Forward

1. Governments can specify Universal Acceptance requirements in procurement policies relating to public-facing webforms, email services, digital identity systems, and listserv software; this non-regulatory measure should incentivize the private sector to develop UA-ready products and thereby broaden Universal Acceptance.

Other Initiatives Addressing the Session Issues

The main venues for work on Universal Acceptance are ICANN and the Universal Acceptance Steering Group (UASG). Additionally, various efforts are being undertaken in different countries, led primarily by ccTLD operators.

- **ICANN** ICANN's 5-year strategic plan (2021 – 2025) includes a focus on Universal Acceptance. One of ICANN's strategic goals is to "foster competition, consumer choice, and innovation in the Internet space by increasing awareness of, and encouraging readiness for, Universal Acceptance," amongst other items (IDN implementation and IPv6). A new working group on Universal Acceptance was created within the Board of Directors, and a new UA program has been set up within ICANN.org to engage with stakeholders to make software applications and email systems UA-ready.[8]

- **UASG** For four years, the UASG has been working to ensure that all domain names and email addresses work equivalently on all software and services. Its membership comprises technology enablers, technology developers, and email providers who work to influence organizations, individuals and government policymakers. The UASG recently organized itself into five working groups, each of which serves a distinct purpose: 1) Technology, helping software developers to code correctly for UA, 2) Email, focusing on the correct adoption of internationalised email addresses, 3) Measurement, to track UA-readiness 4) Communications, and 5) Local Initiatives, including the UASG's ambassador program.[9]

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[7] The transcript of the 2019 DC-DNSI session is available at: https://www.intgovforum.org/multilingual/content/igf-2019-—-day-2-—-raum-i-—-dc-on-dns-issues-0.

[8] The ICANN Strategic Plan is available at: https://www.icann.org/en/system/files/files/strategic-plan-2021-2025-24jun19-en.pdf.

[9] The UASG Action Plan for FY20 is available at: https://uasg.tech/wp-content/uploads/2019/06/UASG-FY20-Action-Plan.pdf

Making Progress

Discussants cited China, Thailand, Russia, and India as pioneers in this field. In 2017 in India, the Government of Rajasthan launched a free email service with addresses in both Hindi and English for its 70 million residents, most of whom only speak Hindi.[10] Host country participation in the session, on behalf of the German Federal Ministry of the Interior, revealed that the government's IT services support punycode domains and UTF-7 for Unicode characters, which is the first step towards Universal Acceptance.[11]

Estimated Participation – Around 100 people.

Reflection to Gender Issues – None

[10] ICANN Blog, *Rajasthan State's New Email Project Brings Millions of Hindi Speakers Online*, (3 December 2018): https://www.icann.org/news/blog/rajasthan-state-s-new-email-project-brings-millions-of-hindi-speakers-online

[11] Germany's presentation is available at the DC-DNSI page on the IGF website: https://www.intgovforum.org/multilingual/content/dynamic-coalition-on-dns-issues-dc-dnsi