Background Reading on Universal Acceptance
For participants at APTLD74

What is Universal Acceptance all about?
The idea is that all domain names and all email addresses are accepted by all applications. Currently, they’re not. It is a particular issue for new gTLDs in both ASCII and non-ASCII scripts, as well as IDN ccTLDs. But there are also issues for new ccTLDs.

The issue stems from developers who are using outdated code and specifications when they deal with domain names and email addresses.

Many applications will validate domain names and email addresses when entered. Often these applications will restrict these identifiers based on the TLD. Some assume that only ASCII TLDs are acceptable. Others assume that a TLD will not be more than three characters. Still others use prescribed lists that are not kept up to date.

Universal Acceptance (UA) is basically a software issue that is generally quite simple to address, often considered a bug fix.

But, software developers need to know about the issue so that they can include remediation in their architectural roadmaps.

What is EAI (Email Address Internationalisation)?
About the same time that the first IDN ccTLDs were launched in 2010, a new set of standards for email addresses was adopted by the IETF. This new standard allows non-ASCII characters in the domain name as well as the mailbox name of an email address.

This is a relatively significant change in the email protocols. The purpose was to allow people to use the language and script of their choice. However, until all email software and services are EAI-ready, there could be challenges getting the messages delivered.

The good news is that some of the major email software and service providers say that they are EAI-ready. Gmail and Microsoft products are generally able to Send To and Receive From all valid email addresses. We call this EAI Phase 1 Ready. PostFix and Exim, two popular Mail Transport Agents, are also said to be ready.

EAI Phase 2 Ready is when the mail platform is able to host and Send From an EAI address. There are far fewer of these. Coremail (China) and XgenPlus (India) have been the early adopters.

Why does this matter to ccTLD managers?
There are a couple of compelling reasons why ccTLD managers should care.

First, a ccTLD manager may also manage an IDNccTLD. The Asia Pacific region has the largest proportion of IDNccTLDs deployed. Operators of these will certainly have an interest.

Second, some ccTLD managers are also running new gTLDs. The topic clearly matters for them, too.

Third, since ccTLD managers have a commitment to serving their local Internet
community, there’s an interest in ensuring that their local software community keeps up to date with standards.

Fourth, some ccTLDs also offer IDNs at the second (or third) level.

And finally, many ccTLD managers operate in communities that use a character set other than just ASCII. Universal Acceptance and EAI means that people can get and use an email address in their preferred language and preferred script.

What is the UASG and what are they doing about Universal Acceptance and EAI?
The UASG is an Internet community initiative that is supported financially and administratively by ICANN. There are hundreds of participants from around the world. The UASG is tasked with raising awareness of the issues with software developers and providing them and their colleagues with documentation and tools to make it easier for the developers to fix their code.

We have a website (www.uasg.tech) where we publish our documentation, blog posts, and studies.

We encourage email software and service providers to make their systems EAI Ready. There are now more than 2 billion email addresses that could be EAI Phase 1 Ready, with another several billion expected to become enabled in the next 12 months.

What should a ccTLD manager due to foster good practices in UA and EAI?
There are several areas that we would like ccTLD managers to participate:

- Make sure that your own systems are UA-ready. See if someone could use an EAI address to register for a service or subscribe to your newsletters. Make sure that name servers can be entered with long TLDs or IDN TLDs. See if you can send a message to an EAI address.
- Raise awareness of the issue with your registrars and resellers and ask them to make sure that their systems are ready.
- Raise awareness with the local software development community. Most ccTLD managers have strong relationships with their technical communities. Introduce UA and EAI into their meetings or publications (the UASG has relevant material that’s easy to customize).
- Raise awareness with our government CIOs – both at a national and local level. In communities where the English script is not well understood, they should be able to support their local communities in the languages that they want.

Where to go from here?
While UA issues don’t affect all ccTLD managers equally, they do affect some markedly. And they will affect many local Internet users.

There’s a wealth of material available on the www.uasg.tech website. Or you can ask don.hollander@uasg.tech (or kōrero@ngāpukapuka.nz)