Getting ready for the
New Internet Name Space

Universal Acceptance
and its Challenges

An APRALO-APAC Hub Webinar
22 March 2016

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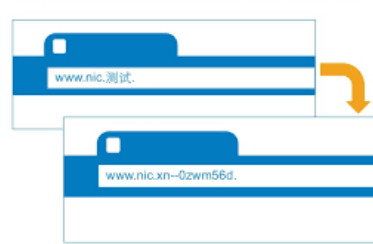example.photography
Борис@почта.пример.рф

ICANN
AT-LARGE

Contents

Universal Acceptance

Lack of Support: All TLDs

www.nic.global.

Search www.nic.global.

Global Result Example
www.global.example
Buy this product or service. We are an example company that handles all

Lack of Support: Internationalized Domain Names

www.nic.測試.

www.nic.xn--0zwm56d.

Lack of Support: Internationalized Email

Message

Send

From: Francisco
To: 麻烦先生@导航.中国
Cc: mistertrouble@navigation.china
Subject: Urgent! New project for you
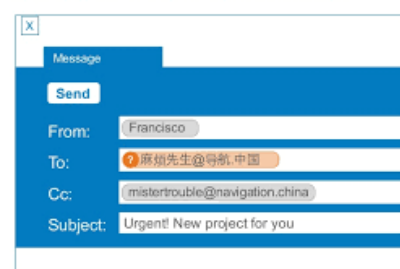
Universal Acceptance Challenges.

Applications and Services must:

- Enable use of whatever TLD is delegated

- Display domain and email names correctly

- Work correctly for any name

- Implement appropriate levels of security

Background

Domain names in a TLD must be useable in applications regardless of the written script, length or newness of the TLD. The primary drivers for Universal Acceptance stem from the following elements:

Longer TLD Names: TLDs with names longer than three characters, such as .museum or .plumber.

Non-Latin based TLDs: TLDs with names written in scripts other than ASCII, such as Hindi, Japanese and Greek.

Rapid addition of TLDs: The New gTLD Program spurring very rapid additions of new gTLDs delegated to the root zone.

International Email: The introduction of non-ASCII names in email. While IDNs solved part of the ability to have non-ASCII names for servers, it doesn't solve the ability to have non-ASCII names for mailboxes.

Quick Guide: https://www.icann.org/en/system/files/files/ua-quick-guide-02mar16-en.pdf

Overview

Universal Acceptance is a foundational requirement for a truly multilingual Internet, one in which users around the world can navigate entirely in local languages. It is also the key to unlocking the potential of new generic top-level domains (gTLDs) to foster competition, consumer choice and innovation in the domain name industry. To achieve Universal Acceptance, Internet applications and systems must treat all TLDs in a consistent manner, including new gTLDs and internationalized TLDs. Specifically, they must accept, validate, store, process and display all domain names.

The Universal Acceptance Steering Group is a community-based team working to share this vision for the Internet of the future with those who construct this space: coders. The group's primary objective is to help software developers and website owners understand how to update their systems to keep pace with an evolving Domain Name System. It's primary message is that Universal Acceptance will enable the next billion users to build their own spaces and identities online.

Reference: https://www.icann.org/resources/pages/universal-acceptance-2012-02-25-en

APRALO-APAC HUB WEBINAR

HOST: KELVIN

DON HOLLANDER

MARVIN WOO

TOPIC: Getting ready for the NEW Internet Name Space – Universal Acceptance and its Challenges.

INTRODUCTION: Kelvin Wong

This is the sixth of a series of APRALO-APAC Hub Capacity Building webinars. The text from this e-Book has been taken from the transcript of the webinar when it was originally presented to the APAC community on the 22 March 2016. Kelvin Wong led this initiative on behalf of the APAC Hub.

The webinar series is an initiative under the APRALO-APAC Hub cooperation framework where the topics are collaboratively decided on together. Other topics have included IDNs, new gTLDs and Internet Governance.

The presenters for this webinar are:
- Don Hollander, the Universal Acceptance Initiative Manager for ICANN; and
- Marvin Woo, the Vice President of Coremail, China – the first commercial IDN Email system.
  http://ccnso.icann.org/files/38135/presentation-idn-email-implementation-xing-08apr13-en.pdf

Introduction by Kelvin:

Our first speaker is Don Hollander who is promoting Universal Acceptance on behalf of ICANN. Don has had many years or experience in respect to IT including commercial and not-for-profit. He has focused at least part of his 30 years of involvement in not-for-profit advocating for the adoption of IT. He is currently helping with the adoption of Universal Acceptance so that everyone can benefit from the internet.
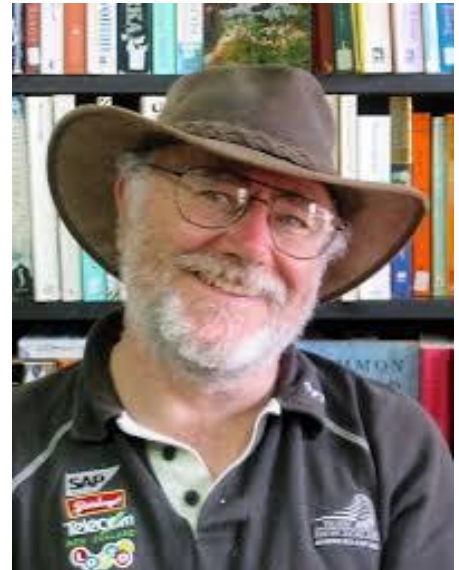
Don Hollander:

Thanks very much Kelvin. I have been asked to talk about Universal Acceptance and how the APRALO can help. This is my programme for the next few minutes.

Agenda
- What is Universal Acceptance
- Introducing the UASG
- What we've produced
- Where APRALO can help
- Q&A

> *"Universal Acceptance (UA) is the state where all valid domain names and email addresses are <u>accepted</u>, <u>validated</u>, <u>stored</u>, <u>processed</u> and <u>displayed</u> correctly and consistently by all Internet-enabled applications, devices and systems."*

Don Hollander:

Over the past few months we have come up with what we think is a very clear and explicit and concise definition of what Universal Acceptance is. The key aspects are that it is looking at applications and making sure that they accept, validate, store, process and display all domain names equally.

So if somebody accepts a .com name, they should also accept a .technology name or a [.shavakan] name or whatever name. So while we are focusing on principally at the top level, it actually includes all domain names, second, third, and so on level.

Key Points

- It's a SOFTWARE issue
  - The DNS works fine
- It's an IDN issue
  - It's also an issue for new gTLDs
- It's not that hard
  - But it is effortful
- Target audience is developers
  - Not consumers
- It's been around since 2001
  - More noticeable since 2010

UA is basically a software issue. This definition is for software developers to look at as they determine their systems. It is not a network issues. The DNS works fine, things resolve fine.

There was an APNIC study conducted last year to see if there were any issues underlying the DNS level. And they tested several hundred domain names, old and new, IDN and non-IDN, short and long, and they found no challenges at all. So it is not a DNS issue.

Don Hollander:

It is an IDN issue and also an issue for new gTLDs, particularly new gTLDs that are not two or three or even seven characters. The reason that six and seven characters are not as much of a problem is that those issues were resolved as part of the 2001 intake of new TLDs. That's when .info, .museum and so forth came in.

Interesting that if you have a five character new TLD you will encounter more problems than not. Addressing UA is not hard but it is effortful. And if you are a CIO looking at your systems, right now you will see little demand. And so you will say "Well, why should I make the effort to address this?" And I think that the approach that we will take is that you don't need to open your application up for modification just for UA. I don't think we will get many people buying into that. But when you open it for other maintenance, please address the UA issues at the same time. It is not hard, but it is effortful.

The target audience for the UA Centre Steering Group is CIOs and system architects. It is NOT consumers. So there are roughly 18 million software developers n the world. Our goal is to talk to each and every one of them and the people who allocate resources for their work, to raise the issue. And the issue is not new. It has been around since 2001.

So those of you who might be old enough to remember that far back, in 2001 when .info and .museum and .travel came in, they had a real hard time getting their top level domains accepted.

Introducing the UASG

- A Community Group supported by ICANN

- Broad Support
- Affilias, Apple, DotASIA, ccTLDs, Eco, GoDaddy, Google, ICANN,Verisign, Microsoft, & many more

- Staff supported by Volunteers

- A Clear Approach
  - Build documentation
  - Measure and Assess requirements
  - Assist Developers with better tools
  - Communicate, Communicate, Communicate

Don Hollander:

So at the beginning of last year (2015) there was a group that came together and formed what is called the Universal Acceptance Steering Group (UASG). It is a community group that is supported by ICANN but it is NOT an ICANN group.

It has broad support from a group of organisations who are actively participating in the work of the UASG. As you can see there are some relatively large software businesses, Google, Microsoft, Apple – places that you may have heard of.

It is a staff organisation that is supported by volunteers, and that's a change we made in January.

Last year we were focusing on volunteers doing the work supported by staff, and it wasn't being as successful as we wanted.

So in January we decided to turn things around so that there is effectively a staff person – who is me – aimed at getting stuff done and having a community of volunteers to be able to call on for expert advice and governance.

W have a clear approach as to how we are going to move forward. The first is to build some documentation, and later, I will show you some material that we have put together already.

We are going to measure and assess how well we are doing. So we have started at least some rudimentary measures as to what the state is. And we will continue this for the next few years to see if there is a change, and we hope there will be.

We have decided that we are going to help the developers with better tools. So one of our projects is to look at the top 5 or 10 or 20 software development environments and if they are not UA ready, to help to make them so.

And then the big effort really from next year on is to communicate, communicate, communicate

Documentation:

So where are we at with the documentation? We have got a list of material that's generally available. So the first thing to do was to put up a knowledge base.

- UASG 001 – UA Knowledge Base *Published and living*
- UASG 002 – Webmaster engagement letter – *in 7 languages*
- UASG 003 – Fact Sheet – for the 'everyman' to understand UA – *Published*.
- UASG 004 – Use Cases. *In Development*
- UASG 005 - UA Quick Guide: for management to understand what UA is and some ideas for addressing the issues. *Final Review*
- UASG 006 – Relevant RFCs
- UASG 007 – Introduction to Universal Acceptance *The Master Document – Finishing first detailed reading.*
- UASG 008 – UA & Local Engagement – *Final Review*

Don Hollander:

We had requests from some registries and registrars, for example – if someone calls up and says "my domain name is not working properly who can I call and how do I get it addressed?". So we now have a list of how to contact the people who have make things happen.

We also have a small letter, just a couple of paragraphs that you can send to the Webmaster of the site you are having problems with.

We have a fact sheet – this is the most "Everyman" document that we have produced. And that is currently going out for translation into a variety of languages.

We have some use cases that are just about finished and will be published shortly. These are a bunch of domain names. There are 10 domain names and 20 or so email addresses, and some IRIs which are the same as URLs only with non-ASCII characters.

We have a published quick guide, that is aimed at CIOs and system architects. They have a list of relevant RFCs.

We have UASG 007 which is our big hairy, ugly technical document. We finished the 7th edition of that in Marrakech and those changes are waiting to be applied.

Our last document is UA and Local Engagement. This is what we hope people within APRALO will read. It is about how to get a local UA group happening in your hometown or country or community.

What we're doing: Activities

- Reviewing most popular websites for UA Readiness. (Spoiler alert: only one website accepts all our use cases)
- Starting review and remediation work on largest/ most popular development toolsets.
- Building Use Case & Test environments
- Building EAI Community
- Planning review of browsers & operating systems
- Planning a White Paper

Don Hollander:

So what things are we doing? I have reviewed popular websites. And when I wrote this slide there was only one website we had come across so far that accepted all our test cases. We are starting the review and remediation work on the development tool set, starting in April.

We are being UA use case and test environments. That should be finished in April. We are building an EAI community and Marvin is going to talk more about EAI, but we are building a community of practitioners in EAI.

And we are planning a white paper. This is aimed outside our target audience but aimed at the people who make the funding decisions for the target audiences. So this is looking at Government Ministers, CEOs, CMO, members of Boards and that sort of thing.

OPPORTUNITIES FOR APRALO

- Participation in the Discussion List

- Build Local Advocacy Groups

- Raise Awareness when UA Issues are encountered

So there are three areas we would like some help. The first is to participate in our discussion list; the second is to build local advocacy groups – you are looking at the UASG 008. And to raise awareness when you find UA issues – encounters that can be using the UASG 002 or some other bits.

POP QUIZ QUESTIONS

1. The target audience for the UASG are:

<u>Option 1</u>: registrants
<u>Option 1</u>: software developers

2. What is the difference between universal acceptance and universal awareness?

<u>Option 1</u>: Universal Awareness is raising awareness of all the new Top Level Domains available. Universal Acceptance is ensuring that when deployed (they) function for the registrant
<u>Option 2</u>: Universal awareness is making the Internet available to people and even the remote parts of the globe.

Answer:
1. The target audience is software developers.
2. The correct answer is the first option. Universal awareness is raising awareness of new TLDs and the issue about getting the Internet available everywhere is better – this is often referred to as universal access. So there are a lot of UAs floating around in the Internet Governance space. And our focus is Universal Acceptance.

Introduction by Kelvin:

Our next speaker is Marvin Woo, who is the VP of Coremail and Guest Professor of Fuzhou College of Foreign Studies and Trade. He graduated from School of Management, China University of Mining and Technology Marvin has dedicated 13 years to the email industry for 13 years and is the senior expert in cloud email services. Marvin has been actively promoting the multilingual email technology among APEC members and has made outstanding contributions in the commercialization and popularization of multi-language email technology in APEC.

Marvin Woo:
Thanks very much Kelvin.

Today Coremail

17 years Concentration on email technology

35,000+ Business Clients, **700+** Million users

1,500+ government institutions, universities are using **Coremail**

The **first** EAI provider

The **only one** with private e-mail solution as well as email clouding service

Firstly, who or what is Coremail? Coremail was founded in 1999, so 19 years of concentration on email technology. We have 35,000 business clients and 700 million users; and we have 1500 government institutions and universities that are using Coremail.
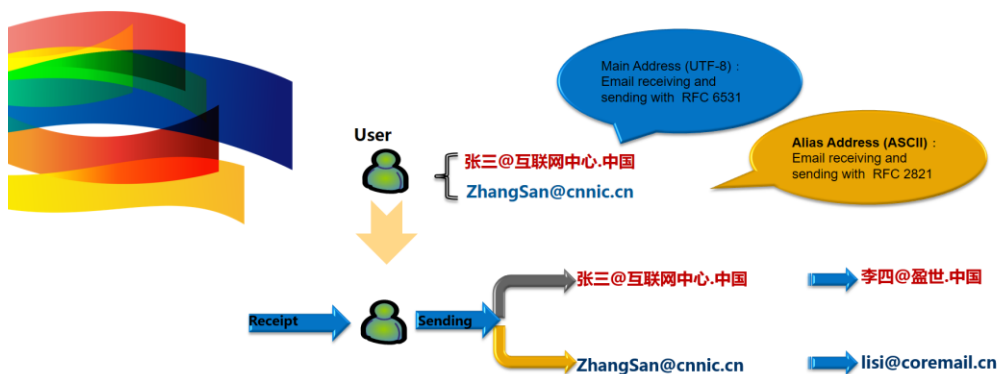
So what is EAI? It stands for Email Advocate Internationalisation but it is to do with email addresses that contain international characters (non Roman characters).

Coremail enables Chinese users to have a personal identity using national and ethnic characteristics. More and more people are moving to have a Chinese EAI account.

In Coremail's EAI solution, we have double email addresses for our users. One email address supports Unicode We also give them an alias address used for ASCII code.

Coremail's EAI--Punycode

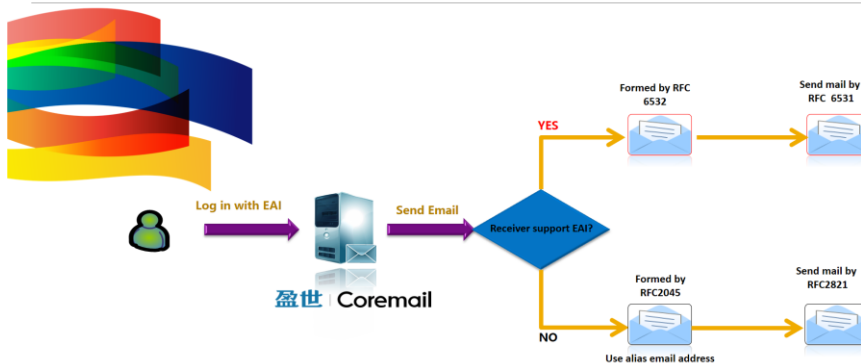If the email system cann't support EAI, it switches to **punycode**

RE: This is a test ☆

Mark Svancarek
发给 marvin.woo, 微软测试, Carolyn Liu, don.hollander, zheng.song, xxxia, 龚嘉, 吴秀诚   2016-02-27 01:32
发件人: Mark Svancarek <marksv@microsoft.com>
收件人: marvin.woo <mwu@coremail.cn>, 微软测试 <xn--g5ty61ae0xlgd@xn--blq510jgwa.xn--fiqs8s>,
        Carolyn Liu <Carolyn.Liu@microsoft.com>
抄送: don.hollander <don.hollander@icann.org>, zheng.song <zheng.song@icann.org>, xxxia <xxxia@coremail.cn>,
        龚嘉 <gj@coremail.cn>, 吴秀诚 <xn--irrs78fhnm@xn--blq510jgwa.xn--fiqs8s>
时间: 2016年2月27日 (周六) 01:32 ⏱
大小: 34 KB

When a Chinese user sends an email to an address which does not support EAI, Coremail will automatically transfer the Chinese sender to their English "alias" email sender address.

Coremail's EAI--Send Email

Log in with EAI → 盈世 Coremail → Send Email → Receiver support EAI?

YES → Formed by RFC 6532 → Send mail by RFC 6531

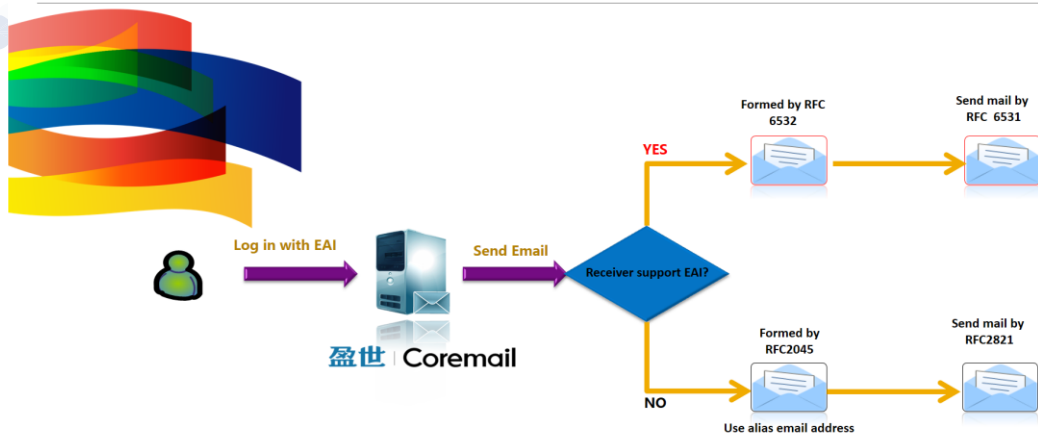NO → Formed by RFC2045 → Send mail by RFC2821
Use alias email address

Coremail can classify email's receipt with different standards. It lists who sent the email. If an email has Chinese characters (EAI email), it is sent via RFC6531. If it has ASCII characters, it is sent via RFC2821.

RFC6531 is an extension of RFC5322 which defines valid email addresses; 6531 has a modification which enables international characters to be accepted as valid data.*

RFC2821 is the basic protocol for Internet electronic email transport (for ASCII addresses).**

* adapted from information about RFC6531 from http://stackoverflow.com/questions/23877749/which-is-the-official-email-rfc
** from https://www.ietf.org/rfc/rfc2821.txt

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Coremail's EAI--Send Email

Log in with EAI → 盈世 Coremail → Send Email → Receiver support EAI?

YES → Formed by RFC 6532 → Send mail by RFC 6531

NO → Formed by RFC2045 (Use alias email address) → Send mail by RFC2821

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If the receiver can accept an EAI email then it is formed by RFC6532 before beig sent on by RFC 6531. If it is not an EAI email then it is formed by RFC2045 using the alias email address (in ASCII) and sent on by RFC2821

The Challenges met by Coremail

Coremail had EAI in 2012, but met challenges:

No Client supporting EAI

NO EAI Register Platform

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We met many challenges. In 2012, although Coremail was able to support EAI, there were no clients to support it. We just used it wherever. Some people lacked an international email address because there was no place to register an EAI account. There were no providers. So we had to do something about this.
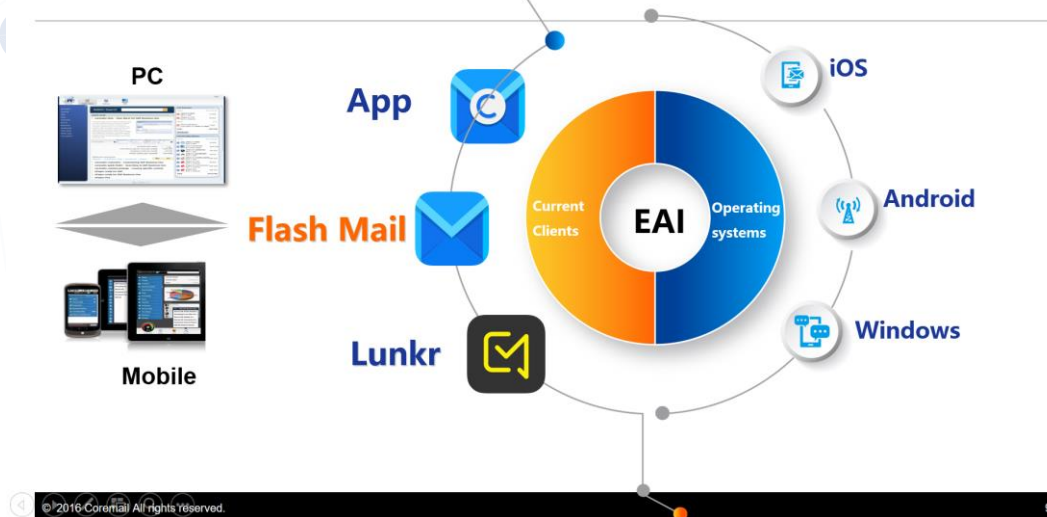
First we had to provide some clients . We developed our own set of client applications and named them Coremail Flash Mail, Coremail App and Coremail Lunkr for IOS, Android and Windows systems.

We also have the Coremail Saas Platform. We provide our solutions for all our customers so that all users have double accounts for EAI applications.

EAI Examples— Chinese

- **Huyi EAI Email**
  - Coremail Agent and gTLD and ccTLD Registrar
  - EAI Email System for sales

- **Coremail Saas Platform**
  - Millions users on Coremail Saas Platform
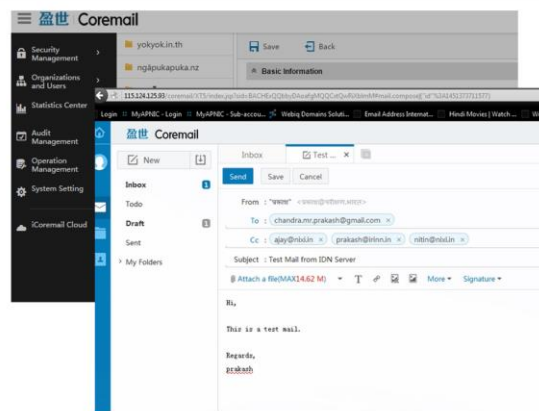 - All users have double accounts for EAI application

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Coremails solution is not only for Chinese.

EAI Examples— Thai & Hindi Languages

In Thai Language

In Hindi Language

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The EAI system is also used to support other languages, but there are still challenges.

At the moment EAI is only used by a few people because most software won't accept EIA accounts. Application software developers do not realise its potential and therefore aren't motivated to upgrade their products to take advantage of EAI, and enable more international users to communicate with Chinese companies and vice versa..
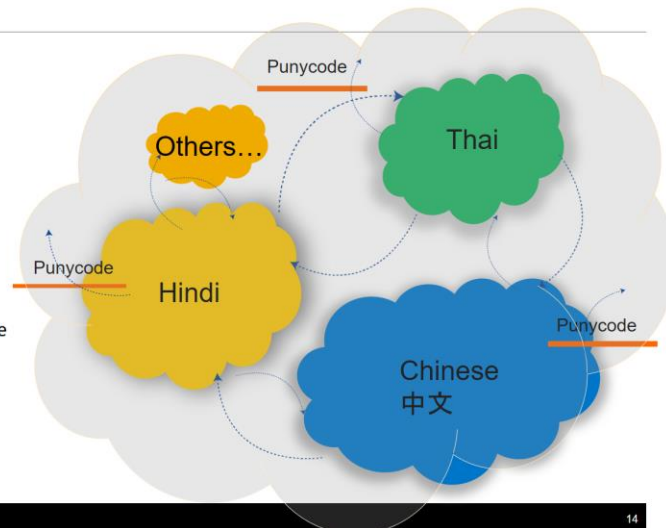
In the meantime, we can widen the use of EAI internally while we work with email operators on compatibility issues so that EAI can be more acceptable internationally.

POP QUIZ QUESTIONS

1. If EAI users do not send double addresses and send emails with EAI, can the receiver receive and reply? YES or NO

2. I am interested in a Chinese EAI. Can I get an account? Is there any registered platform for end users? YES or NO

ANSWERS:

1. The answer is YES. If the EAI user does not have a double address he/she can switch to use Punycode so it can work – be sent and received.
2. The answer is YES., there is a registered platform for endusers. For enquiries relating to an EAI account Kelvin can give you Marvin's contact details at Coremail. Kelvin's email address is kelvin.wong@icann.org

NOTE:

During Marvin's presentation the audio was not very clear in parts so that the transcription and the captioning did not capture everything that Marvin said. The notes for each of his slides in this booklet are therefore summarised in some sections.

QUESTIONS AND ANSWERS:

Holly Raiche: I realise that this is about software, but have you talked to the Internet Society to use their contacts globally to get the message out?

Don Hollander: Thanks Holly for the question. The short answer is yes. The longer answer is that they are not sure that UA is core to their current work programmes. And we would like to be able to leverage the chapters of ISOC around the world to form local UA initiatives. But it is really a question of engaging with the Internet Society. I have however been talking to Dan York from the Internet Society who has been pursuing DNSSEC and to a less extent IPv6 for some years and trying to make sure that we have learned what they have learned and to see if there are opportunities for cooperation.

Holly Raiche: My next question may be something for APRALO to take up. When we come to Universal Acceptance and the problems seem, as I understand it, mainly IDN, has anyone input into the ICANN processes before there is another new gTLD round? Should we be saying, wait a minute, you need to solve the UA problem first. That is the question.

Edmon Chung: UA is being discussed in the PDP for the next round under the IDN currently.

Michael Fleming: I want to clarify whether or not UA pertains to ccTLDs or not.

Don Hollander: UA applies to ccTLDs as well, as there are new ccTLDs being created as new territories are created.

Silvia Vivanco: What are the main obstacles to UA in your opinion?

Don Hollander: The big obstacle will be for software developers to find the time and the resources to make the change. It is not particularly difficult, but it just has to be put in to an organisations normal maintenance program. And that what will happen. So the big challenge will be to making sure that CIOs and systems architects and developers know what it is an issue. And that hey recognise that and as they open their systems up for routine maintenance, that they include UA then and there.

QUESTIONS AND ANSWERS (2) :

Satish Babu: For many of us in ALAC, particularly APRALO, UA is an issue that close to our hearts. While the UA Initiative is largely developer focused, UA also has a policy, community and advocacy component, especially with national governments. Who inside ICANN or outside will be handling this task?

Don Hollander: There is a white paper that is being developed that's aimed at the Government Ministers, senior officials, CEOS, Board people. But what we are trying to focus on is getting the software to work, so that people can just use their domain names as they should.

Edmon Chung: Don't you use UASG as a "central authority"? UASG is a central platform. These issues need people like you to participate and pull the Governments in. In terms of proactive work we have been reaching out to the GAC and GAC representative in particular.

Michael Fleming: Will the slides be posted after the webinar?

Silvia Vivanco: Of course. All of the recordings and transcripts and powerpoints will be posted on the Wiki page – the meeting page right after this webinar.

Edmon Chung: ICANN, the corporation, has aso developed some clauses in new tenders for software services that require suppliers to state their UA readiness. That would be a useful for Government consideration too, I think.

Don Hollander: That is an issues that I am keen to work with ISOC on too. And that is the UASG 009 document underway.

Kevin Wong – ICANN APAC Hub
Don Hollander – ICANN Universal Acceptance Advocate
Marvin Woo – Coremail

Silvia Vivanco – ICANN Staff – APRALO
Terri Agnew – ICANN Staff

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(CART) Services

Webinar participants 22 March 2016

Produced by Maureen Hilyard
APRALO Leadership Team
2016

This booklet is part of a set   produced to support the APRALO-APAC HUB Capacity Building Webinar Series 2016.