EAI deployment stages of TWNIC
Current status observation

- The registration number of IDN.tw growing over ASCII.tw since 2012, IDN is more popular than ASCII

- 88% of .TW domain names had setup web servers
  - Major web browsers already support IDN

- 28% of .TW domain names had setup mail servers
  - Current Major mail servers and clients don’t support EAI
User want email address looks like..

- 客服@台網中心.tw
- 1314一生一世@台網中心.tw
- abc開口說@台網中心.tw

So, use Unicode (UTF-8) to encode the mailbox part is the solution, since 2006 the EAI WG starting working until 2013, all the EAI RFC are published.
4 Stages of TWNIC EAI development

- **preparation**: 2003~2006
- **Experiment**: 2007~2012
- **Implementation**: 2013~2014
- **Promotion**: 2014~201?
Stage 1-Preparation (2003~2006)

- Set up TWNIC i-Email Task Force

- Collaborate with some ccTLDs on CDNC meeting/JET meeting
  - Discuss about i-Email issues
  - Discuss possible solutions,
  - Outline of framework

- Participate IEE BoF on IETF 64

- Join EAI WG on IETF 65
  - experimental RFCs
  - Gather experience
  - Standard track
Stage 2- experiment (2007~2012)

- Conduct Testing Plan
  - Set up a test-bed
  - Modify sendmail software to implement EAI WG draft (SMTP, UTF-8 header, Downgrade)
  - Develop plug-in for MUA to send, receive and display i-Email address
  - Participate the EAI function test including CNNIC, JPRS, NIDA, Afilias and TWNIC registrants.

- Publish RFC 5335 Internationalized Email Headers (2008) and RFC 6532 Internationalized Email Headers (2012)
  - RFC 6532 is the replacement of RFC 5335 (obsoleted by RFC 6532)
Stage 2 - experiment (2007~2012)

- Interoperability test among other ccTLDs
  - Mail server: Openfind mail2000  Version 6 with EAI patch
  - MUA: mail2000 webmail
  - participated the interoperability test group including CN, SG, MO, HK, and Twnic staffs.
  - Held technical press conference in June 2012.
We host a Press conference to let people recognize the EAI
Stage 3 - implementation (2013~2014)

3 steps of EAI implementation

Step 1
- Web UI+CGI - support UTF-8 e-mail address name, domain name, login
- SMTP - support SMTP Extension
- MIME - Header and Message
  
  RFC 6531
  RFC 6532

Step 2
- Downgrade - Downgrade for outside recipients, MUAs
- Notification - Delivery status and Disposition notification
  
  RFC 6857
  RFC 6858
  RFC 6533

Step 3
- Support MUAs with UTF-8 enabled
- Support other MTAs with UTF-8 enabled
  
  RFC 6855
  RFC 6856
In this stage we build a open trial (single-host Service trial with designated hostname, like 使用者@台網中心.台灣) and do a survey to all participants (total 646 participant) and got some conclusion as below:

*What is the most advantage of EAI?

70% participants answer “easy to remember”, 32% participants answer “easy to search”
*Will you want to use EAI if the environment in the mature period?

67% participants answer “YES”, 28% participants answer “need to think about it”, and only 5% participants answer “NO”.

Stage 4 - Promotion (2014~)

- Step 1.
  Start OPEN TRIAL II, let people more understand about the EAI. This time, we provide “multi-host Service trial with your own IDN”, a participant got one “Internationalized E-mail account @your own IDN”, hosted by TWNIC. Most participants (88%) satisfy with experience of the service trial.
Stage 4 - Promotion (2014~)

- Step 2. Provide EAI technical/conceptual training courses for vendors and users respectively.

- Step 3. Survey the willingness of upgrading mail server software and MUA software for all vendors.

- Step 4. Encourage the mail server vendors and mail service providers to implement EAI RFCs.
Stage 4 - Promotion (2014~)

- Step 5.
  Conduct EAI Service with your own IDN
  Buy one IDN, get one free EAI account, a term of the account is one year, hosted by TWNIC.
EAI still face the issues

- Because currently webmail is the only available platform for EAI, the users face the trade-off of different user interfaces.
- Because Mail servers usually come with some gateway such as anti-virus, firewall, mail relay, we need to put extra efforts to make the related equipments EAI-compliant.
- How to provide an appropriate incentive to encourage the vendors/service provider to implement EAI quickly?
Thank you !