The History of Internationalised Domain Names (IDN)

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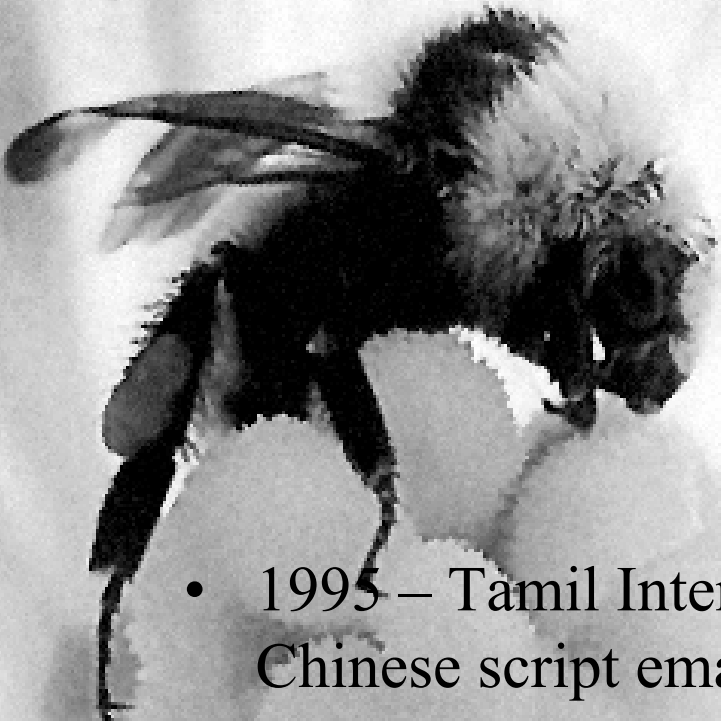
Beginnings – early 1998

- The IDN Movement first started in a big way in 1998 with the first working implementation of a "primitive" ASCII conversion encoding – UTF5 at the Internet R&D Unit of the National University of Singapore March 1998.

- Expansion into an APNG commission July1998

- Formation of an Asia Pacific testbed in various countries in Asia, 2H 1998

- Working Demo at IFWP August 1998 Singapore

- Explosion of interest - end 1998

Pre-1998 IDN motivations

- UTF-5 and 0TLD paper by Martin Duerst was one of the earliest attempt to articulate a workable solution to the lack of multilingual feature in the DNS – motivation: academic proof that IDN possible in the DNS (1996/1997)

- Wider pre-1998 motivations were multilingualism at its core, which is revisited in ITU in a big way through the WSIS today in 2004

A Multilingual Internet

- 1995 – Tamil Internet, Multiple language on one webpage; Chinese script email;
- 1996 – 1996 - PoemWeb-anthology of south-east Asia poems   in four languages on the Web; Tamil script email
- 1997 - Trilingual Sinhala-Tamil-English webpages INET'97; TamilWeb -- World' 1st Tamil **Internet** Conference
- 1998 - Java Applet **Multilingual** Keyboard Input system GIME

Multilingual Internet activity

- 1994 - multilingual web browser project; multilingual conference in Tsukuba
- 1995 - Chinese script website; Chinese content email; auto-Script-to-Image conversion, Malay website Kampungnet, etc
Website for hearing impaired deaf students to learn sign language
- 1996 - PoemWeb-anthology of south-east Asia poems in four languages on the Web
- 1997 - TamilWeb; World' 1st Tamil Internet Conference
- 1998 - Java Applet Multilingual Keyboard Input system GIME

So what is the Problem?

- Multilingual Content - 'babelisation' has taken place
- Remember the Joint ISOC/Alis Babel project in 1996
- Label?

Labels

- Domain names eg. www.yahoo.com
- Email addresses eg. tinwee@pobox.org.sg
- URLs   eg. http://www.apng.org/
- Keywords or Common names   eg.Realnames™
- ENUM
- Can they be multilingual too?

Multilingual Internet labels – is that possible?

- http://ヤフー. 会社. 日本/
- Telnet to 中山大學.教育.台灣
- FTP to 大學.日本
- Email 黃大文@太平洋. 网络. 新加坡
- Yes indeed!
- Our solution was to implement Unicode → UTF5 as the earliest form of the by now well-known IDNA standards of ASCII Compatible Encoding (ACE) using Punycode (2003)

IDN – internationalization of the DNS

- 1998 - March-May - Solving the final barrier to widespread adoption of Internet in non-English speaking communities:
Internationalization of the Domain Name System (IDNS)

- 1998 – 2nd half - Asia Pacific testbed by APNG
Dec 1998 BIX Pte Ltd sponsorship

- 1999 Research Grant by IDRC of Canada IDN for IPv6

- http://www.apng.org/old/commission/idns/

iDNS

- 1999 iDNS project by the IRDU, NUS became
  NUS Spinoff Company i-DNS.net
  International Inc. through funding
  by General Atlantic Partners.
  James Seng, my former student as CTO.
  IETF IDN Working Group

- 2000 - more than 10 implementations
  dozens of companies
  IETF IDN on standards track
  iDNS for IPv6 project funded
  by IDRC (Canada) completed

History

iDNS Project(National University of Singapore)
iDNS Working Group at APNG
Testbed Period

JPNIC, KRNIC, CNNIC, HKNIC,
SGNIC, MYNIC, THNIC, TWNIC

Entry of Commercial Groups

i-DNS.net, Netpia, etc first companies to take up challenge

Many companies offering half-solutions by 2000

Interoperability Issue became urgent

Formation of MINC

- Multilingual Internet Names Consortium - MINC

- International organisation

- More than 20 founding members

- Initiated in Seoul Korea

- Founding period in July 2000

Principles for adoption of multilingual domain names worldwide

- Minimal Changes to Current DNS system
- Must not break existing structure and hierarchy
- Support all languages
- Support as many encoding as desired
- Avoid ambiguity - uniqueness
- Work everywhere for everyone

Advice

- Follow IETF process
- Seek International Consensus
- Minimise disruption or protocol changes
- Avoid confusion
- Harmonise solutions
- Adopt simplest solution

Aims of MINC

- International Forum and Platform
- Increase awareness
- Promote concept of multilingual names
- Technical coordination
- Help the industry
- Promote understanding

Some founding members

- Companies: I-DNS.net, NSI Registry, Netpia,
- Academic & Research: KAIST, NUS
- Investors: GA Partners
- Authorities: JPNIC, KRNIC etc

Why do we need multilingual names?

Natural (Cultural identity)

Use local language for local message

Example:

Write an address in Japanese when you write in Japan.

Romanized characters are difficult to many people

Example:

elementary school children,

people with less education

The Vision of IDN

– Solving the final barrier to widespread adoption of **Internet** in non-English speaking communities

– Reducing the digital divide specifically in non-English speaking communities

– To give all Peoples of the World the best chance to succeed in the **Internet** world and in E-Commerce and in the Future of the Digital Knowledge Age

IDN nay-sayers

- Technically not possible – proven it works
- No demand and no interest - plenty
- No service providers – plenty came
- No organisation – MINC, ICANN, etc
- No standards – RFCs of IETF
- Not Interoperable – Interop testing
- No Language Tables – MINC tables
- No legitimacy – rights of community, who gets to decide on my language? Us!
  → language empowerment groups

No vehicle?

- MINC and language groups
- ICANN
- ITU
- WSIS
- UN
- ???

I can or I CAN Not?

- Challenges no longer just technical
- Policy
- Politics
- Diplomacy
- Statesmanship