中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

CNNIC Contributes in Internationalized Domain Name

What’s Ahead

- What are IDNs?
- The need for IDN
- Pass, present, future of IDN
- What should we do?

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

What Are IDNs —The Concept

- Internationalized Domain Names (IDNs) are also called multi-language domain names.

- They are domain names represented by local language characters, which can contain letters or characters from non-ASCII scripts (exp. 中国.cn).

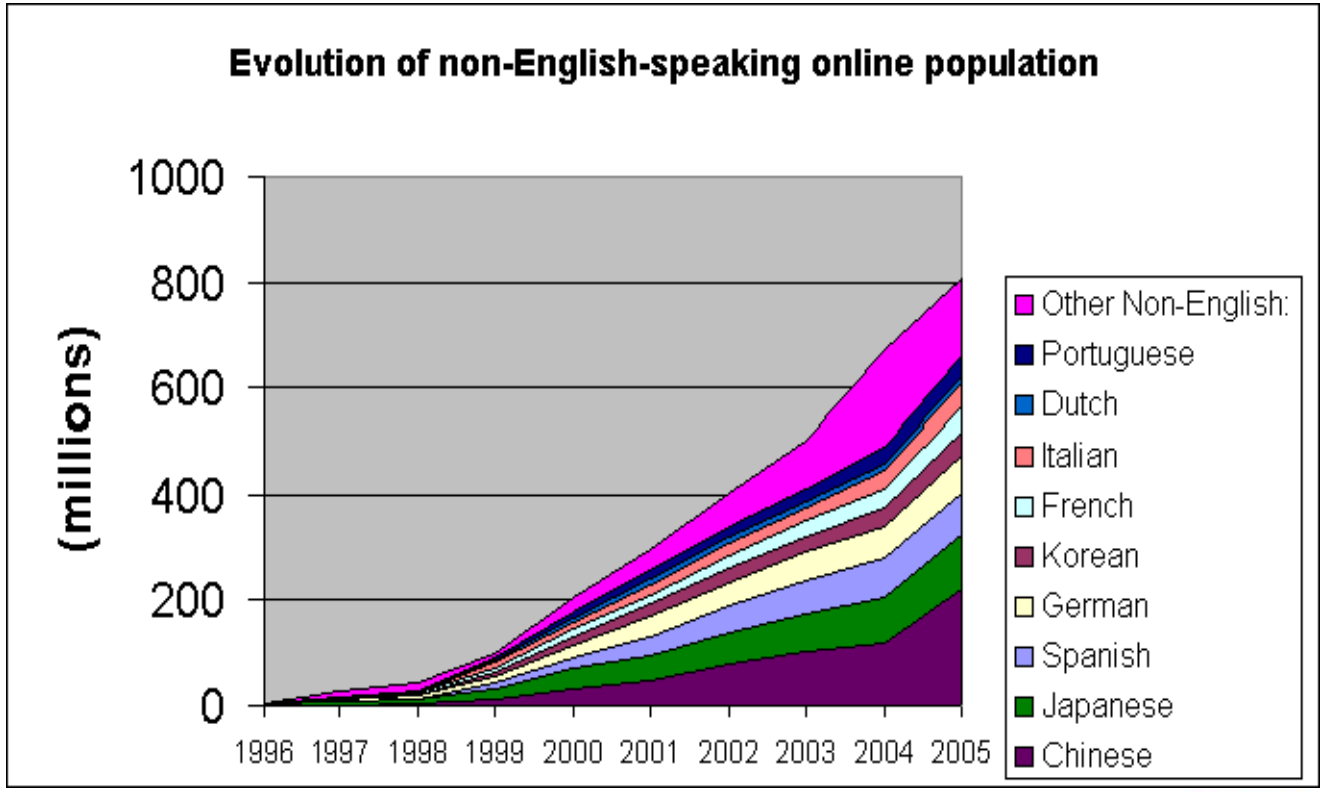
CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The Need for IDN

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The Demand

- By year 2005, there are over 820 million Internet users are non-English speakers, represent 65% of all users.



CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The Demand

- According to CNNIC's statistics, among the 111 millions Internet users
  - 99.8% access Internet Content in Chinese
  - Over 70% of the users are Chinese only Internet users.
- Even in the US:
  - Among the 45 million non native English speaking residents in US, it's estimated that 15 million can't speak English at all, and 8.4 million can't read English.
  - It's estimated that at least 27 million Americans who will access the Internet in their own language rather than English.

(data from Global Reach Inc., 2004)

中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The Demand

- The inconveniences of a pure ASCII based domain name system surfaced.
  - Arabic language speakers are used to read right to left.
  - Characters based language script users are not used to Latin letters.
  - Many users don’t understand English, and letter based strings don’t make sense to them.
- The Internet development in non-English speaking countries meet language barrier.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The Voice

- WGIG Report has identified the issue and all nations responded positively:
  - "The United States believes that the development of technologies that facilitate the use of domain names in languages other than Latin based character sets is an important step in making the Internet truly global. …"

    — The US respond to the WGIG Report

- International organizations and many nations realize it as an important means to preserve the world culture, ensure the diversities and dynamics. UNESCO, ITU and other organizations actively participated in IDN developments.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The Development Of IDNs

中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The History

- Started research in 1998: APNG,CNNIC, JPNIC, KRNIC and etc.
- Started commercial launch in 2000: i-dns.net, CNNIC, VeriSign, JPNIC and etc.
- Countries/regions that implemented IDNs to date: Austria, Brazil, China, Demark, Egypt, German, India, Japan, Korea and many many more.
- Most IDNs are in the form of IDN.ASCII.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

The History

- Not all the browsers support IDN, many users have to install plugins to use IDN.
  - browsers that support IDNs include: Mozilla FireFox, NetScape, Opera, Safari
- The IDN.ASCII style are not able to meet the users' needs.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

Current Stage

- Many countries and organizations established test-beds for full IDNs.
- IE 7 is starting to support IDN this year.
- ICANN is working on test the technologies that enables IDN TLDs.
  - The two proposed resolution methods are DNAME and NS record.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

DNAME vs NS Record

- Common characteristics:
  - New TLD in the root zone
  - Represented in the root zone in the form of Punycode
- Differences:
  - DNAME are alias of existing TLDs, in resolution, DNAME method point to an existing TLD instead of a real DNS name server.
  - NS record are creating a true new TLDs, in resolution, NS record method point to a real DNS name server.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

Problem with DNAME in gTLD

- Policy & Managerial problems:
  - DNAME automatically grants the existing TLD manager new TLDs, it may create a hostile environment for competition in gTLD market.
  - Many nations are very concerned about a foreign company manage a TLD in their own languages.
  - Hostile to users, a domain name dispute in ones language has to be resolved internationally.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

Problem with DNAME in gTLD

- Policy & Managerial aspect :
  - Translation problem, an ASCII TLD can be translated into several different words in local language, there is no sole match.
  - When using one language script for a gTLD, may cause inconveniences for users share the same language but using variant scripts or have their own translation habits.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

IDN ccTLD vs. IDN gTLD

- IDN ccTLD has less policy issues, it's easy to identify who should manage the new IDN ccTLD, regardless DNAME method or NS record method.

- IDN gTLD, no matter in DNAME form or NS record form, the managerial issues are hard to reach a consent.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

What Are We Ought to Do?

- Support ICANN move ahead with the technical test of IDN TLDs, regardless there are policy issues still need to be solved since there is no necessary precedence between technical trial and policy development.
- Once the technical test has completed, we should urge ICANN give the priority to internationalize ccTLD.
- ccTLDs can phase in IDN gradually, whoever is ready, can move ahead and should be supported.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

What Are We Ought to Do?

- gTLDs due to the complex policy and managerial issues, should be handled in a careful fashion, more discussions are required.
- Further R&D in utilization of IDN based applications, such as I-email.
- Give stronger support to developing countries to utilize IDN, and help bridge the digital divide.

CNNIC
中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER

Thank You!

中国互联网络信息中心
CHINA INTERNET NETWORK INFORMATION CENTER