Imminent Needs!
- IDN-enabled User Environments -

Workshop: Internationalized Domain Name
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http://日本レジストリサービス.jp/
History of JP domain names

• 1989 - Registration in the 3rd-level domain name space
  – Organizational Type JP Domain Name
    • co.jp, ne.jp, ac.jp, . . .
  – Geographic Type JP Domain Name
    • tokyo.jp, . . .
  – Restriction of “one domain name per organization”
  – Local presence required
    • Japanese postal address
    • company registration in Japan
Introduction of general-use JP domain name

• To address to changing situation on domain names (late 1990’s)
  – Demands
    • more than one domain name per organization
    • simpler, lower-cost registration procedures
    • registration of short-lived domain names, e.g. for events, TV-CMs, …
    • Japanese domain names
  – Growing Competition with other TLDs and other naming services

• Feb. 2001~ General-use JP Domain Name introduced
• Registration at second level
  – ASCII label
  – Japanese label

• No restriction on the number of domain names that one entity (organization or person) may register
• Local presence required
• Sunrise period to avoid disputes
  – Priority Registration + Concurrent Registration
Introduction of Japanese JP domain name

- Japanese JP Domain Name consists of
  - Chinese characters ex. 喜
  - Hiragana ex. き
  - Katakana ex. キ
  - (as well as) ASCII characters
- Registered only as General-use JP Domain Name (2nd level)
- Length - up to 15 characters
**Registration at the start-up phase (1)**

- **Priority Registration Applications (22 Feb.~ 23 Mar. 2001)**

<table>
<thead>
<tr>
<th>Category</th>
<th>ASCII</th>
<th>Japanese</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trademarks</td>
<td>8,300</td>
<td>11,900</td>
<td>20,100</td>
</tr>
<tr>
<td>Registered names</td>
<td>0</td>
<td>12,400</td>
<td>12,400</td>
</tr>
<tr>
<td>Personal names</td>
<td>200</td>
<td>600</td>
<td>800</td>
</tr>
<tr>
<td>academic</td>
<td>0</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td><strong>Total number of applications</strong></td>
<td><strong>8,500</strong></td>
<td><strong>25,400</strong></td>
<td><strong>33,800</strong></td>
</tr>
<tr>
<td>Number of domain names registered</td>
<td><strong>6,500</strong></td>
<td><strong>22,600</strong></td>
<td><strong>29,100</strong></td>
</tr>
</tbody>
</table>
**Registration at the start-up phase (2)**

- Concurrent Registration Applications (2~23 Apr. 2001)

<table>
<thead>
<tr>
<th>Category</th>
<th>ASCII</th>
<th>Japanese</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of applications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple applications</td>
<td>32,500</td>
<td>41,700</td>
<td>74,200</td>
</tr>
<tr>
<td>Single applications</td>
<td>22,600</td>
<td>23,400</td>
<td>46,000</td>
</tr>
<tr>
<td>Total</td>
<td>55,100</td>
<td>65,200</td>
<td>120,300</td>
</tr>
</tbody>
</table>

| Number of domain names | | | |
| Multiple applications | 4,600 | 5,200 | 9,800 |
| Single applications | 22,600 | 23,400 | 46,000 |
| Total | 27,200 | 28,600 | 55,800 |

**# of domain names as of 1/July/2004**

- Traditional 319,600 ASCII
- General use 225,800 ASCII
- 41,900 Japanese
Number of general-use JP domain names

# of general-use domain names

ASCII

Japanese
Usage statistics in Japan

• **IDN** (Japanese domain names)
  – 1,000-5,000 resolutions/day
  – Seems not to be a real usage
    • users are just experiencing how it works

• **Google**
  – Over 200million worldwide queries/day
    • guess: millions of Japanese string queries
    • Precision is being increased but… multiple results

• **Keywords**
  – Very small number of keywords
    • with another mechanism for registration and resolution (plug-in, DNS query trapping, …)
    • Registration across keyword service providers
Why the number of IDNs are decreasing?

- Poor IDN-enabled environment
  - efforts so far
    - Keyword-like navigation (RealNames technology)
    - Distribution of IDN-enabling plug-in (i-Nav)
    - Distribution of IDN-enabled application development kit (mdnkit, idnkit)
    - providing web redirect service for registrants
      - Redirection from IDN URL to ASCII domain name web page
    - User education
      - What the IDN-enabled applications are and how to use them
      - How to set up nameservers and web-servers with IDN
      - Introduction of typical Web-sites with IDN URL (over 1,500)
    - 2 other kinds of efforts (described later)
    - ....

- however

User demands are not yet being satisfied
Experience in IDN environment so far

• Plug-in distribution
  – Have tried to distribute through
    • Domain name Resellers
    • Famous software download sites
    • Banners on famous search engine sites
  – Haven’t been successful
    • Internet users, especially consumers, are not familiar with downloading and installing them =>should be pre-installed when users buy PCs

• Pre-installation
  – Have tried to persuade PC manufacturers and sellers, but ….
  – Haven’t been successful
    • No good solution for
      – Who covers the cost?
      – Auto-updating is technically necessary but pre-installers do not like change of the software after pre-installation
      – Who is responsible for answering users’ questions and claims?
Stimulating IDN Environment

• National level
  – JDNA (Japanese Domain Name Association)
    • SDK distribution
    • user education / promotion

• International level
  – IDN Software Developers Consortium
    http://www.idnsdc.com/
    • encouraging browser and e-mail software vendors by
    • Showing many TLDs support IDN registration
    • Propelling additional related standardization such as URI format
      and e-mail address format including non-ASCII string
    • Next meeting: July 31, 2004 @San Diego, California?
  – IDNConnect http://idnconnect.jdna.jp/
    • Multiple implementations
    • Interoperability
    • SDKs being distributed
Potential demands on IDN

• Big demands: steep growth is being observed
  – Evidence in the past
    • # of Registrations of IDN.com, .net, .org
    • # of Registrations of IDN.jp, IDN.kr, IDN.tw…
    • # of Registrations of IDN.{european-ccTLDs}…
      – Small extension to ASCII characters may show another big increase
  – Emerging in the future
    • TLDs are about to launch IDN registration services
    – # of IDN registrations is exploding

• Big demands: IDN-enabled environment is demanded to be deployed swiftly
Number of IDNs in the world

<table>
<thead>
<tr>
<th># of IDNs (image)</th>
<th>.com</th>
<th>.net</th>
<th>.org</th>
<th>.jp</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>(Glacial period)</td>
<td>2-3 years</td>
<td>Q3,2004</td>
<td>We are here</td>
<td></td>
</tr>
</tbody>
</table>

.cn, .de, .kr, Other European ccTLDs, .tw, ... .pl, .lt, .se, .info, ...

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Necessity of Real IDN Environment

- **IDN environment**: 2 streams required
  - **Short-term (in a few months)**
    - Native/Pre-installed browsers and e-mail software become IDN-enabled
      - browsers
        » Internationalization in domain name part is a big demand requiring immediate action e.g., http://慶応.jp/
      - e-mail software
        » Internationalization in domain name part is a first big step to use the same domain names web URL and e-mail addresses e.g., tanaka@慶応.jp
  - **Mid-term (in a few years)**
    - Whole environment (i.e., all the applications) becomes IDN-enabled

- **more user experience <-> richer environment**
  - Chicken and egg
  - Promotion by registries/registrars/application-vendors
  - URI elements other than domain name
Recent efforts of IDN environment deployment

- **Internet Users**
  - PCs
  - Mobile phones

- **PCs : A service called “Japanese JP Navi”**
  - Similar to web-based navigation by VeriSign, KRNIC, and TWNIC
  - Access to Japanese JP domain names with UTF-8 (8bit) format labels are navigated to a page that prompts to install IDN plugins and IDN-enabled browsers
  - Only domain names that have nameserver delegation(s) in the JP zone are navigated
  - Opt-in : each registrant is asked if (s)he wishes to take the service
  - Under consultation with communities (service providers and users)
  - Launched on February 18, 2004
Japanese Domain Names with Mobile Phones

• Mobile phones : a service called “jajp.jp”
  – A web page that receives a Japanese Domain Name as input and jumps to the web page with that domain name
  – to stimulate vendors to develop IDN-enabled mobile phone and let mobile phone users experience to input IDN
  – Started on December 15, 2003

• Mobile Phones : IDN-enabled web browser
  – Large consumer acceptance expected
  – Negotiation with mobile phone vendors and mobile phone service providers
Japanese Domain Names Association

• Non-profit organization established in 2001

• Activities
  – Information exchange
  – Standardization of usage
  – Development of a tool kit
  – Support for development and testing

• Members
  – ISPs
  – Application/Hardware vendors
  – Domain name registries/registrars
  – Universities

• Working Groups
  – Interface specification
  – Web
  – Mail
  – VoIP

http://日本語ドメイン名協会.jp/
Synergy : IDN Environment

IDN Environment

Internet Users

Registrations

• 3 elements have not grown so far
  – Chicken and egg problem
  – Seems to be a “Negative feedback”

• However, registrations (potential demands) are rapidly growing

user environment is now needed!