Display and usage of Internationalized Registration Data

Dave Piscitello
ICANN Sr. Security Technologist
The Problem Space

• Internet applications must accommodate a global audience using characters in local languages and scripts
• Whois is an Internet application, therefore
• Whois must accommodate a global audience
• Issue is distinct from IDN TLDs
  – Registration data are different from internationalized domain names
More than IDN

• IDN standards and guidelines define how domain names will be composed and displayed
  – Whois application and web developers can apply these for submission and display of domain names

• No standards or guidelines define how domain registration rates are composed and displayed
  – Sponsoring registrar, contact information, DNS configuration data, ...
Whois treatment of internationalized registration data

- Recognizable display of Registration Data is application dependent
- Display may be affected by character sets available to Whois clients and browsers
- Registrars and 3rd party Whois service providers may choose encodings that best represent the languages and scripts of the domain registration data
Sample WHOIS Port 43 queries and responses (courtesy of JPRS)

**Example 1: IDN input, Japanese output**

```plaintext
WHOIS -h WHOIS.jprs.jp
[Querying WHOIS.jprs.jp]
[WHOIS.jprs.jp]
[JPRS database provides information on network administration.
[Its use is restricted to network administration purposes.]
[For further information, use 'WHOIS -h WHOIS.jprs.jp help'.
[To suppress Japanese output, add '/e' at the end of command,
[e.g. 'WHOIS -h WHOIS.jprs.jp xxx/e'.]
```

Domain Information:

<table>
<thead>
<tr>
<th>Domain Name</th>
<th>日本レジストリサービス.jp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registra</td>
<td>株式会社日本レジストリサービス</td>
</tr>
<tr>
<td>ns01.jprs.co.jp</td>
<td>Japan Registry Services Co.,Ltd.</td>
</tr>
<tr>
<td>ns02.jprs.co.jp</td>
<td></td>
</tr>
<tr>
<td>Registration</td>
<td>2001/08/09</td>
</tr>
<tr>
<td>Expiration</td>
<td>2008/08/31</td>
</tr>
<tr>
<td>Status</td>
<td>Active</td>
</tr>
<tr>
<td>Updated</td>
<td>2007/09/01 01:55:05 (JST)</td>
</tr>
</tbody>
</table>

Contact Information:

<table>
<thead>
<tr>
<th>Name</th>
<th>日本レジストリサービス</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td><a href="mailto:dom-admin@jprs.co.jp">dom-admin@jprs.co.jp</a></td>
</tr>
<tr>
<td>Phone</td>
<td>101-0065</td>
</tr>
<tr>
<td>Address</td>
<td>東京都千代田区神田三丁目8番1号</td>
</tr>
<tr>
<td></td>
<td>千代田ファーストビル東館13F</td>
</tr>
<tr>
<td></td>
<td>Chiyoda First Bldg. East 13F,</td>
</tr>
<tr>
<td></td>
<td>3-8-1 Nishi-Kanda Chiyoda-ku,</td>
</tr>
<tr>
<td></td>
<td>Tokyo 101-0065, JAPAN</td>
</tr>
<tr>
<td>Phone</td>
<td>03-5215-8451</td>
</tr>
<tr>
<td>Fax</td>
<td>03-5215-8452</td>
</tr>
</tbody>
</table>

---

**September 2009**
Example 3: A-label input, Japanese output

% WHOIS -h WHOIS.jprs.jp XN--VCXFD873C79MA3M9657C16C.JP
[Querying WHOIS.jprs.jp]
[WHOIS.jprs.jp]
[JPSPS database provides information on network administration.
Its use is restricted to network administration purposes.
For further information, use 'WHOIS -h WHOIS.jprs.jp help'.]
[e.g. 'WHOIS -h WHOIS.jprs.jp XXX/XXX'.]

Domain Information: [ドメイン情報]
[Domain Name] 日本レジストリサービス.JP
[Regist Name] XN--VCXFD873C79MA3M9657C16C.JP
[Registrar] 株式会社日本レジストリサービス
[Name Server] Japan Registry Services Co., Ltd.
[Name Server] ns01.jprs.co.jp
[Name Server] ns02.jprs.co.jp
[Domain Name Registration Date] 2001/08/09
[Domain Name Expiration Date] 2006/08/31
[Domain Name Status] Active
[Domain Name Last Updated Date] 2007/05/01 01:05:05 (JST)

Contact Information: [公開連絡窓口]
[Name] 株式会社日本レジストリサービス
[Email] Japan Registry Services Co., Ltd.
[Web Page] dom-admin@jprs.co.jp
[Post Office Box] Japan
[Address] 101-0065
[Postal Address] Chiyoda First Bldg. East 13F,
3-9-1 Nishi-Kanda Chiyoda-Ku,
Tokyo 101-0065, JAPAN
[Telephone] 03-5215-8451
[FAX] 03-5215-8452
Questions to Consider:

• User Experience Issues
  – What features will benefit Internet users?
  – What can we do to minimize the "Babel effect"?

• Data Reliability, Accuracy, Operational Issues
  – Impact on applications that automate DNS and Whois queries?
  – Impact on law enforcement, brand protection, analysis of malicious conduct

• Security & Standardization Issues
Status

• ICANN’s Board of Directors tasked GNSO, ALAC, CCNSO, GAC and SSAC to form a WG to study internationalized registration data submission and display specifications

• ICANN staff prepared WG charter and implementation plan

• ICANN staff and SSAC jointly studying
  – Current practices among CCTLDs
  – Requirements for standard functionality
  – Conventions and standards from other communications media (e.g., postal service)

September 2009
Internationalized registration data WG

• Interested parties encouraged to participate
  – CCTLD experience is extremely valuable
  – CCNSO participation is critical

• At Seoul
  – Wednesday
  – 28 October
  – 15:00 – 14:30
  – Crystal A