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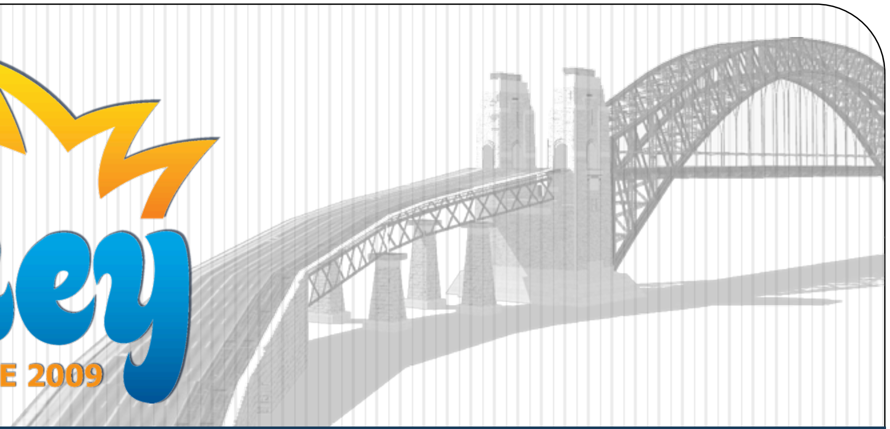


Display and usage of “Internationalized” Registration Data

Ram Mohan
Afilias

The Problem Space

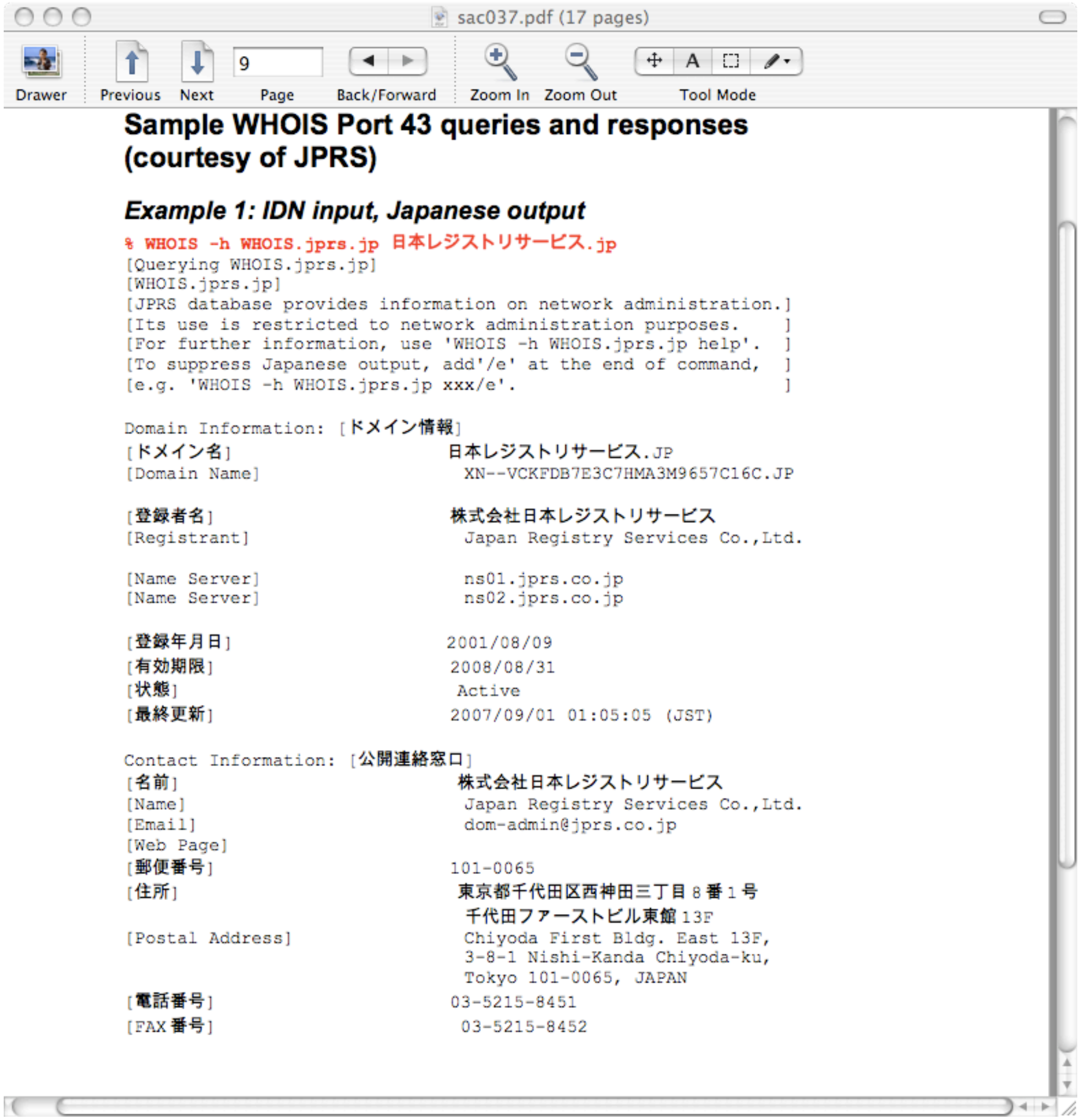
- Internet applications must accommodate a global audience using characters in local languages and scripts
    - WHOIS is an Internet application
- IDN standards and guidelines define how Domain Names will be composed and displayed
- No standards or guidelines exist for Registration Data
    - Contact information, DNS configuration data, sponsoring registrar…

Is this a problem or an evolution?

- The “Internationalized registration data” problem is not new…
  and not due to IDN TLDs
- IDN labels can be composed and registered at the second and lower level in many TLDs
- The user experience with WHOIS today varies

WHOIS Applications Today

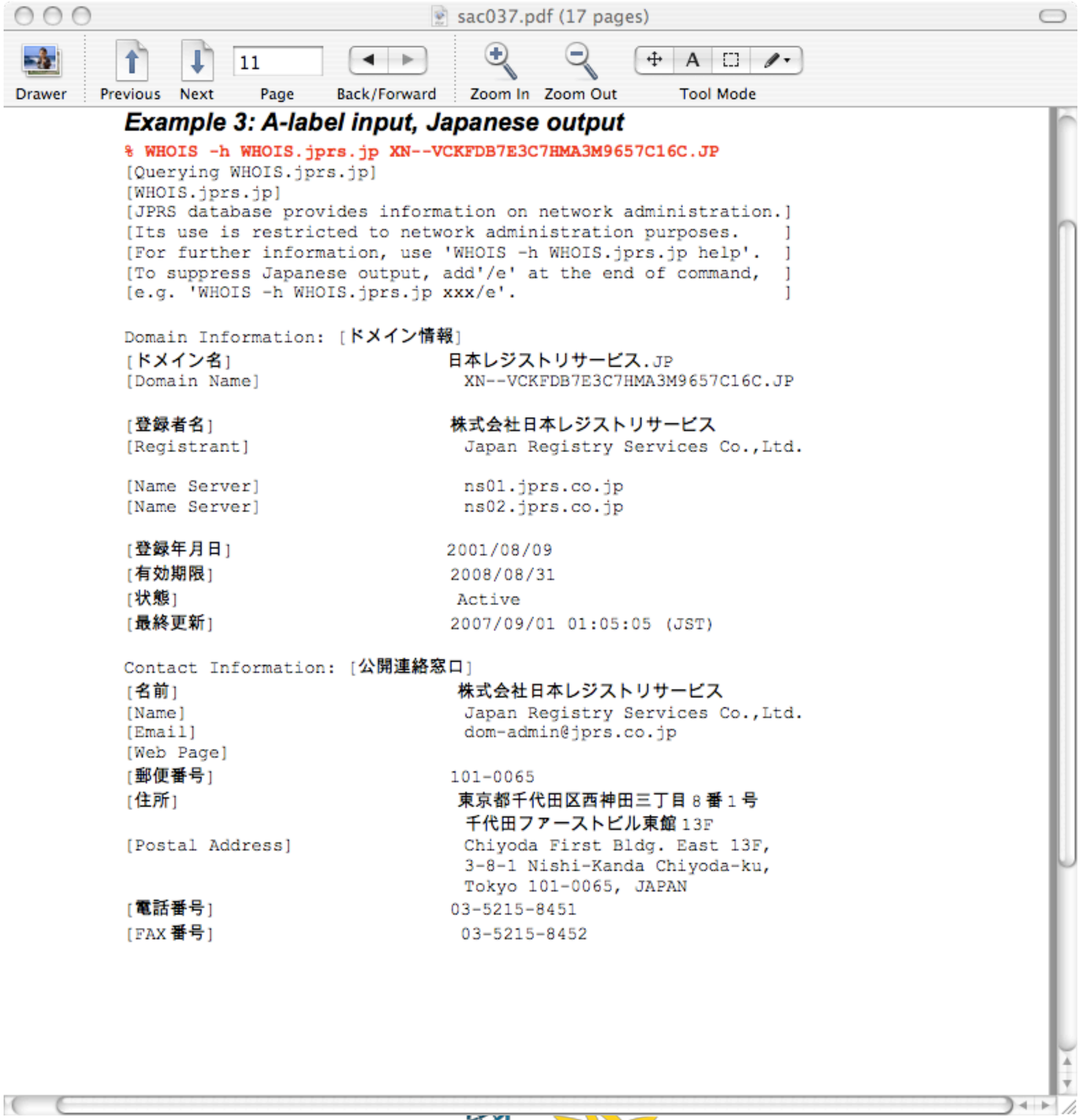
- Internet users might attempt to submit A-labels or U-labels to query WHOIS services
    - over Port 43 using OS command line programs and WHOIS client applications
    - as input to web-based WHOIS query and domain name registration submission forms
- WHOIS operators might display domain labels in A-label encoding or in characters from the local script used by the registrant
- Registrars may choose encodings that best represent the languages and scripts of the domain registration data
- Recognizable display of Registration Data is application dependent



Sample WHOIS Port 43 queries and responses (courtesy of JPRS)

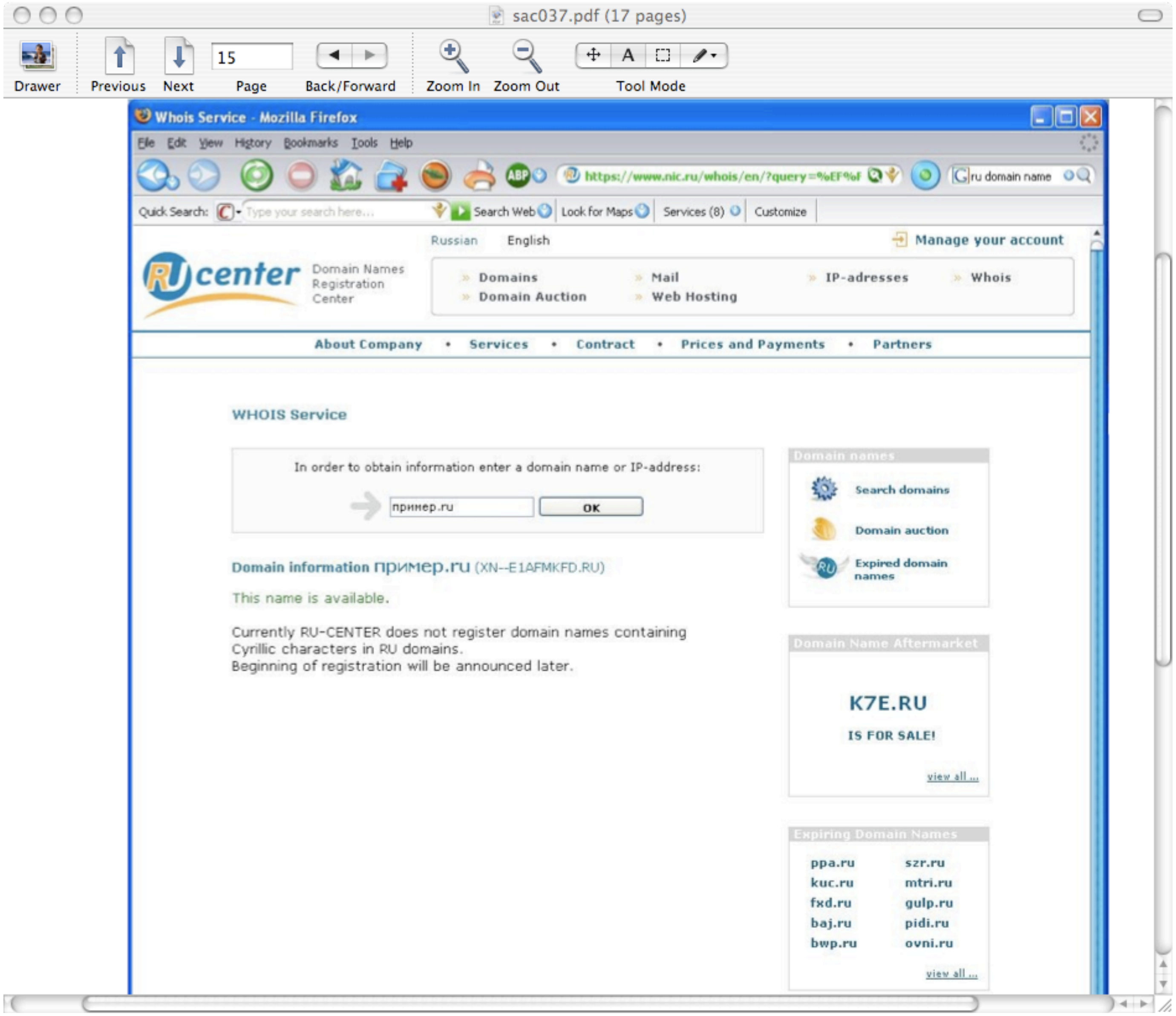
Example 1: IDN input, Japanese output

```
% WHOIS -h WHOIS.jprs.jp 日本レジストリサービス.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: [ドメイン情報]
[ドメイン名]                    日本レジストリサービス.JP
[Domain Name]                   XN--VCKFDB7E3C7HMA3M9657C16C.JP

[登録者名]                      株式会社日本レジストリサービス
[Registrant]                    Japan Registry Services Co.,Ltd.

[Name Server]                   ns01.jprs.co.jp
[Name Server]                   ns02.jprs.co.jp

[登録年月日]                    2001/08/09
[有効期限]                      2008/08/31
[状態]                          Active
[最終更新]                      2007/09/01 01:05:05 (JST)

Contact Information: [公開連絡窓口]
[名前]                          株式会社日本レジストリサービス
[Name]                          Japan Registry Services Co.,Ltd.
[Email]                         dom-admin@jprs.co.jp
[Web Page]
[郵便番号]                      101-0065
[住所]                          東京都千代田区西神田三丁目8番1号
                                千代田ファーストビル東館13F
[Postal Address]                Chiyoda First Bldg. East 13F,
                                3-8-1 Nishi-Kanda Chiyoda-ku,
                                Tokyo 101-0065, JAPAN
[電話番号]                      03-5215-8451
[FAX番号]                       03-5215-8452
```



Example 3: A-label input, Japanese output

```
% WHOIS -h WHOIS.jprs.jp XN--VCKFDB7E3C7HMA3M9657C16C.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: [ドメイン情報]
[ドメイン名]                 日本レジストリサービス.JP
[Domain Name]                 XN--VCKFDB7E3C7HMA3M9657C16C.JP

[登録者名]                   株式会社日本レジストリサービス
[Registrant]                  Japan Registry Services Co.,Ltd.

[Name Server]                 ns01.jprs.co.jp
[Name Server]                 ns02.jprs.co.jp

[登録年月日]                 2001/08/09
[有効期限]                   2008/08/31
[状態]                        Active
[最終更新]                   2007/09/01 01:05:05 (JST)

Contact Information: [公開連絡窓口]
[名前]                        株式会社日本レジストリサービス
[Name]                        Japan Registry Services Co.,Ltd.
[Email]                       dom-admin@jprs.co.jp
[Web Page]
[郵便番号]                   101-0065
[住所]                        東京都千代田区西神田三丁目8番1号
                              千代田ファーストビル東館13F
[Postal Address]              Chiyoda First Bldg. East 13F,
                              3-8-1 Nishi-Kanda Chiyoda-ku,
                              Tokyo 101-0065, JAPAN
[電話番号]                   03-5215-8451
[FAX番号]                     03-5215-8452
```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Type your search here...
Search Web
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baj.ru
bwp.ru
szr.ru
mtri.ru
gulp.ru
pidi.ru
ovni.ru
view all ...

WHOIS Service

In order to obtain information enter a domain name or IP-address:

пример.ru OK

Domain information пример.ru (XN--E1AFMKFD.RU)

This name is available.

Currently RU-CENTER does not register domain names containing Cyrillic characters in RU domains.
Beginning of registration will be announced later.

Questions to Consider:
User Experience Issues

- What features will Internet users find most beneficial in applications that bind registered domain names to Registration Data when the Internet user experience becomes more diverse with respect to languages and scripts?
- Are there any general principles that registry operators and registrars could adopt to minimize the "Babel effect" on Registration Data query services and to ensure some uniformity of information display?

Questions to Consider:

Data Reliability, Accuracy, Operational Issues

- Are there operational issues related to the submission and display of Registration Data in Unicode in non-Web mediums?
- What effect has the use of non US-ASCII characters in Registration Data already had on domain registration data accuracy programs?
- How are law enforcement agencies, intellectual property counsel, interveners, other parties affected when a Registration Data query returns some or all non US-ASCII characters in its output?

Questions to Consider:
Security & Standardization Issues

- What information, and in what languages and scripts, should be permitted when collecting and displaying registration data for a (set of) domain name(s)?
- Do sufficient submission and display practices exist for applications that bind registered domain names to information about Registration Data?
- Should the maintenance and display certain registration data be required in US- ASCII to ensure a common denominator for core information display

SSAC Recommendations

- ICANN’s Board of Directors should task the GNSO, ALAC, CCNSO, GAC and SSAC to form a WG to study the feasibility and suitability of introducing display specifications to deal with the internationalization of Registration Data.
  - Representation from ccTLD operators and consultation with the CCNSO should be a part of the Working Group’s charter.

Feasibility Study

- ICANN should consider the feasibility of having applications that query Registration data services incorporate "standard" internationalization functionality.
- For example, an application that binds registered domain names to Registration Data could be required to
  - accept A-label and U-label domain names as input
  - return A-label and U-label domain names as output
  - store contact information in XML
  - retain Unicode encoding of local characters in stored contact information
  - accept Record and Key Type data queries in Unicode
  - return responses to record and key type data queries in Unicode
  - return responses including character or word variants bundled with each Registration Data query

Birds of a Feather Session in Sydney

- Interested parties should convene in Sydney to discuss potential agenda topics., e.g.
  - existing deployment experience
  - current and proposed methods of supporting characters from local languages, application software,
  - business, security, registry, registrar, technical and user considerations
- Consider "Questions to consider" section of SAC037 while framing the Terms of Reference of the proposed Working Group.

Questions?

Reference document SAC037 can be found at

http://www.icann.org/committees/security/sac037.pdf