Experiences Sharing on “.中国/中國”

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Registration

Whois

Resolution

Application behavior

Future work
Comply with RFC3743 (for CJK) and RFC4713 (for Chinese)

Chinese domain name labels and their variants under .中国 and .中國 must be delegated to the same registrant

- One original domain name can be in mixed traditional Chinese and simplified Chinese characters.
- One domain name in simplified Chinese characters totally
- One domain name in traditional Chinese characters totally
- Other combination of mixed TC and SC characters are reserved for the registrant
- The registration of Chinese domain names under .中国 and .中國 are bundled
- Mostly, only two will be added into Zonefile
Registration Statistics

- Statistics of registration by Feb. 15\textsuperscript{th} 2011
  - 352812 Chinese domain names have been registered
  - 78836 (22.3\%) names have no variant names, 77.7\% have variants
  - 131230 (37.2\%) names are not delegated to a NS, not resolvable

Accumulated Increment of Registration

Data from Jul. 10\textsuperscript{th} 2010 to Feb. 16\textsuperscript{th} 2011
Registration | Whois | Resolution | Application behavior | Future work
Whois Implementation

- Whois services are provided to the Chinese domain names under “.中國/ 中國”
  - Use port 43, over TCP
  - Supports the contact, host and domain name query
  - Character encodings (UTF-8) are being used in query strings and output
  - When a Chinese domain name is queried, All the bundled domain names of it will be automatically shown
### An Example of Whois Query
(improvement needed)

<table>
<thead>
<tr>
<th>Domain Name</th>
<th>域名</th>
<th>李晓东.中国</th>
<th>李晓东.中國</th>
<th>李曉東.中国</th>
<th>李曉東.cn</th>
<th>李曉東.cn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>域名状态</td>
<td>ok</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact</td>
<td>域名联系人</td>
<td>闫蕊</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registrar</td>
<td>注册服务机构</td>
<td>北京中科三方网络技术有限公司</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td>管理联系人电子邮件</td>
<td><a href="mailto:servicei@cnnic.cn">servicei@cnnic.cn</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain Name Server</td>
<td>域名服务器</td>
<td>ant.cnnic.cn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Some registrars did plenty of whois queries after .中国/中國 are delegated.
• Risk caused by cybersquatting should be considered at the startup of new TLD.
Whois Queries were mainly from Mainland China (Based on source IP)

Data from Jul. 9th 2010 to Feb. 1st 2011

- UNKNOWN, 74386
- AU, 4789
- HK, 712
- FR, 58
- TW, 28
- IT, 6
- RU, 4
- BY, 3
- CA, 2
- GB, 2
- MQ, 2
- CO, 1
- DE, 1
- GU, 1

CN, 43253925
There are tests in the last months of 2010 by CNNIC

Data from Jul. 10th 2010 to Jan. 31st 2011
Servers in China are busier, the proportions of ‘.中國’ in oversea servers are higher.

Data from Feb. 10th to Feb. 16th
Distribution of Users Location

- Data are from Feb. 10th to Feb. 16th
- CDN are mainly used by domestic users
- 22% users are from USA
- More overseas users use .中国, the percentage of .中国 overseas usage is higher than percentage of .中國 overseas usage
- Mainland users also are querying TC
Queries were not evenly distributed, few IPs took most queries.

Data from Feb. 10\textsuperscript{th} to Feb. 16\textsuperscript{th}
Top active domains

Popular websites of .中国 and .中國 are different.

**TOP 10 of .中国**
- cnnic测试.中国
- 微软教学.中国
- 微软论坛.中国
- 电脑公司版.中国
- 挖客.中国
- 中国互联网络信息中心.中国
- 儿童资源.中国
- 新浪.中国
- www.洋葱头.中国
- www.网站监控.中国

**TOP 10 of .中國**
- 統計局.中國
- www.神奇宝贝.中國
- 上海中醫藥大學.中國
- www.神奇寶貝.中國
- 天津市人民政府.中國
- 中國人民銀行.中國
- 天津大學.中國
- 湖南省政府.中國
- 禮品供應.中國
- www.大貝.中國

Data from Feb. 10th to Feb. 16th
Distribution of the Query Types

Data from Feb. 10th to Feb. 16th
The ratio of users from China to all users querying 世博会.中国 is higher than expo2010.cn.
The users from all the world query both 世博会.中国 and expo2010.cn.

Data Collected From Oct. 17th – Oct 19th

-expo2010.cn

- 50%
- CN: 18%
- US: 2%
- JP: 3%
- HK: 4%
- DE: 2%
- TW: 2%
- GB: 2%
- CA: 2%
- RU: 2%
- OTHER: 18%

- 世博会.中国

- 80%
- CN: 16%
- US: 4%
- JP: 2%
- OTHER: 80%
Both expo2010.cn and 世博会.中国, most of the queries are for A record.

Data Collected From Oct. 17th – Oct 19th

- **expo2010.cn**
  - A: 90%
  - AAAA: 6%
  - AAAA: 3%
  - Others: 1%

- **世博会.中国**
  - A: 96%
  - AAAA: 4%
For both expo2010.cn and 世博会 .中国, the servers in China are busier. The oversea servers also occupy plenty of proportion.

Data Collected From Oct. 17th – Oct 19th
Registration | Whois | Resolution | Application behavior | Future work
Most Browsers Supporting CDN

Welcome more supporting from various applications!

- Chrome
- Opera
- Safari
- IE
- Firefox
CDN in Some Browsers
Registration, Whois, Resolution, Application behavior, Future work
Future Work

• Extensible Provisioning Protocol (EPP) extension
  • The <create> command is extended to assign the preferred variant name when the registrants register names.
  • The <update> command is extended to modify the preferred variant domain names when the registrants need.

• Variant name equivalence evaluation
  • Comparison Based on CDN Character Table
    • Convert the characters to simplified or traditional format, then do name comparison
    • In Front of Authoritative servers/In Front of Resolvers

• Whois extension
  • Extent protocols to support Unicode for IDN