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## IDN Situation in Japan

### 1. Introduction

Management and administration of JP domain names has been carried out by JPRS since 2001. Under the .JP domain, IDNs, which are called "Japanese JP domain names," can be registered. Japanese JP domain names were introduced in addition to the conventional ASCII JP domain names in 2001, when JPRS became the .JP ccTLD registry. In this paper, experience on IDN registration services and related activities in Japan are briefly introduced.

### 2. Necessity of IDNs

The author's first name is written as "h-i-r-o-f-u-m-i" in ASCII letters. The Japanese version of his name is "博文". However, "h-i-r-o-f-u-m-i" may represent either of 博史, 宏史, 浩文, 弘文, etc. depending on what his name is. That is, in the ASCII world, his written name is just one "hirofumi" among many other Japanese-written "hirofumi"s. On the other hand, his name can also be transcribed as "h-i-r-o-h-u-m-i" in ASCII letters. As shown in these examples, ASCII world cannot identify him appropriately. This means IDNs are technically necessary for domain names to appropriately identify social entities in Japan.

As to the necessity from the viewpoint of users' characteristics, IDNs are needed in Japan because those under the age of twelve (the primary school age) and over the age of sixty are not familiar with English spelling.

### 3. Introduction of IDNs under .JP

#### 3.1 How IDNs were introduced

Until February 2001, JP domain names could be registered only in the third level in the form of such as example1.co.jp for companies, example2.ne.jp for network providers,

example3.chiyoda.tokyo.jp for organizations and individuals residing in Tokyo. In 2001, a new registration service for domain names called "General-use JP domain names" started. With this service, ASCII string and Japanese string can be registered in the second level. Characters from four kinds of scripts are allowed in constituting IDNs. They are Hiragana, Katakana, Kanji, and ASCII LDH (letters-digits-hyphen), which are used in usual written objects such as newspapers in Japan.

To protect the intellectual property rights and avoid rush of applications, registration of the General-use JP domain names was opened in a phased manner. Firstly, registration of domain names which correspond to trademarks, registered names, university names, personal names started. This was called the priority registration period and lasted for a month. Then, three-week concurrent registration period followed to mitigate the rush. All the registration applications made during this period were regarded as received at the same time. And if there were collisions in their applied domain names, the registrants were determined by random selection. After these phases, ordinary first-come-first-served registration period started.

The domain names corresponding to the names of government offices and famous geographic names should be carefully treated. This is because as IDNs have become more familiar and more closely related to the social life, these names should be used on the Internet as appropriately as in the social life. So, JP registry carefully maintains reserved domain names, pre-defined registrants for such domain names, and localized DRP and resolution panel.

### **3.2 How IDNs were demanded**

In the priority registration period, the number of applications for Japanese JP domain names marked three times as large as that for ASCII JP domain names. About 12% of the IDN applications submitted during the period collided. Then, in the concurrent registration period, about 20% of the applications collided. And the application-to-domain name ratio was 8 to 1. During these two periods, about 51,000 Japanese domain names were registered in the second level, while the number of registered ASCII domain names in the second level was about 34,000.

These results show strong demands of IDNs. The reasons are considered to be the followings:

- those who are under the age of twelve and over the age of sixty are not familiar with English spelling, and
- IDN labels are more favored because such strings are used in the real social life.

## **4. Trends of the IDN registration and usage**

After massive registration boom at the early stage, the number of IDNs under JP domain had decreased gradually for the following couple of years. However, the number has grown steeply recently. Currently, there are 120,000 Japanese JP domain names, accounting for 15% of the total number of JP domain name registration.

The gradual decrease of the registration for the couple of years was due to a limited usage environment of IDNs. Plug-ins were necessary for most of the users to access web pages using IDNs, since the Microsoft Internet Explorer 7 ® (hereinafter referred to as "IE7"), which had the largest share in the web browser market, was not IDN-enabled. This situation made IDN registrants hesitate to advertise the URLs of their web pages with IDNs.

The recent steep growth seems resulted from the following two backgrounds.

(1) It was publicly stated at the ICANN meeting in December 2004 that IE7 would be IDN-enabled. IE7 with IDN function was said to be officially distributed in late 2006. It was a sign that IDNs would become widely available for most of the Internet users.

(2) JPRS has been and is employing various promotion measures.

## **5. Deployment efforts in Chinese-Japanese-Korean region**

### **5.1 JET and CDNC**

JET is a joint engineering team consisting of China, Japan, Korea, and Taiwan ccTLD registries. It leads the stream of IDN standardization in IETF. And it is famous for the development of IDN registration guidelines as known as JET Guidelines for IDN, which became RFC3743 in IETF.

CDNC, Chinese Domain Name Consortium, consists of China, Hong Kong, Macao, Singapore and Taiwan ccTLDs. It elaborates necessary cooperation in deploying Chinese domain names. A language table for Chinese Domain Names was one of their outputs. It is a good example of cooperative work to generate a language table, where a base language of IDNs is shared among registration services of multiple ccTLDs.

### **5.2 Efforts in Japan**

JDNA, Japanese Domain Names Association, was established in 2001. It contributed to development and deployment of Japanese domain names in general, not specializing in particular TLDs. Now JDNA is concluding its activities as it has achieved its objectives. And it is gathering the IDN activities into a book which it plans to publish.

JP registry collaborated with various organizations including JDNA in promoting Japanese JP domain names in the following measures:

- usage of IDNs in consumer products campaigns
- usage of IDNs in browsing with mobile phones
- educational web pages dedicated to Japanese domain names
- a web page that lists up persons who registered IDNs that are the same as their names
- a web page for town information around every station in Japan which is only accessible by IDN string representing the name of the station (about 9,000 stations)

## **6. Conclusion**

Internet users are accumulating their experience on how IDNs are useful. Increasing number of applications and services are provided to make IDN-usage easy and comfortable. The number of registration will grow when people want to use IDNs in their information provision and browsing. Three components, i.e., Internet users, applications and services, and IDN registration, are bringing about a positive synergy.

Now usage of IDNs is becoming more realistic.