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Supreme Chinese Domain Name System
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Abstract

Chinese can be written in 2 different scripts, traditional Chinese and simplified Chinese, that cannot be distinguished by many people of certain background/cultures/groups who use them interchangeably. As a result, users of Chinese Domain Names (CDN) have special needs that can only be satisfied by adding a label to CDNs that distinguish a CDN with traditional characters from a CDN with simplified characters. This labeling is an entire system that can be accomplished with SLDs or by creating a new type of TLD called Language Script TLD (lsTLD). This draft describes the benefits that the system will provide and the techniques involved in implementing it.

1. Introduction

(Labeling of a CDN can be accomplished with either SLDs or lsTLDs. However, for simplicity, most of this draft will only use lsTLD to describe the system and its techniques. For more information on how SLDs can be used, please see [section 5.2](#).)

The <.traditional> and <.simplified> TLDs in Chinese characters are:
a) <.traditional> in traditional Chinese is '.' (U+7E41)(U+9AD4) b)
<.traditional> in simplified Chinese is '.' (U+7E41)(U+4F53) c)
<.simplified> in simplified Chinese is '.' (U+7B80)(U+4F53) d)
<.simplified> in traditional Chinese is '.' (U+7C21)(U+9AD4)

Using the 4 language script TLDs above, a Chinese Domain Name System can be created to satisfy the needs of CDN users by combining together the following 3 benefits:

Benefit A- A registrant is given the choice of pointing a traditional CDN to one location (ie. traditional Chinese website) and pointing the corresponding simplified CDN to another location (ie. simplified Chinese website).

Benefit B- The registration of a simplified CDN will automatically reserves the corresponding traditional CDN(s) and visa versa thus giving users the flexibility of using either script.

Benefit C- A method that will guide users to enter a CDN in their applications (ie. web browsers) matching the meaning that was intended by the registrant when the CDN was registered.

2. Description of the Importance of the Benefits

It is important to understand the needs of ordinary everyday people who will be the users of CDNs. The following subsections will explain in detail the 3 benefits of this system that satisfied those needs.

2.1 Importance of Benefit A.

It would be appropriate for a traditional CDN to be pointing to a traditional website with contents that are suitable for visitors from Hong Kong or Taiwan. On the same line, it would be appropriate for a simplified CDN to be pointing to a simplified website with contents that are suitable for visitors from China or Singapore.

2.2 Importance of Benefit B.

Since many Chinese can read / write in both scripts, it is only appropriate for a traditional CDN to be mapped to its corresponding simplified CDN by applying a conversion. This will ensure that no matter what script the user types in, he will always be able to reach the intended location(s).

2.3 Importance of Benefit C.

The relationship between simplified Chinese and traditional Chinese is very complicated. A TC character that corresponds to a SC character may not have the same meaning. To complicate the situation, one TC character can be mapped into many different SC and visa versa. One CDN can potential have a great number of different written variations. Without a method, a user can be given a CDN and type in the correct CDN but still cannot reach the proper destination because it is a variation of the original CDN not intended by the registrant.

3. Solution / Method

The method for implementing this system is done both at the registration system and at the client end.

3.1 Implemented at the registration system

The solution to delivering the 3 benefits explained above is a Chinese domain name system that uses language script TLDs- a TLD of <.traditional> for traditional CDNs (defined here as a CDN that uses all traditional characters) and a TLD of <.simplified> for simplified CDNs (defined here as a CDN that uses all simplified characters). During registration, a person is allowed to register CDNs in either all traditional Chinese characters or all simplified Chinese characters but not by mixing the 2 scripts together. If he registers in traditional characters, he will be given a traditional CDN (with the TLD of <.traditional>) and any similar traditional CDNs will be reserved. At the same time, the corresponding simplified CDN(s) (with the TLD of <.simplified>) will also be reserved- to be activated at a later date if the registrant chooses to do so. If he registers in simplified characters, he will be given a simplified CDN (with the TLD of <.simplified>) and any similar simplified CDNs will be reserved. At the same time, the corresponding traditional CDN(s) (with the TLD of <.traditional>) is reserved.

3.2 Implemented at the client end.

If a user types in a traditional CDN (with the <.traditional>), error checking can be done by the application (ie. web browser- nameprep to prohibit invalid entries) on the CDN by searching for the characters in a Unicode table containing all the valid traditional Chinese characters. If a certain character is found not to be a valid traditional character, an error will be displayed to point out which character is invalid. If a user types in a simplified CDN (with the <.simplified>), the same error checking will be performed by searching for valid simplified Chinese character. (Please see [Appendix A](#) for a list of the disallowed Unicodes for traditional CDNs and simplified CDNs.)

4. Conclusion

Under such a method of creating a relationship between the lsTLDs, all **3 benefits will be satisfied**. Benefit A will be satisfied because he can point <whatever>.<traditional> to a traditional website and point <whatever>.<simplified> to a simplified website. Benefit B will be satisfied because when a user is given a <whatever>.<traditional> CDN, but because he is from mainland China and is more comfortable using the simplified script, he can simply use the corresponding CDN of <whatever>.<simplified>. In other words, a user can use the script of his choice whether it is traditional Chinese or simplified Chinese and still reach the location(s) intended by the registrant. Benefit C will be satisfied because when the user is given the <whatever>.<traditional> CDN, the <.traditional> tells him that he must set his Chinese Input editor to recognize TC only and thereby preserving the original intended meaning of the CDN when it was first registered. In other words, the language script TLDs give the users much more control and eliminates any guess work.

5. Other Comments

There are 2 important related issues- 'TC<->SC equivalence' and 'lsSLDs'.

5.1 TC<->SC equivalence

An interest question is how this system is effect with TC<->SC equivalence in the DNS protocol? The answer is that it will even be better. With TC<->SC equivalence in the DNS protocol, all 4 lsTLDs are used. No error checking will be performed. The <.traditional> lsTLD in both simplified and traditional forms are consider equivalent and point to the same location (ie. traditional website). The <.simplified> lsTLD in both simplified and traditional forms are considered equivalent and point to the same location (ie. simplified website). The author of this draft strongly endorse any efforts made in finding a reasonable solution to the TC<->SC equivalence.

5.2 lsSLDs

The same techniques documented in this draft can also be applied to the current gTLD and ccTLD registries by using SLDs. In order to be fair, everyone must agree to this system and make it a standard. In addition, every registry must change their current registered second level domains to third level domains (ie. <whatever>.<traditional>.TLD, <whatever>.<simplified>.TLD)

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7. References

[IDNREQ] Requirements of Internationalized Domain Names, Zita Wenzel, James Seng, [draft-ietf-idn-requirements](#)

Appendix A- Error checking for Unicodes of traditional/simplified Chinese characters

(The following is a partial list for information only. A complete list will be presented upon actual implementation.)

Acceptable Unicodes
for a simplified
CDN

Acceptable Unicodes
for a traditional
CDN

7691

788D

7231

8884

5965

575D

7F62

6446

8D25

9881

529E

7ECA

5E2E

7ED1

9551

8C24

5265

9971

5B9D

62A5

9C8D

8F88

8D1D

94A1

769A

7919

611B

8956

5967

58E9

7F77

64FA

6557

9812

8FA6

7D46

5E6B

7D81

938A

8B17

525D

98FD

5BF6

5831

9B91

8F29

8C9D

92C7

72C8

[5907](#)

60EB

7EF7

7B14

6BD5

6BD9

5E01

95ED

8FB9

7F16

8D2C

53D8

etc.

72FD

5099

618A

7E43

7B46

7562

6583

5E63

9589

908A

7DE8

8CB6

8B8A