

# RFC3743 and IDN TLD tests

YAO Jiankang

姚健康

CNNIC

# What is RFC 3743?

- RFC3743 JET Guidelines for IDN Registration and Administration for Chinese, Japanese, and Korean
- Chinese Japanese and Korean characters have variants for the same conceptual character
- **It means:** One conceptual character can be identified with several different Code Points in character sets for computer use.
- The principle of RFC3743 is to assign a bundle of names with character variants to the same registrant.

# CJK character variants issues

- characters with different code points to have the same meaning – example: the term “International”
- Chinese
  - Simplified Chinese: 国际 (56FD 9645)
  - Traditional Chinese: 國際 (570B 969B)
  - Other variants combination: 国际(56EF 9645 )
- Japanese
  - Modern Japanese: 國際
  - But there is: 囯際
- Other Possible Combination:
  - 國際

# For example

- Simplified-Chinese (SC) and Traditional-Chinese (TC) characters equivalence  
for example in English, ‘A’=‘a’ ; ‘B’=‘b’  
Similarly in Chinese, ‘国’=‘國’ ; ‘华’=‘華’
- Chinese character variants, some Chinese characters has many variants but they are same in meaning  
for example {国, 國, 圀, 囯}

# Why RFC 3743?

- <http://www.icann.org/topics/idn/rfcs.htm>

- BANK.cn equals bank.cn ?

Upper case BANK equals lower case bank

- 银行.cn equals 銀行.cn ?

Simplified Chinese characters 银行 equals  
Traditional Chinese characters 銀行

## CNNIC policy for registration of CDN

- Each registrant registering Chinese Domain Name will be assigned the three domain names: (1) One original domain name (2) One traditional domain name for free (3) One simplified domain name for free

for example

清 - > {清, 清, 清}

华 - > {华, 華, 華}

学 - > {学, 學, 學}

Input Original Form: 清華大学.cn

Free TC-only Form: 清華大學.cn

Free SC-only Form: 清华大学.cn

# CNNIC policy for registration of CDN (cont.)

- A registrant registering ‘清华大学.cn’ in CNNIC will have:

## **CDN package with a bundle of names :**

{ 清华大学.cn ; 清華大學.cn ; 清华大学.cn ;  
清华大学.cn ; 清華大學.cn ; 清華大學.cn ;  
清華大學.cn ; 清华大学.cn ; ... }

## **CDN used in DNS resolution**

Input Original Form: 清华大学.cn

Free TC-only Form: 清華大學.cn

Free SC-only Form: 清华大学.cn

## **Other CDNs which will not be used in DNS resolution and be reserved only for this registrant**

{ 清华大学.cn ; 清華大學.cn ; 清華大學.cn ;  
清華大學.cn ; 清華大學.cn ; ... }

- It protects the interests of the registrants of CDN and eliminate the possible “phising” problems



# ‘例子.测试’ = ‘例子.測試’ ？

- For Chinese, Simplified Chinese characters 银行 equals Traditional Chinese characters 銀行 and their meaning is same although their scripts are different
- If Simplified Chinese 银行.cn and Traditional Chinese 銀行.cn does not belong to the same registrant, there will be a possible ‘phising’ problem

银行.cn xn--jn2A72X.cn 192.168.1.1

銀行.cn xn--jn2Ax2s.cn 192.168.254.254

- Luckily, we have RFC3743
- 例子.测试 equals 例子.測試

example.test

测 - > {测 測}

试 - > {试 試}

测试 = 測試



# a new ‘phishing’ opportunity?

- ‘bank.测试’ = ‘bank.測試’ ?
- The principle of RFC 3743 is to protect the interests of the registrant.
- If ‘bank.测试’ ≠ ‘bank.測試’ and ‘bank.测试’ and ‘bank.測試’ belong to the different registrants , a new ‘phishing’ opportunity?

## A suggestion to IDN TLD test

- Simple Chinese 例子.测试 and traditional chinese 例子.測試 for ‘example.test‘ in the IDN wiki should link to the same webpage on which there are 2 versions, Simple Chinese 例子.测试 version and traditional chinese 例子.測試 version
- If that happens, it told users that 例子.测试 equals 例子.測試 and it eliminates the possible ‘phising’ problem

# Internationalized Email Address

- 中文.cn
- 姚健康@中国互联网络信息中心.cn

# IETF EAI WG progress

- Overview and Framework for Internationalized Email (**RFC4952 July 2007**)
- SMTP extension for internationalized email address (**Finish WG Last Call**)
- Internationalized Email Headers (**Finish WG Last Call**)
- International Delivery and Disposition Notifications (**Finish WG Last Call**)



# Q&A

YAO Jiankang

[yaojk@cnnic.cn](mailto:yaojk@cnnic.cn)

姚健康@互联网中心.cn