



Joint UNESCO and ITU  
Global Symposium on Promoting the Multilingual Internet



# **CJK Experiences and CNNIC Contributes in Multilingual Internet**

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Geneva, 9-11 May 2006



# CJK Experiences

Geneva, 9-11 May 2006



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## About CJK (1)



- CJK, short for Chinese, Japanese and Korean
  - Close culture relationship
    - Some Chinese characters overlapped among countries/economies and some characters are/should be considered to be identical in some countries.
  - To solve many CJK characters related problems such as overlapping Chinese character problems

Korean

鍊石補天

Japanese

全地球測位システム

## About CJK (2)

- CJK share the similar culture, languages and characters
- CJK face the similar problems in multi-language internet
- CJK can be unified together to tackle many problems
- Based on CJK, we can easily make our voice heard all over the world



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# JET and its work(1)



- o CNNIC and other Asia Pacific ccTLD registries initiated an organization named JET and the other countries and experts joined it
  - July, 2000 to work for the early, solid and cost-effective introduction of standardized Internationalized Domain Name (IDN) system and other related issues
  - Aug. 2000, discuss on implementation, test and policy of multilingual domain name
  - From 2001-2004, JET cooperate with Internationalized Domain Name



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## JET and its work(2)



- Evaluation of proposed ACE algorithms using real-world IDNs (practically registered and used)
  - Led AMC-ACE-Z (later named Punycode) to the final selection
- Raising TC/SC issues
  - There are cases where 2 or multiple characters should be regarded as the same
    - e.g., 國 & 国
  - IETF recognized the importance and difficulties of the issue



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## JET and its work(3)



- o Language table for C/J/K defined by each NIC
  - E.g., <http://www.ietf.org/internet-drafts/draft-xdlee-idn-cdnadmin-06.txt>
- o April 2004, publish an IDN related IETF RFC:  
*“Joint Engineering Team (JET) Guidelines for Internationalized Domain Names (IDN) Registration and Administration for Chinese, Japanese, and Korean”*
- o *2005, JET meets in Kyoto* and Beijing to promote the development of Email Address Internationalization



# CNNIC Contributes

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# About CNNIC



- CNNIC
  - Established in 1997 as a non-profit organization, authorized by the State Council as the national NIC.
  - Deputed by Ministry of Information Industry (MII) as the registry of .CN ccTLD
- Mission
  - Serve Chinese Internet users, facilitate the sound and orderly development of Internet in China
- Role
  - CNNIC is the constructor and operator of the information society infrastructure in China



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## Main Responsibilities of CNNIC



- Manage Internet address resources in China -- a NIR function
  - .CN ccTLD registry and management, Chinese domain name
  - IP/AS number allocation
- Internet Stats. and relevant information services
  - Internet resource stats., track down main developments and events, trace hot issues
- Whois
  - National level root server setting and maintenance



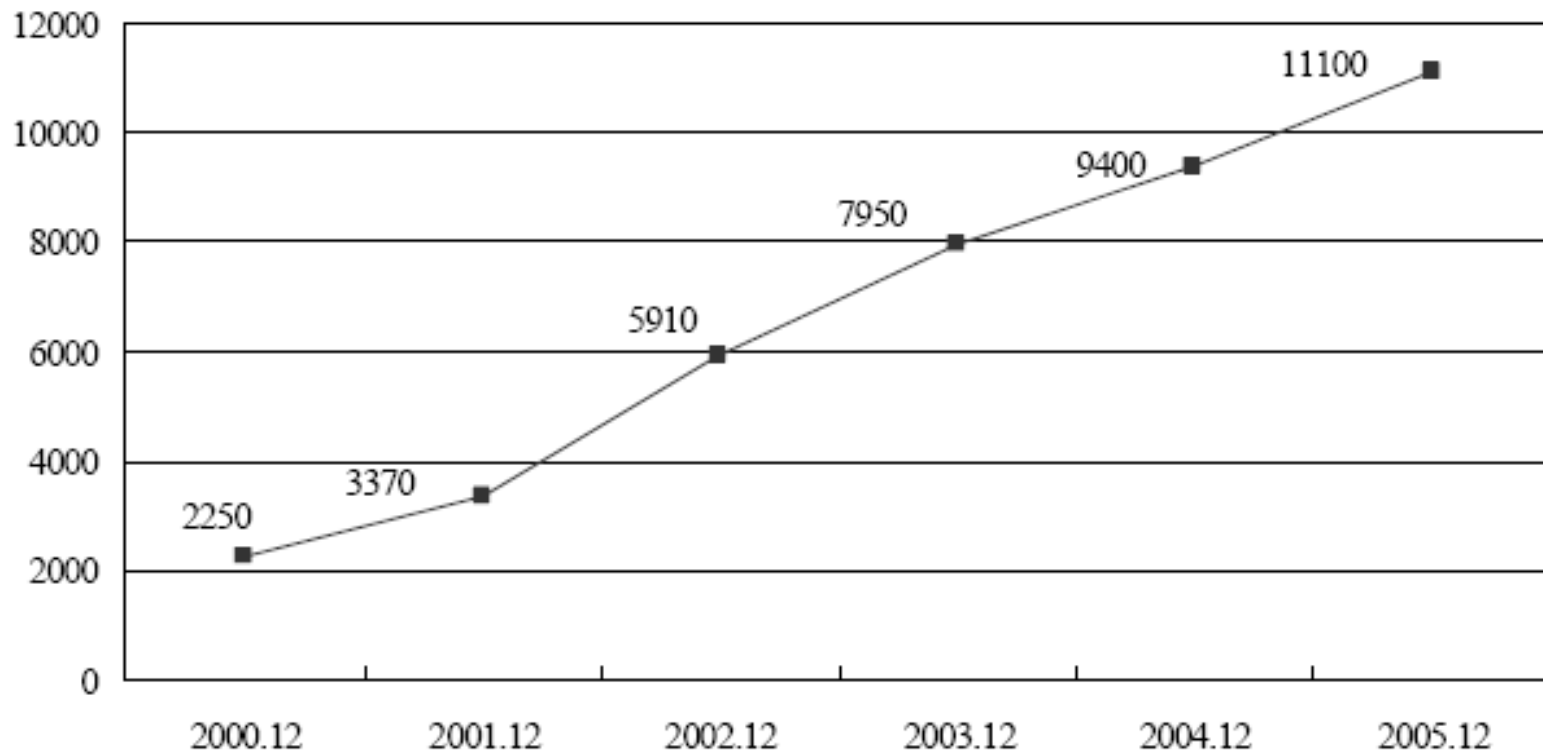
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# Demand of Multilingual Internet



- o Rapid Growth of Internet in China
  - **111 million** Internet Users by Jan. 2006, from the newest Statistical Survey Report of CNNIC
    - More than 5 folds growth, in 5 years

In 10 thousand



Source: China Internet Network Information Center (CNNIC)



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# Demand of Multilingual Internet



- o The Need for Multilingual Internet in China
  - Behavior and Consciousness of China Internet Users
    - 99.8% access Internet Content in Chinese
    - Over 70% of the users are Chinese only Internet users



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**Baidu 百度**

把百度设为首页

[中国互联网络信息中心 \(CNNIC\)](#)  
 加入CNNIC联盟,申请IP地址、自治系统号码及反向域名解析。 我要申请 用户FAQ 无线互联网应用的最新...CNNIC公布“服务质量承诺”,提升国家域名服务性能 [01/24] CNNIC 招募通用网址注册服务机构 [01/17] ...  
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天气	论坛	下载	军事	招聘	聊天	博客	商城	星座	搜索	招贴栏	分类	WAP	点歌



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# Contributes of CNNIC



## o Multilingual Products of CNNIC



.CN Domain Name

. No. 1 ccTLD in Asia



Chinese Domain Name

**中国互联网络信息中心.cn**



Internet Keyword



Wireless Keyword

- o Internet Keyword
  - A **keyword** can be composed of Chinese characters, alphabets, numeric or symbols ('-'), without exceeding 31 characters length
    - Mapping a keyword to an Internet URL
    - Keyword-enabled plugin for IE

百度



<http://www.baidu.cn>

- o Wireless keyword
  - Viewed as Internet Keyword implemented over Mobile network
    - Mapping a keyword to a WAP URL
  - Launched the commercial wireless Keyword in March 2006



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# Push implementation of IDN



- Chinese Domain Name (CDN), a localized implementation of Internationalized Domain Name
- Pioneer in IDN Development
  - Started R&D on IDN in 1998
  - Formal launch of commercial IDN.cn names in 2000
  - Join founders of Chinese Domain Name Consortium (CDNC) and Joint Engineering Team (JET)
    - JPNIC, KRNIC, CNNIC, TWNIC, HKNIC, MONIC
    - JET **Open Letter** to Microsoft in April, 2005
  - Rich hands-on experiences and expertise with IDNs: IETF RFC3490, RFC3743 and etc.



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# Push implementation of IDN



- o Solve CDN Key problems
  - label separator “。”(U+3002) equals to “.”(U+002E) in Chinese Language Definition
  - Simplified-Chinese (SC) and Traditional-Chinese (TC) characters equivalence

for example

‘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}

- Build a complete conversion table between SC and TC characters

- o Commercial Implementation
  - CDN.CN
  - Free CDN/Punycode bidirectional conversion tool
    - Easy to use for Chinese Internet users
  - CDN-enabled plugin for IE browser (Before IE7)

<http://古城热线.cn>



<http://xn--7oRy4Gi33AmuM.cn>



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# Contributions



- o Nine IETF Drafts
  - *Evaluation of various ACEs with existing Chinese Domain Names*
  - *The Implementation of Chinese character in IDN*
  - *The Selective Module for The Conversion Between Traditional/Simplified Characters in DNS*
  - *Traditional and Simplified Chinese Conversion*
  - *Keywords Systems - Definition and Requirements*



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# Contributions



- Nine IETF Drafts (Contd.)
  - *Chinese Name String in Search-based access model for the DNS*
  - *Internationalized Domain Names Registration and Administration Guideline for Chinese, Japanese, and Korean*
  - *Joint Engineering Team (JET) guidelines for Internationalized Domain Names (IDN) Registration and Administration for Chinese, Japanese, and Korean*
    - *Accepted as RFC3743*
  - *Registration and Administration Guideline for Chinese Domain Names*



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# Contributions



- o Domestic Standardization
  - Two China Communications Standards Association (CCSA) Drafts
    - *General Technical Specification for Chinese Domain Names*
    - *Coding Standards for Chinese Domain Names*



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## Email Address Internationalization



- One of the major force in Internationalized Email Application (IMA) development
  - In Nov. 2005, IETF held IMA BOF in 64th IETF meeting
  - Mar. 2006, IETF had created IMA WG – EAI
    - EAI has posted 7 IETF Internet drafts:
      - *draft-klensin-ima-framework*
      - *draft-yao-ima-smtpext*
      - *draft-newman-ima-pop*
      - and etc.



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# Email Address Internationalization



- Core problems
  - Current Email protocols don't support IDN Email
  - Current Email client software don't support IDN Email
- Experimental implementation
  - MTA (Mail Transfer Agent)
    - Negotiating layer of protocol to recognize the IDN Email address
  - MUA (Mail User Agent)
    - Email client software, not harming current Email protocol
    - Microsoft Outlook/Outlook Express plugin, supporting IDN Email address like the form of

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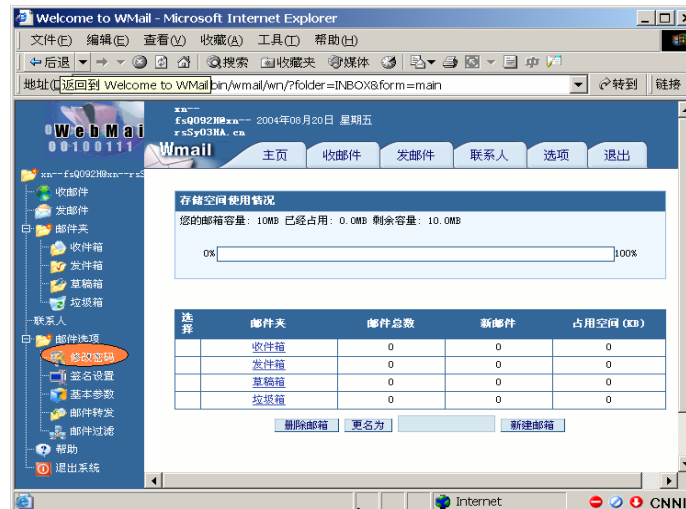
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# Chinese Email Address Example



## From registration to use



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## Future Multilingual Internet in China



- o Various Multilingual Applications
  - Email
  - Instant Messaging — improved communication
  - Online Services
    - Information search, online news, online forum, blog, and etc.
    - E-Government, on-line education, e-banking, e-stock market, and etc.
  - E-commerce
  - Online Gaming, Multi-medias
  - P2P(IP phones, BT, etc.)



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# Vista



- o Many of Chinese Internet users can not understand English, so CDN and Chinese email address are Chinese favorite
- o Since CDN is already internationalized, why not CDN email address, or even ftp, telnet, and etc.?
- o IMA development should be prompted via co-operation with many interested organizations and experts
- o CNNIC hopes that more and more experts and engineers from all over the world can contribute to Multilingual Internet



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**Thanks**

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