

Thoughts on Implementing IDNs

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February 28, 2009



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28 FEBRUARY – 5 MARCH 2009

Ciudad de
México

What does the non-English Internet look like?

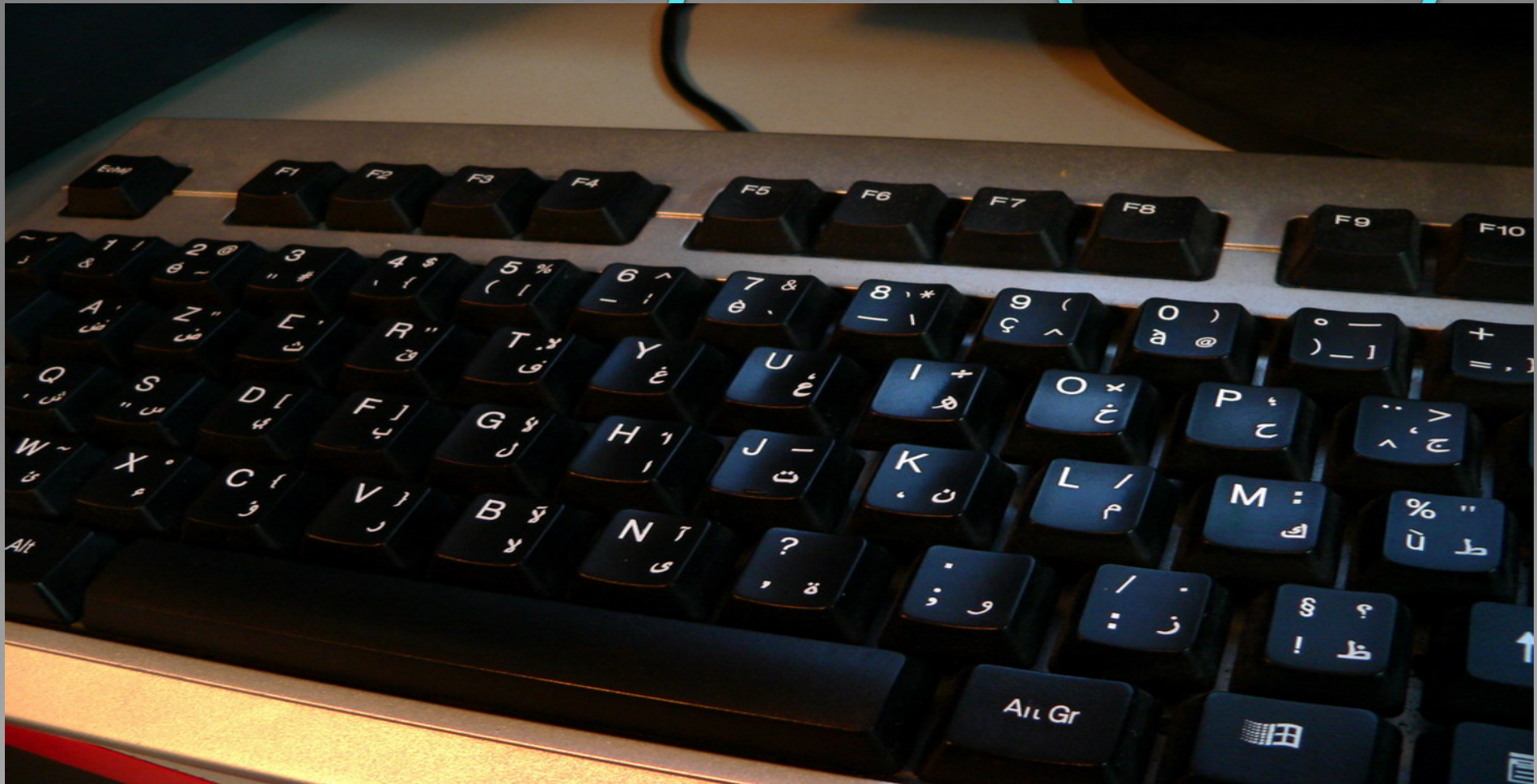
Keyboard (English)





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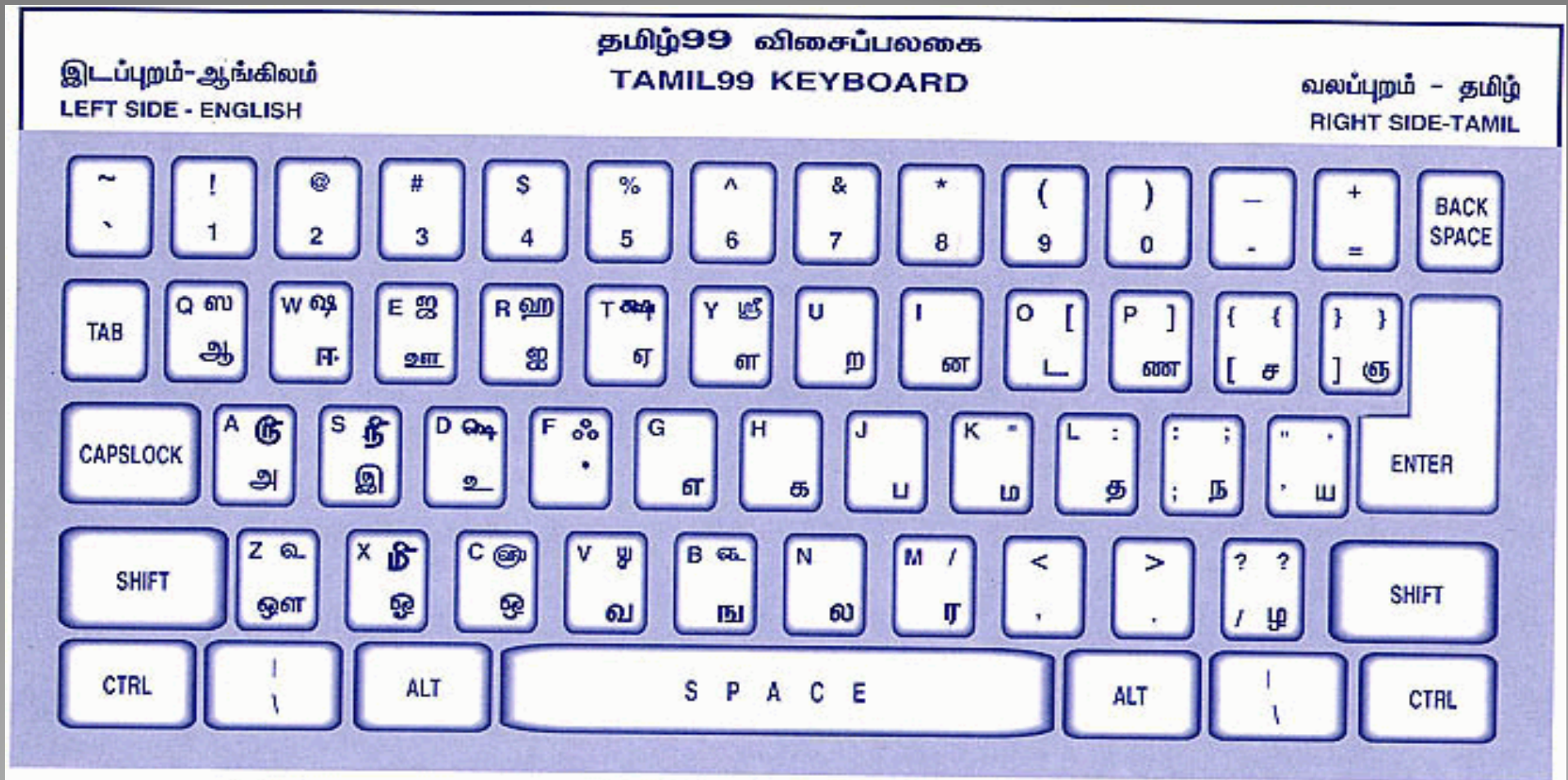
Keyboard (Arabic)





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Keyboard (Tamil)



Text messages (English)



Text messages (Chinese)





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Instant Message (English)

The screenshot shows a mobile application window with a blue header bar. On the left is the Windows logo and the word "Start". On the right are icons for a key, a network signal, a speaker, and the time "10:58". Below the header is a dropdown menu showing "movsoftware@swissjabber.org". The main area contains a chat log with the following text: "Chat with movsoftware@swissjabber.org (movsoftware@swissjabber.org)", "--- New conversation ---", "movsoftware says: Hi are you around?", "spendleton says: yes I am 😊", "movsoftware says: Are you going to be in the office today?", "spendleton says: Yes, around 3:00PM", and "movsoftware says: OK, I will see you then!". At the bottom is a text input field, followed by three buttons: "Send", "Clear", and "Close". The very bottom of the screen has a navigation bar with the text "Login Menu View" and several icons: a signal tower, a padlock, a list, a document, and a keyboard.

Instant Message (Amharic/Ethiopian)



Instant Message From: Bekelem

Ethiopian: ሰላም በቀለ

Bekelem: በአስቸኳይ አዲስ ያወጣኝ ሳይበር ኢትዮጵያ ሲዲ ለኃይሉ ለንደን ላክላት።

Ethiopian: በአማርኛ ብረል ለሚሠራው ነው ወይ?

Bekelem: እሱኛው የሚኖረው ቨርጂኒያ፣ አሜሪካ ነው።

Ethiopian: እሺ ነን በኤክስፐርት እልክላታለሁ!

Send Cancel Notify AOL

Reminder: AOL will never ask you for your password or billing information.

Your mailbox in Chinese

歡迎, 伊昭傑

 家(M)
  版面配置(Y)
  選項(O)
  問題
  說明
  登出(L)

 上一次登入: 西元2007年09月20日 (週四) 14時51分46秒 自
idn-test.int.libertyrms.com

-  郵件.商務
-  郵件 (5)
 -  過濾器
 -  寫信
 -  搜尋
 -  收件匣 (5)
 -  虛擬信件匣
 -  sent-mail
-  組織
-  選項
-  登出


郵件  寫信
收件匣 5

過濾器

- 友善名單 啟用
- 黑名單 啟用

備忘錄  新增摘要
 無摘要可供顯示

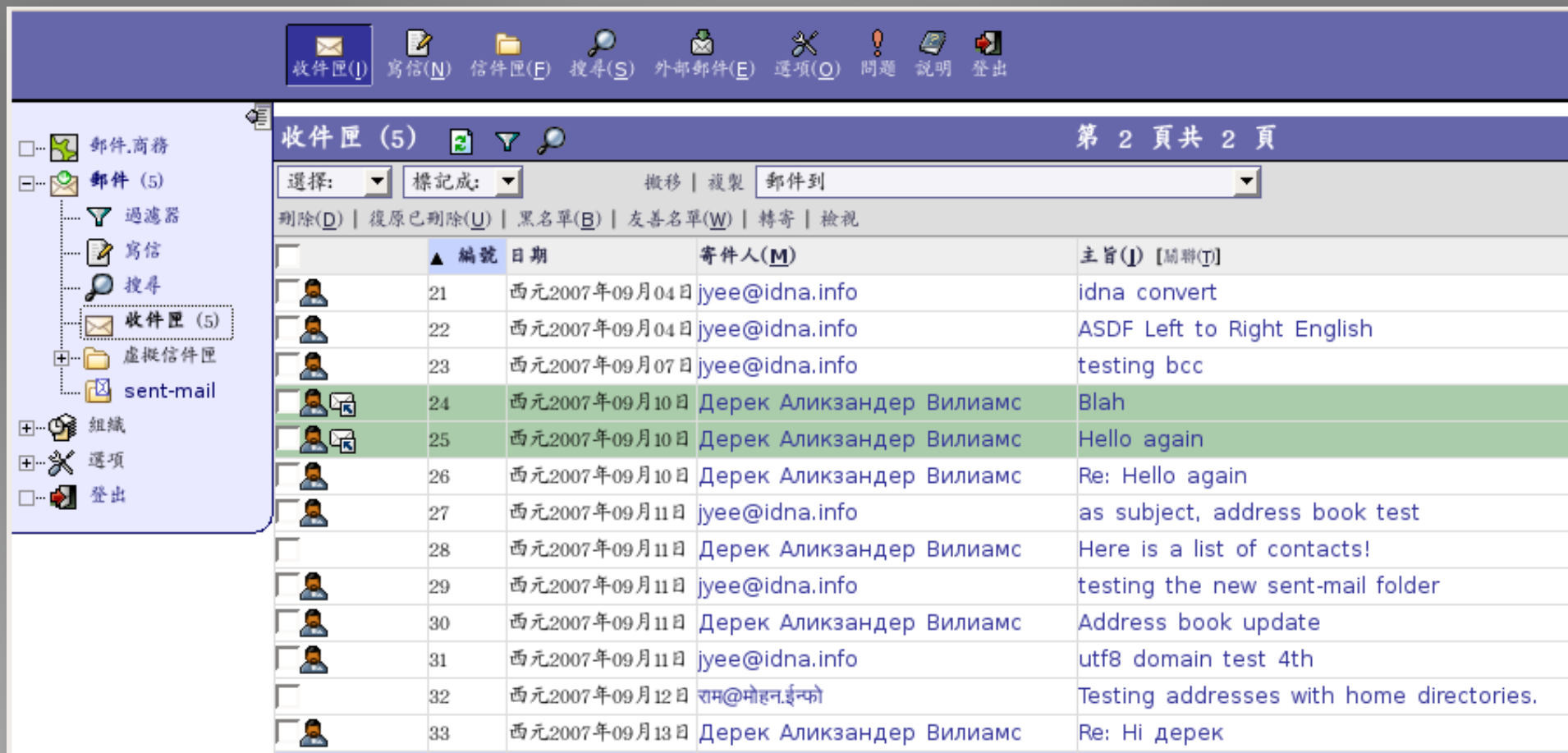
行事曆  新事件
 無事件可供顯示

待辦事項  新增
 沒有待辦事項.

連絡人搜尋
 快速搜尋

How Do You Know Who Is Writing To You?

- Internet applications must handle messages in multiple languages



收件匣 (5) 第 2 頁共 2 頁

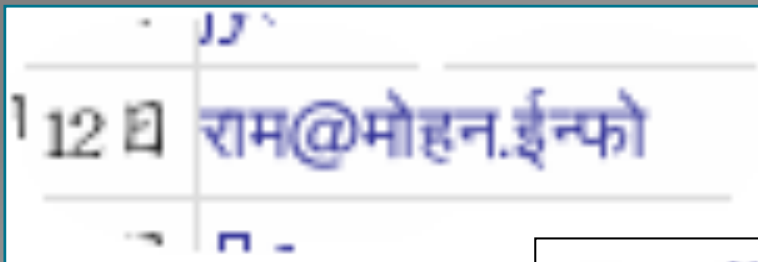
選擇: 標記成: 撤移 | 複製 郵件到

刪除(D) | 復原已刪除(U) | 黑名單(B) | 友善名單(W) | 轉寄 | 檢視

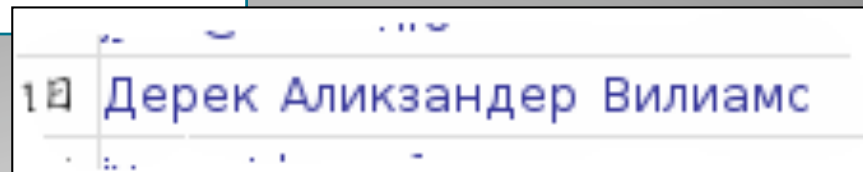
| | ▲ 編號 | 日期 | 寄件人(M) | 主旨(I) [關聯(T)] |
|-------------------------------------|------|---------------|--------------------------|--|
| <input type="checkbox"/> | 21 | 西元2007年09月04日 | jyee@idna.info | idna convert |
| <input type="checkbox"/> | 22 | 西元2007年09月04日 | jyee@idna.info | ASDF Left to Right English |
| <input type="checkbox"/> | 23 | 西元2007年09月07日 | jyee@idna.info | testing bcc |
| <input checked="" type="checkbox"/> | 24 | 西元2007年09月10日 | Дерек Аликзандер Вилиамс | Blah |
| <input checked="" type="checkbox"/> | 25 | 西元2007年09月10日 | Дерек Аликзандер Вилиамс | Hello again |
| <input type="checkbox"/> | 26 | 西元2007年09月10日 | Дерек Аликзандер Вилиамс | Re: Hello again |
| <input type="checkbox"/> | 27 | 西元2007年09月11日 | jyee@idna.info | as subject, address book test |
| <input type="checkbox"/> | 28 | 西元2007年09月11日 | Дерек Аликзандер Вилиамс | Here is a list of contacts! |
| <input type="checkbox"/> | 29 | 西元2007年09月11日 | jyee@idna.info | testing the new sent-mail folder |
| <input type="checkbox"/> | 30 | 西元2007年09月11日 | Дерек Аликзандер Вилиамс | Address book update |
| <input type="checkbox"/> | 31 | 西元2007年09月11日 | jyee@idna.info | utf8 domain test 4th |
| <input type="checkbox"/> | 32 | 西元2007年09月12日 | राम@मोहन.ईन्फो | Testing addresses with home directories. |
| <input type="checkbox"/> | 33 | 西元2007年09月13日 | Дерек Аликзандер Вилиамс | Re: Hi дерек |

Can You Write To Someone In Another Language?

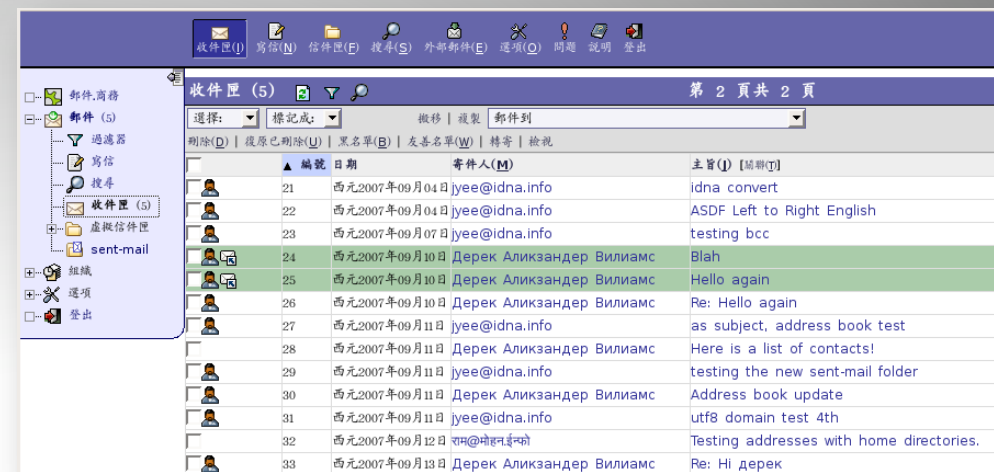
- Applications must allow users to enter text in



12 日 राम@मोहन.ईन्फो



1 日 Дерек Аликзандер Вилиамс



| 編號 | 日期 | 寄件人(M) | 主旨(Q) [展開] |
|----|---------------|--------------------------|--|
| 21 | 西元2007年09月04日 | jyee@idna.info | idna convert |
| 22 | 西元2007年09月04日 | jyee@idna.info | ASDF Left to Right English |
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| 32 | 西元2007年09月12日 | राम@मोहन.ईन्फो | Testing addresses with home directories. |
| 33 | 西元2007年09月13日 | Дерек Аликзандер Вилиамс | Re: Hi дерек |

Content

- Applications must handle content in multiple languages

Send Message Save Draft Cancel Message

Identity lbayles@idna.info (Default Identity)

To 伊昭傑 <伊昭傑@郵件.商務>

Cc

Bcc

Subject Re: subject in Chinese, 你好! It's Hello!

Charset Unicode (UTF-8)

Address Book Expand Names Special Characters Attachments

Save a copy in "sent-mail"
 Request a Read Receipt
 Switch to HTML composition

Text Quoting 伊昭傑 <伊昭傑@郵件.商務>:

```
> 世界, 你好!  
> Hello World!  
>  
> and Hello Len! Hello Derek!  
>  
> Joseph Yee  
> 伊昭傑 (In Chinese, the first world is last name, western format is 昭傑, 伊)  
>  
> -----  
> This message was sent using Afilias Mail, a global mail program
```

Send Message Save Draft Cancel Message

Common Issues

- Consult with government for Geo-political Impact of new top level domain
 - Politics and policy will intersect with IDNs
- Active local Language Community
- Low understanding of concepts such as “confusingly similar”
- Low understanding of differences between DNS, font rendering, application specific issues

Issues (cont.)

- Interest in adhering to International Standards
- Government is a major factor in pushing technology development
- Strong anathema to issues such as Pornography, Curse Words
- Regulation varies across world regions

What might change...

- Differentiation between gTLDs and ccTLDs blurring
- Implementation issues are often the same for gTLDs and ccTLDs
- Mixed opinions regarding whether existing gTLD or ccTLD operator should be operator for IDN TLDs

Unique TLD issues with Whois

- No longer just one language input or output
- How do you differentiate between variants and represent packages across languages
- Search of Whois records and contact information records (even from within a registry or a registrar) is now dramatically more difficult

gTLD IDN Whois issues

- Billing and invoicing to a registrar with Whois information now has to be figured out:
 - Punycode representation (“xn—dd3234.info” is meaningless but accurate
 - IDN representation on invoices invites registrars and others in the value chain to get knowledgeable on multiple languages
 - Audit trails just got a lot harder

Some Security Considerations

- Registrars need to ensure appropriate mechanisms to allow IDN scripts in their transfer scripts
- Automated email transfers – might only show “xn--” rather than convenient local script representation

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