Launching IDN ccTLD

السعودية••

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Pre-IDN ccTLD Fast Track

String evaluation and delegation

Technical and Logistical Preparation

Are we Done? What is Next?
About SaudiNIC
About SaudiNIC

- SaudiNIC is a non-profit unit that is operated by Communication and Information Technology Commission (CITC) which is a semi-governmental entity.

- SaudiNIC administers the Saudi ccTLDs:
  - .sa since 1995.
  - The new IDN ccTLD (السعودية).

- Leading the local community efforts towards supporting Arabic language in DNS
  - Chairing both Steering and Technical Committees of the ADNPP
Pre-IDN ccTLD Fast Track
In 28 Oct 2008, our response to ICANN survey regarding participation on the IDN ccTLD FT:

- We are ready from day one!
Led and helped building Pan-Arab cooperation
- Arab Team for Domain Names and Internet Affairs (Under the Arab League)
- Arabic Domain Name Pilot Project (2005-2009)
Resolved most language linguistic issues
Built local technical capabilities (~10 years)
- Lead the local and regional technical ADN development
  • Chairing both Steering and Technical Committees of the ADNPP
- Gained experience and knowledge of using Arabic domain names
- Built the local awareness about Arabic domain names.
- Developed some tools required for Arabic domain names and DNS.
- Developed a technical solution addressing Arabic Script Variants
- Developed some guideline policies.
Shared all the above with the Internet community.
A master-key code

It gives the registrant the control (to register or block) on the valid list of variants domain names.

**IDNA2008 Table**

**Language Table**

**Confusability Safeguard (Language)**

**Master-Key Algorithm (Script-wide Variants)**

**Stage 1**

**Stage 2**

**Stage 3**

Registry-Level Approach

- **ContextJ**
- **ContextO**
- **Pvalid**
Stage 1: Defining Language Table

- We led and helped publishing a reference document that lists all supported code points that will be used in Arabic domain names.
- FRC 5564: Linguistic Guidelines for the Use of the Arabic Language in Internet Domains
  - Letters: From (ﺃ) to (ﻱ)
  - Numbers: (0) to (9) & (0) to (9)
  - Others: Hyphen (-) & Dot(.)
- This will help in solving the following issues:
  - Valid Unicode Codepoints
  - Non-spacing Marks
  - Combining Marks
  - ZWNJ/ZWJ
  - Digit (partial)
Stage 2: Confusability Safeguard

- Provide a phishing protection layer (Emlaa Key Algorithm) to handle issues like:
  - Characters that have many shapes (ی ی (هه) (أ أ أ أ):
    - أحمد أحمد
  - Similarities between Letter HEH (ه) and Number Five (5):
    - بريد 5 بريد
  - Similarities between Letter ALEF(ا) and Number one (1):
    - رائد 1 رائد
  - Digit mixing

10 مؤتمر 2010
SaudiNIC developed an algorithm (Master Key Algorithm) that can be used at the registry level. It will safely allow users to register a domain name using the allowed characters (from the language table) and at the same time protect the possible variants in other languages (Arabic, Farsi, Urdu..etc).

Transparent to end users.

String Evaluation and Delegation
ICANN opened IDN ccTLD FT Process

Applying to fast track process

ICANN Approved the String

IANA added xn--mgberp4a5d4ar to the root servers

IANA Approved the Delegation

Applying for delegation

السعودية
- In general the string evolution process was a straight-forward process, while the delegation process was a surprise to us.
  - It might be worth to integrate them together (at least for the paper work .. and more coordination between ICANN & IANA become visible)

- The communication experience during the delegation process was not as expected:
  - no updates unless we ask (many times).
  - most responses look like that they are machine generated emails.
  - delegation was done by surprise … “Hey your delegation was done yesterday”
Technical and Logistical Preparation
### Technical and Logistical Preparation Policy Development Process

- **Drafting and approval of registration regulations followed SaudiNIC PDP**

<table>
<thead>
<tr>
<th></th>
<th>Issue Identification</th>
<th>Prioritization</th>
<th>Initial Report</th>
<th>Public Consultation</th>
<th>Recommendations</th>
<th>Final Report</th>
<th>Final Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITC Board</td>
<td>Identify issues</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Approve policy</td>
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<tr>
<td>CITC-MC</td>
<td>Identify issues</td>
<td>Direct prioritization</td>
<td>Approve consultation process</td>
<td>Review draft policy report and provide input</td>
<td>Endorse final policy report and request Board approval</td>
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</tr>
<tr>
<td>SaudiNIC</td>
<td>Prepare the list of issues and their scope</td>
<td>Prioritize issues</td>
<td>Prepare an initial report/study</td>
<td>Prepare consultation documents and reports</td>
<td>Prepare draft policy report</td>
<td>Prepare final policy report</td>
<td>Implement approved policies</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Identify issues</td>
<td></td>
<td></td>
<td>Submit comments</td>
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<td></td>
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<tr>
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<td>Identify issues</td>
<td></td>
<td></td>
<td>Submit comments</td>
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<td></td>
</tr>
</tbody>
</table>
- Rebuilt (in-house) the registration system to support
  - Arabic IDN
  - IPv6
- Increased Connection BW and installed new servers
- Implemented Anycast and IPv6 on our DNS servers
- ...

Technical and Logistical Preparation

Technical
We announced our Registration Plan (2 phases) on – 15 April 2010

We launched Saudi Arabic domain names on – 6 May 2010
Are we Done? ... What is Next?
There is a need to enable TLD Variants
Delegating IDN variants to our clients cannot happen without getting the TLD variants.

Visit our website: Makkah.sa
TLD variants are a must-have!

IDN support in any users applications:
- email, chat, search engines, …

User friendly applications:
- Display the (U-Label) to the user (NO A-label display)
- Handel Right to Left correctly … better readability of the address bar
- Recognize IDN (U-Label) as a hyperlink
- Transparent to the user (discouraging the A-label display)
- Converting “spaces” to Dashes
Thank you

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G35B G44M G32F G22I