SaudiNIC’s Contributions and Experiences in Supporting Arabic Domain Names

Dr. Abdulaziz H. Al-Zoman
Director of SaudiNIC
zoman@isu.net.sa

Internet Services Unit
King Abdulaziz City for Science & Technology

In the previous ITU Workshop on Member States' experiences with ccTLD, Geneva, 3-4 March 2003, my statement was:

“I hope through this workshop, ITU takes the leads in speeding up the support of internationalized domain names”
Objective

• Objective:
  – To highlight some of the experiences and contributions of SaudiNIC in supporting Arabic internationalized domain names (A-IDN)

• Why?
  – To send a message to concerned parties (ICANN, IANA, ITU, MINC, …) that
    • Having Arabic domain names (DNs) is becoming an essential requirement to our community development.
    • Local community can help in defining what they need and how they can be implemented
Agenda

- About SaudiNIC
- Internet in the Arab World
- Why Arabizing DNs
- Existing A-IDN Solutions
- Levels of an A-IDN Solution
- SaudiNIC Contribution Methodology
- What is remaining?
- Learned Lessons
- Conclusions
About SaudiNIC

• Administrating and managing the domain name space of the Saudi Arabia ccTLD (.SA) since 1995:

• Operated by KACST which is a governmental scientific research center in various fields

Mission Statement

To provide an equitable, just and competent technical and administrative management of domain name registrations and IP address allocations for the Internet community in Saudi Arabia.
Internet in the Arab World

### Statistics
- Population of Arab world: **275 B** (5% of world population)
- Arab Internet users represent **0.9 %** of world users
- **2.6 %** Average Internet penetration in Arab world
- **1.2 %** PC penetration
- Less than **10%** who can speak English in the Arab world

### Obstacles facing Internet use
- Low level of telecommunication infrastructure
- Lack of adequate regulations
- High cost
- Computer Illiteracy
- Language barrier
  - Contents
  - Tools and applications
  - Domain names
Why Arabizing DNs

- Increased local demands for using Arabic DNs
- Current ASCII-based DNs is incapable of representing Arabic characters
- Difficulty to reach Arabic sites using English DNs (pronunciation & spelling problems)
- It is expected that Arabic DNs will encourage Arab users to widely use the Internet
- It is not possible to make all Arabs speak English 😊
Existing A-IDN Solutions

• A number of solutions and implementations have been introduced by different vendors to our market, but:
  – Non-standard solutions
  – Unrecognized by the international bodies such as ICANN and IETF.
  – Incompatible solutions from technical and linguistic point of view.
  – Multiple registrations for the same category.
  – Disjoint networks each with its own Arabic domain name space.
Levels of an A-IDN Solution

1. Linguistic issues
2. Arabic TLDs
3. Technical solutions
4. Arabic root servers
SaudiNIC
Contribution Methodology

- Conducting Web surveys
- Identifying problems & areas of contributions
- Meeting linguists (face to face)
- Publishing Reports papers
- Participating initiating interest groups & task forces
- Disseminate information
- Testing and building local experiences
SaudiNIC Methodology
1. Area of Contributions

- Levels of an A-IDN Solution
  1. Linguistic issues
     - To define the accepted Arabic character set to be used for writing Arabic domain names
  2. Arabic TLDs
     - To define the top-level domains of the Arabic domain name tree structure (i.e., Arabic gTLDs, and ccTLDs)
  3. Technical solutions
  4. Arabic root servers
     - IETF, MINC, ...
     - ICANN/IANA, MINC, ITU, ...
1. Area of Contributions

**Linguistic issues**
- ISSUE 1.1: Tashkeel
- ISSUE 1.2: Kasheeda
- ISSUE 1.3: Taa-Marbota+Haa
- ISSUE 1.4: Hamzah
- ISSUE 1.5: Alif Maqsura+Ya
- ISSUE 1.6: Numbers
- ISSUE 1.7: dot or Arabic Zero
- ISSUE 1.8: Connecting Multiple Words
- ISSUE 1.9: Space
- ISSUE 1.10: Mixing Latin and Arabic Characters
- ISSUE 1.11: Special Charters
- ISSUE 1.12: Accepted Character Set

**Arabic TLDs**
- ISSUE 2.1: Criteria for selecting an Arabic gTLD
- ISSUE 2.2: Suggested list of Arabic gTLDs
- ISSUE 2.3: Criteria for selecting an Arabic ccTLD
- ISSUE 2.4: Suggested list of Arabic ccTLDs
SaudiNIC Methodology

2. Participation & Initiation of Groups

- **MINC**: Multilingual Internet Names Consortium, 2000
  - Arabic Working Group
- **AINC**: Arab Internet Names Consortium, April 2001
  - Founder and member of the board
  - Chairman of the Linguistic Committee
- **ADNTF**: Arabic Domain Name Task Force, Q2/2003
  - Formed under the auspices of ESCWA (UN)
  - Issuing an RFC for supporting the Arabic language in domain names with the cooperation of MINC
- **GCC ccTLDs Group**:
  - Formed under the auspices of ITC committee of GCC
  - GCC Arabic domain name pilot project
3. Publishing Reports & Papers

- 5 Scientific research papers published in conference proceedings and journals
- Technical reports
- Request for Comments (RFC)
3. Publishing Reports & Papers

• Scientific Research Papers

• Technical Reports
  – “Supporting the Arabic Language in Domain Names”, submitted to ADNTF-ESCWA, October 2003
    • The base for the new RFC
  – Status Report of the Arabic Linguistic Committee of AINC-April 2002
4. Conducting Web Surveys

- 3 On-line web surveys
  - cover most of the linguistic issues (1.1-1.11, 2.2, 2.4) with more than 550 responses
- Collected information have been analyzed and compared with the recommendations of the AINC linguistic committee
- Results have been published and presented in the conferences
SaudiNIC met with 4 Arabic linguists to get their guidance regarding the Arabic linguistic issues in domain names.
6. Information Dissemination

- Web sites (in Arabic and English)
  - http://www.saudinic.net.sa/arabicdomain/arabic_domains.htm
  - http://www.arabic-domains.org.sa
- Participating in local/regional/international conferences and meetings
- Publishing scientific research papers
- Publishing articles in newspaper and magazine
- Radio programs
- Seminars to public and interested groups
• The managers of the Gulf Cooperation Council (GCC) ccTLDs (i.e., ae, bh, kw, om, qa, sa) in their meeting in March 2004 agreed to initiate a pilot project whose mission is:
  – "To implement a test bed for Arabic domain names in the GCC countries. This will allow all GCC countries to early experience the use of Arabic domain names, identify our needs, locate possible problems, and develop some tools."

• The objectives of the pilot project are:
  – To test the implantations of Arabic domain names.
  – To gain experience in using Arabic domain names and share it with Arab countries.
  – To build local awareness about Arabic domain names.
  – To establish joint work with other entities (i.e., ISPs, universities …).
  – To develop some tools related to Arabic domain names.
SaudiNIC Methodology

7. Test Implementation

• Phase 1 - Testing Arabic DNS: (DONE)
  – Setting up Arabic GCC root servers (3 Weeks). (DONE)
  – Resolving Arabic GCC domain names (1 Week). (DONE)
  – Testing other DNS software and browsers (2 Weeks). (Partially DONE)
  – Writing technical documents about the gained experience (2 Weeks):
    • Setting up Arabic GCC Root server. (Partially DONE)
    • Reaching Arabic GCC ccTLD Domain names. (Partially DONE)

• Phase 2 - Developing policies and regulations:
  – Studying the current available polices for domain registration from ICANN & WIPO.
  – Defining our special needs.
  – Writing policies and regulations for registering Arabic domains.

• Phase 3 - Public awareness:
  – Build a website for the project and publish some tools and useful documents in it. (DONE)
  – Encourage other Arab countries and entities to participate in this project.
  – Registering some test Arabic Domain names. (DONE)
الأسهم السعودية
What is remaining?

• Levels of an A-IDN Solution

1. Linguistic issues
   - Done by local community

2. Arabic TLDs
   - Partially done by IETF:
     - 3490 IDNA
     - 3491 Nameprep
     - 3492 Punycode
     - 3454 Stringprep

3. Technical solutions

4. Arabic root servers

We need a world-wide structure of A-IDN root servers
Learned Lessons

- Get people, as many as you can, involved in the process
- Get involved in local, regional and international activities
- Native language ⇔ Native people
- Share your experiences and findings with others
- Document and publish your work
- Keep going even though others have stopped
- Open channels with local linguistic experts
- Push for standards
Conclusions

• Having Arabic DNs is becoming an essential requirement to our community development and it is not a commodity!

• Local community can help in defining what they need and how they can be implemented
  – Reserve the development of Arabic language standards and tables to be done by Arabs derived from their respective community. [*local empowerment*]

• Hey! … ICANN/IANA/MINC/ITU …
  – We cannot wait forever for the realization of IDN. [*We need to speed up the implementation of IDN*]
Thank you!

Dr. Abdulaziz H. Al-Zoman  
Director of SaudiNIC  
zoman@isu.net.sa

Internet Services Unit  
King Abdulaziz City for Science & Technology