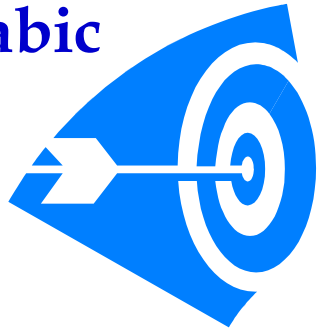
SaudiNIC's Contributions and Experiences in Supporting Arabic Domain Names

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

Internet Services Unit
King Abdulaziz City for Science & Technology

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

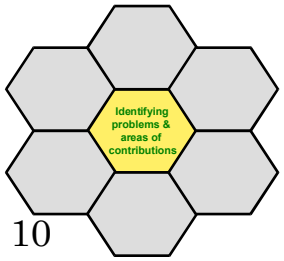
1. Linguistic issues
2. Arabic TLDs
3. Technical solutions
4. Arabic root servers

SaudiNIC Contribution Methodology

SaudiNIC Methodology
1. Area of Contributions

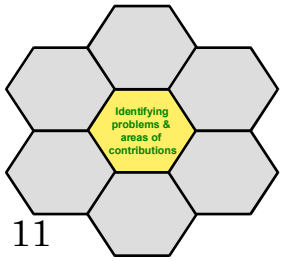
- **Levels of an A-IDN Solution**

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** — … ,IETF, MINC
4. **Arabic root servers** — … ,ICANN/IANA, MINC, ITU



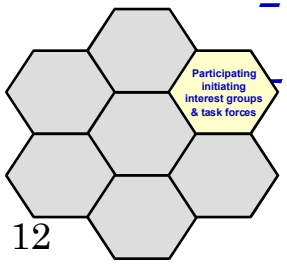
SaudiNIC Methodology
1. Area of Contributions

- **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



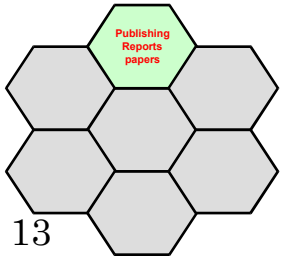
SaudiNIC Methodology
2. Participation & Initiation of Groups

- **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



SaudiNIC Methodology
3. Publishing Reports & Papers

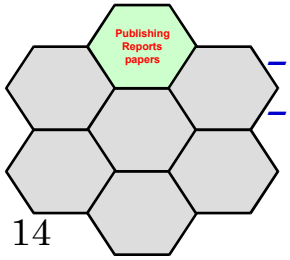
- 5 Scientific research papers published in conference proceedings and journals
- Technical reports
- Request for Comments (RFC)



SaudiNIC Methodology
3. Publishing Reports & Papers

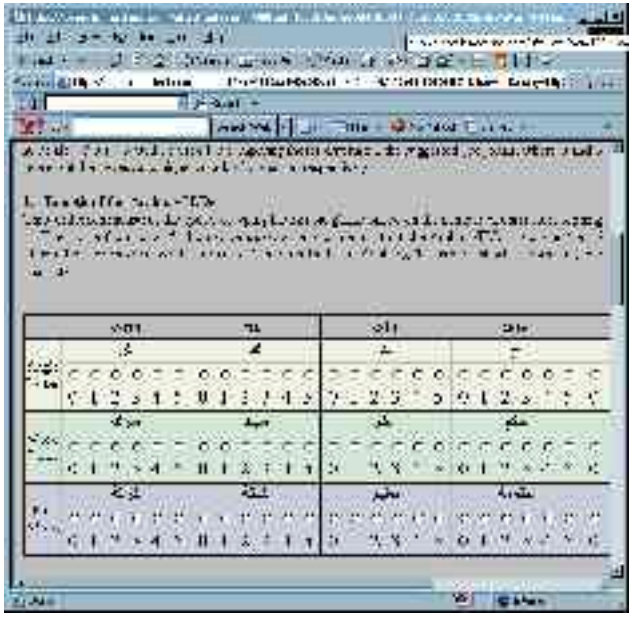
- **Scientific Research Papers**
  - "Arabic Top-Level Domain Names", International Journal of Computer Processing of Oriental Languages, Volume 17 Number 3 September 2004, To Appear.
  - "Linguistic Issues in Arabic Domain Names", In Proceedings of the 17th NCC, KAAU, Al-Madina Almunawarah, Saudi Arabia, 5-8 April, 2004, pp 235-250 [in Arabic]
  - "Arabic Top-Level Domain Names", In Proceedings of the 17th NCC, KAAU, Al-Madina Almunawarah, Saudi Arabia, 5-8 April, 2004, pp 281-296 [in Arabic]
  - "Using Arabic Language in writing domain names", Arab journal of library and information science, Vol 22, No. 3, July 2002, pp. 21-38 [in Arabic].
  - " Using Arabic Language in writing domain names ", In Proceedings of IACIT 2001, JUST, Irbid, Jordan, 13-15 Nov., 2001, pp 264-272 [in Arabic]

- **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-September 2001
  - Status Report of the Arabic Linguistic Committee of AINC-April 2002



SaudiNIC Methodology
4. Conducting Web Surveys

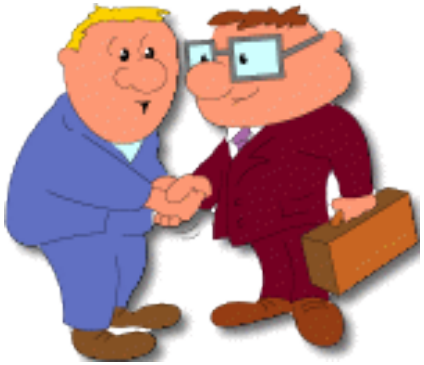
- 3 On-line web surveys
  - cover most of the linguistic issues (1.1-1.11 , 2.2, 2.4) with more than 550 responses
- Collected information have been analyzed and compared with the recommendations of the AINC linguistic committee
- Results have been published and presented in the conferences



Conducting Web surveys

SaudiNIC Methodology
5. Meeting Linguistic Experts

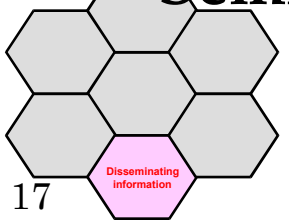
- **SaudiNIC met with 4 Arabic linguists to get their guidance regarding the Arabic linguistic issues in domain names.**



Meeting linguists (face to face)

SaudiNIC Methodology
6. Information Dissemination

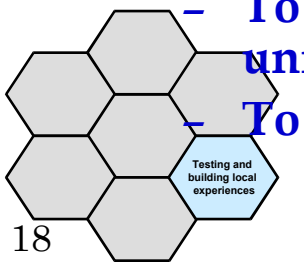
- Web sites (in Arabic and English)
  - http://www.saudinic.net.sa/arabicdomain/arabic_domains.htm
  - http://www.arabic-domains.org.sa
- Participating in local/regional/international conferences and meetings
- Publishing scientific research papers
- Publishing articles in newspaper and magazine
- Radio programs
- Seminars to public and interested groups



SaudiNIC Methodology
7. Test Implementation

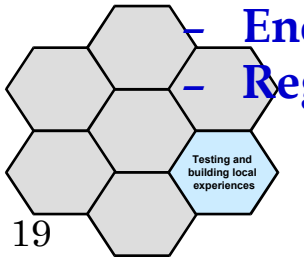
- The managers of the Gulf Cooperation Council (GCC) ccTLDs (i.e., ae, bh, kw, om, qa, sa) in their meeting in March 2004 agreed to initiate a pilot project whose mission is:
  - "To implement a test bed for Arabic domain names in the GCC countries. This will allow all GCC countries to early experience the use of Arabic domain names, identify our needs, locate possible problems, and develop some tools."

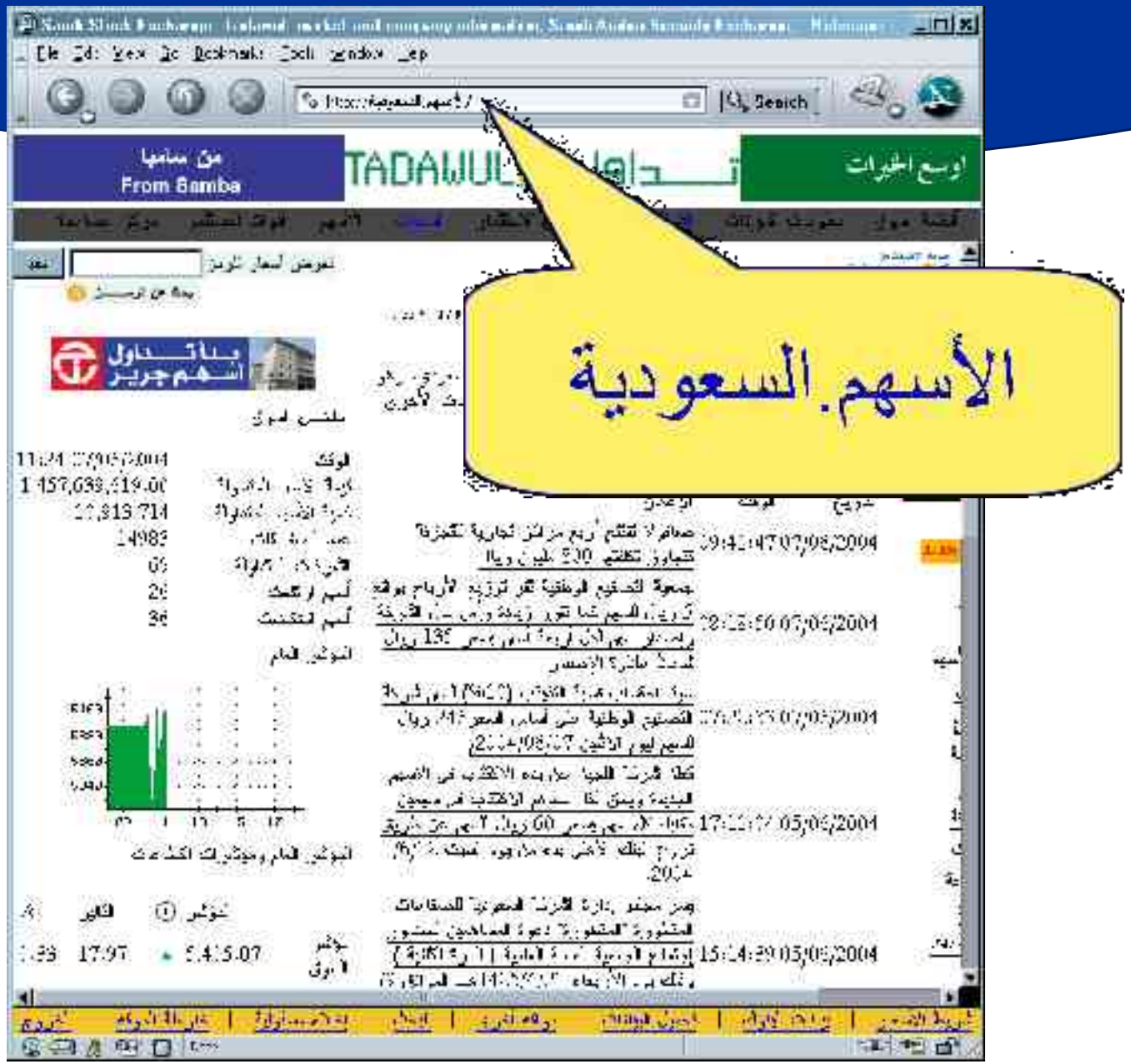
- The objectives of the pilot project are:
  - To test the implantations of Arabic domain names.
  - To gain experience in using Arabic domain names and share it with Arab countries.
  - To build local awareness about Arabic domain names.
  - To establish joint work with other entities (i.e., ISPs, universities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

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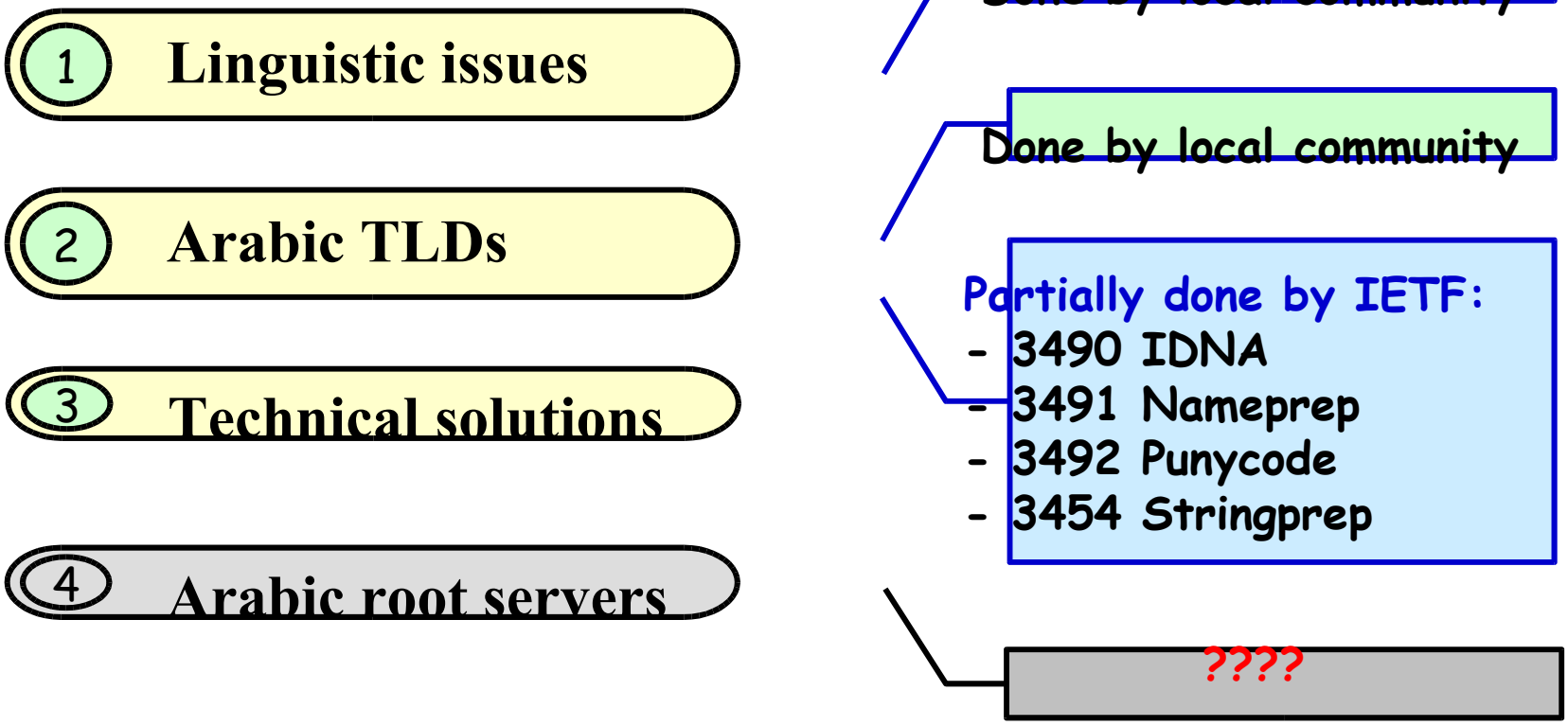
What is remaining?

- Levels of an A-IDN Solution



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!

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