

Arabic Domain Names Pilot Project

APTLD Meeting, Dubai Jun 3-6 2007

Abdulaziz Al-Zoman
SaudiNIC - CITC

Agenda



- Introduction
 - What is the problem?
 - Internet in the Arab World
 - Arabic Language Characteristics
- Arabic Domain Names
 - Levels of an ADN Solution
 - Contribution Methodology
 - What has been done so far?
 - What is remaining?
 - Testing Projects
- ADN Pilot Project
 - Mission & Objectives
 - Participants & Duration
 - Deliverables
 - Accomplishments
- SaudiNIC's Experiences in Registering ADN Under (السعودية.)
 - Introduction
 - Accomplishments
 - Policy and regulations
 - Technical Issues
 - Learned lessons
 - Arabic.Arabic Tool

Introduction: About SaudiNIC

- administering the domain name space under (.sa) since 1995.
- operated by Communication and Information Technology Commission (CITC) ... governmental org.
- coordinating with regional and international bodies in order to present the local community needs
- leading the local community effort towards supporting Arabic language in DNS

Introduction: What is the problem?



- Current ASCII-based DNS are **incapable** of representing Arabic characters
- Difficulty to reach Arabic sites using English DNS (**pronunciation & spelling** problems)
- Full Arabic DNS will **encourage** Arab users to widely use the Internet

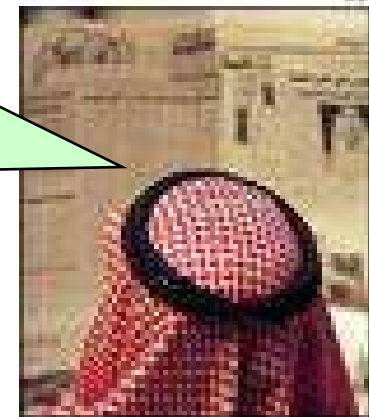
Arabic News paper
صحيفة الشرق الأوسط
www.al-sharqalawsat.com
www.asharqalawsat.com
www.asharq-alaowsat.com
www.elsharkelaosat.com

...



E-government Site
يسر
www.yasser.gov.sa
www.yaser.gov.sa
www.yasir.gov.sa
www.yassir.gov.sa

...



Introduction: 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
- 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

Introduction: Why do we need ADN ?



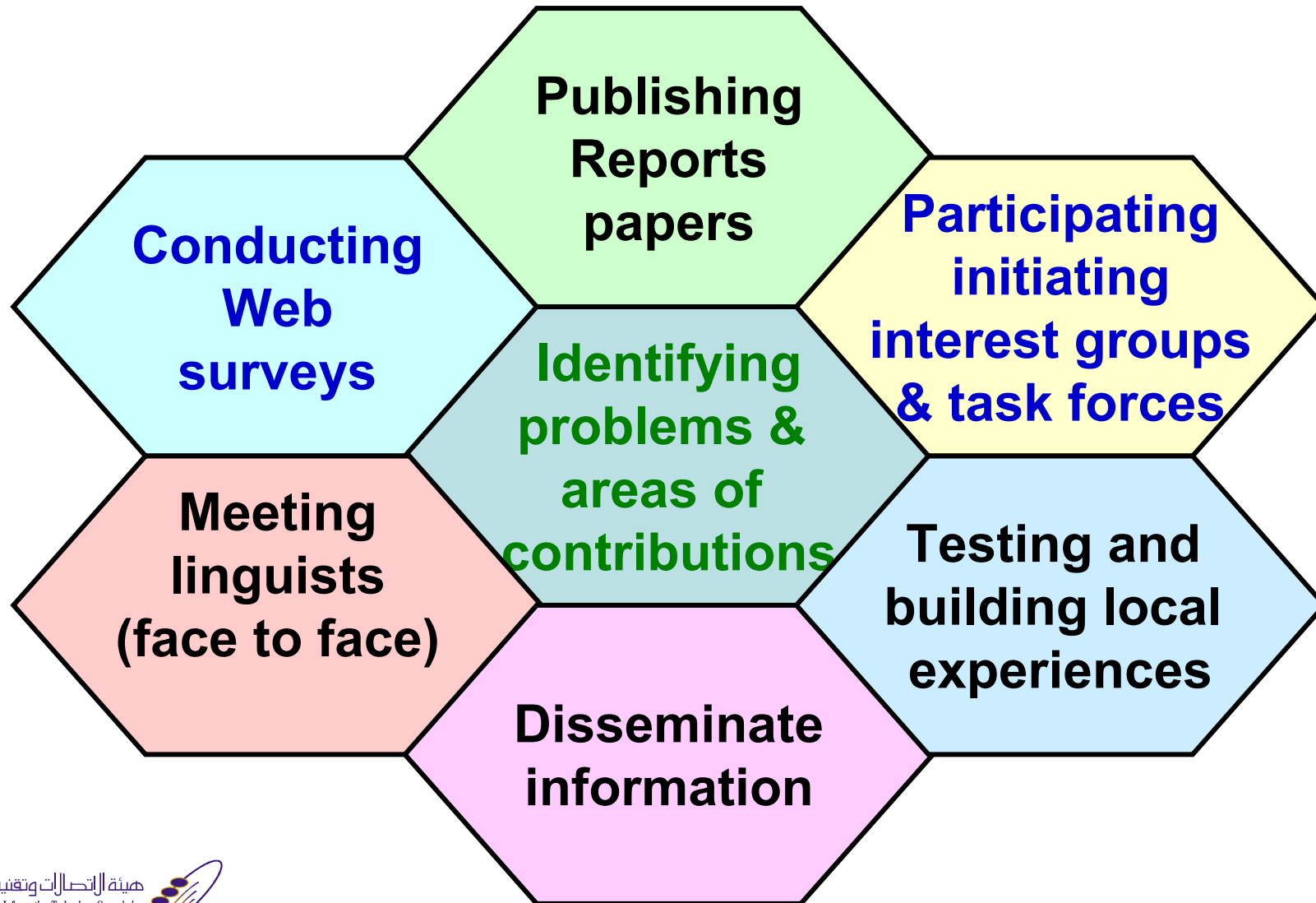
- Arabic language differs from Latin-based languages
- Some proposed solutions, e.g. (ICANN IDN):
mixing two scripts : نطاق.com.sa
 - Dose not solve the problem since the user will have to write in two different languages (left-to-right and right-to-left)

Introduction: Arabic Language Characteristics



- Consists of **28** characters.
- Writing direction from **Right-to-Left**.
- **Diacritics** are used for pronunciations which lead to different meanings as well
- Two sets of **numerals** are used (Arabic and Arabic-Indic)
 - 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
 - ٠ ، ١ ، ٢ ، ٣ ، ٤ ، ٥ ، ٦ ، ٧ ، ٨ ، ٩
- **Abbreviation** is not common
- ...

Contribution Methodology



ADN: Solution Levels

To define the accepted Arabic character set to be used for writing Arabic domain names

1 Linguistic issues

To define the top-level domains of the Arabic domain name tree structure (i.e., Arabic gTLDs, and ccTLDs)

2 Arabic TLDs

3 Technical solutions

IETF, MINC, ...

4 Arabic root servers

ICANN/IANA, MINC, ITU, ...

ADN: What has been done so far?



1 Linguistic issues

To define the accepted Arabic characters to be used for writing Arabic domain names

2 Arabic TLDs

To define the top-level Arabic domain names (i.e., Arabic TLDs)

3 Technical solutions

IETF, MINC, ...

4 IDN root servers

ICANN/IANA, ...

Local community efforts:

- Linguistic Committee – Arabic linguists – publishing papers – web surveys, ...

Internet Draft

- defining accepted Arabic character set for Arabic domain names
 - U0621-U063A (hamza-ghayn)
 - U0641-U064A (feh-yeh)
 - U0660-U0669 (٠,١,٢,٣,٤,٥,٦,٧,٨,٩)
 - U0030 - U0039 (0,1,2,...,9)
 - U002D (Hyphen)
 - U002E (Dot)
- defining Arabic ccTLDs

ADN: What is remaining?



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 Arabic domain name (i.e., Arabic TLDs)

3 Technical solutions

IETF, MINC, ...

Partially done by IETF:

- 3490 IDNA
- 3491 Nameprep
- 3492 Punycode
- 3454 Stringprep

4 IDN root servers

ICANN/IANA, ...

ADN: What is remaining?

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 Arabic domain name (i.e., Arabic TLDs)

3 Technical solutions

IETF, MINC, ...

4 IDN root servers

ICANN/IANA, ...

No root servers yet available for non-ASCII domain names

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
- **Arab Team for Arabic Domain Names:**
 - Formed under the auspices of **Arab League**
 - Arabic domain name pilot project

Testing Projects (1): At country-level



- Individually done by some Arab countries (ccTLDs)
 - Arabic.English
 - E.g., نطاق.com.sa
 - Problem of mixing languages (left-to-right and right-to-left)



Testing Projects (2): GCC ADN Project



- **March 2004:**
 - During the Gulf Cooperation Council (GCC) ccTLDs group meeting on **7 March 2004**,
 - “A Technical Proposal for Implementing Arabic Domain names in the GCC Countries” was presented and accepted
 - A technical taskforce was formed and assigned the task to implement the proposal within 6 months in three phases



ae, bh, kw, om, qa, sa

Testing Projects (3): ADN Pilot Project



- May 2005: the 2nd meeting of the Working Group on Arabic Domain Names, Cairo.
- Recommendations:
 - Extend the GCC Pilot Project for Arabic Domain Names to include all members of the Arab League (22 countries).
 - Renamed it to be "**Arabic Domain Names Pilot Project**".
 - Under the auspices of the Arab League.



ADNPP: Introduction



- Implementing a **test bed** for Arabic domain names (ADN) in the Arab world.
- This will allow all Arab countries to early experience the use of Arabic domain names
 - identify their needs
 - agree on standards
 - locate possible problems
 - and develop required tools and policies
- The project is **not commercial** and had been initiated by a non profit organizations

ADNPP: Goals & objectives

- Establish and implement Arabic domain names.
- Increase the Internet use in the Arab world by making the Internet easier to use for native Arabic speakers.
- Gain experience and knowledge of using Arabic domain names and share it with the Internet community.
- Test the implantations of Arabic domain names based on the guidelines drafted by the “Arabic Team for Domain Names”.
- Develop necessary tools required for Arabic domain names and DNS.

ADNPP: Participants + Duration

■ Participants

- All members of Arab League are invited to participate in this pilot project

■ Duration

- Open . will **continue** as a test bed until the recognition of Arabic TLDs by concerned international bodies .

ADNPP: Deliverables

- Establish and activate the Steering and Technical Committees (**done**)
- Prepare and maintain a website for the project (**done**)
 - www.arabic-domains.org
- Prepare the Arabic DNS root servers (**done**)
- Prepare the Arabic ccTLD servers for the participating countries and connect them with the Arabic root servers (**done**)
- Register and test Arabic domain names (**in progress**)
- Test and develop tools supporting the use of Arabic domain names (**done and in progress**)
- Participate in local and regional activities related to Arabic domain names (**done**)

ADNPP: Participants so far

- Participated Countries:
 - United Arab Emirates
 - Saudi Arabia
 - Qatar
 - Oman
 - Palestine
 - Egypt
 - Tunisia
 - Syria
 - Jordan
 - ...



United Arab Emirates
[United Arab Emirates Network Information Center](#)



Kingdom of Saudi Arabia
[Saudi Network Information Center](#)



State of Qatar
[Internet Qatar](#)



Sultanate of Oman
[Oman Telecommunications Company](#)



State Of Palestine
[Ministry of Telecom and IT](#)



Arab Republic Of Egypt
[Ministry of Communications & Information Technology](#)



Republic Of Tunisia
[Tunisian Internet agency](#)

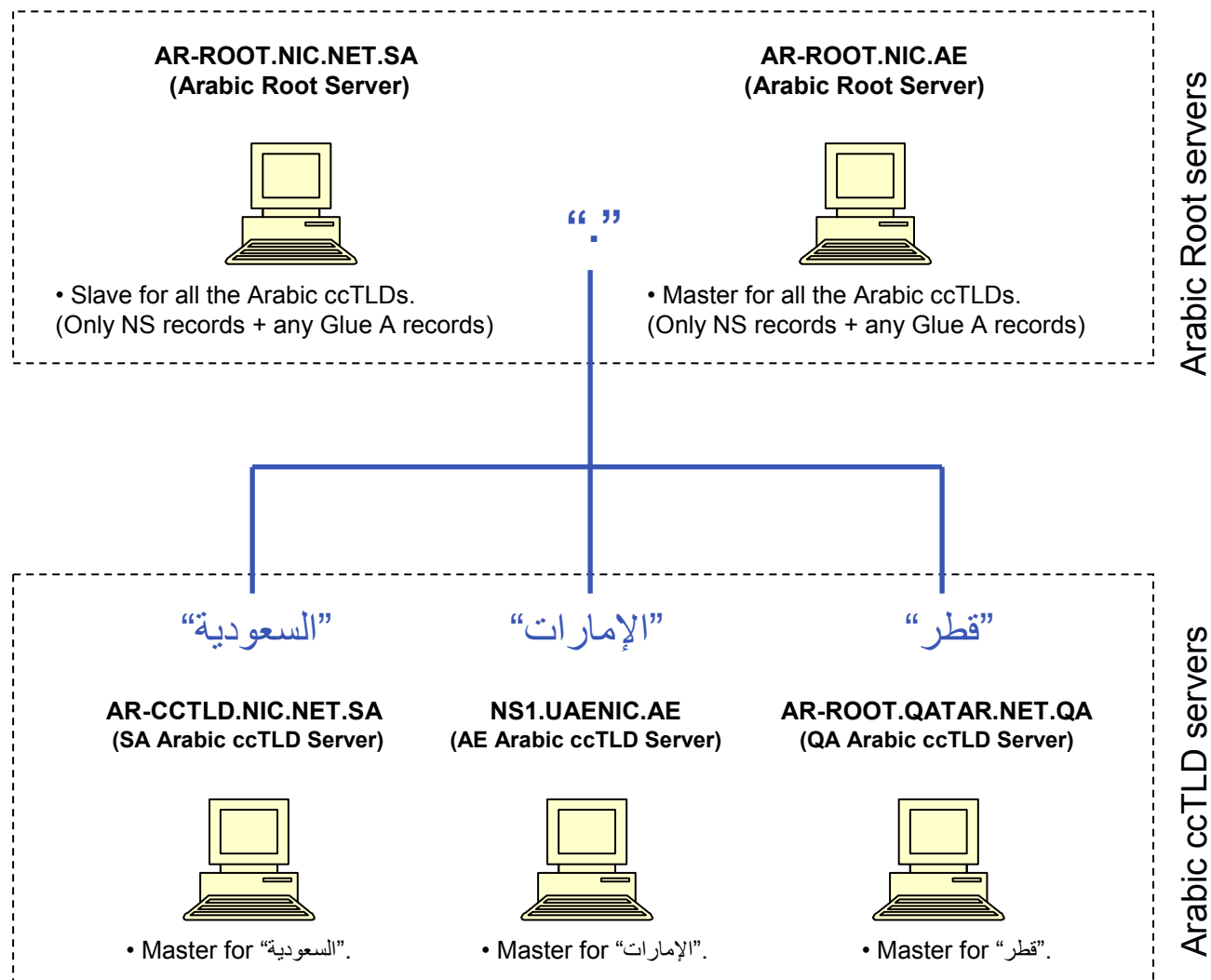


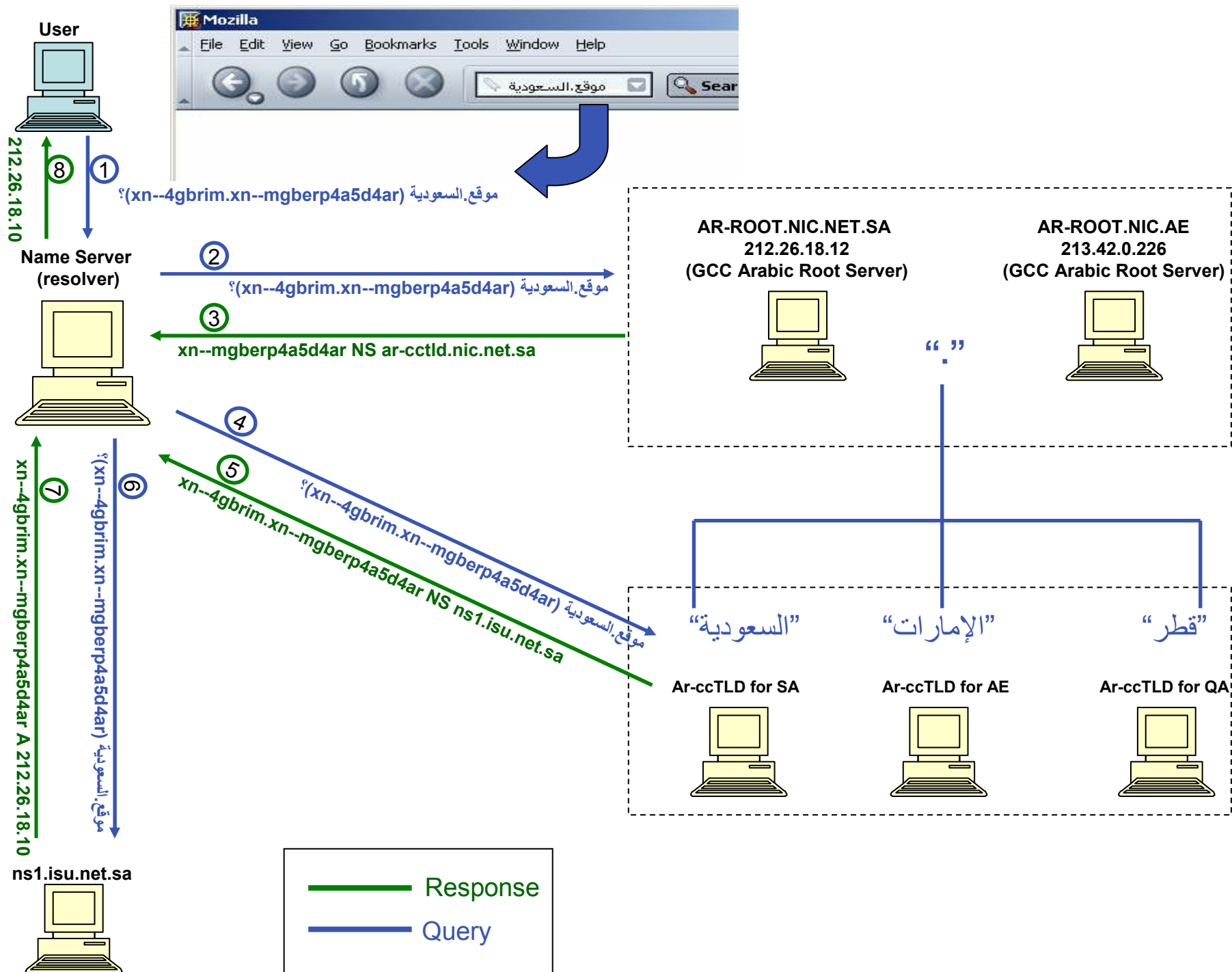
Syrian Arab Republic
[Tunisian Internet agency](#)



Hashemite Kingdom of Jordan
[National information technology center](#)

ADNPP: Root Servers





GCC Arabic Root servers

GCC Arabic ccTLD servers

ADNPP: Policy Docs



- **The Steering Committee produced a number of policy documents (so far):**
 - Project initiation Document
 - Guidelines for an Arabic Domain Name System (Internet Draft)
 - Terms and Conditions
 - Participation Policy for Arabic ccTLD managers
 - Guidelines for forming Arabic Domain Names

ADNPP: Tech Docs

- **The Technical Committee produced a number of technical documents (so far):**
 - General Technical Introduction.
 - How to Setup Arabic root server.
 - How to Setup Arabic ccTLD server.
 - How to Resolve Arabic Domain Names (ISPs).
 - Requirements for Resolving Arabic Domains (End Users).

ADNPP: Last Participations

- **Comments on ICANN IDN Guidelines V 2.0**
 - <http://forum.icann.org/lists/idn-guidelines/msg00009.html>
- **Comments on deployment of internationalized top level domains (Chinese Domain Name Consortium CDNC)**
 - <http://forum.icann.org/lists/idn-tld-comments/msg00003.html>
- **ICANN Meeting, Vancouver, 30 NOV 2005**
 - <http://www.arabic-domains.org/docs/ADNPP-Experiences-New.doc>
- **ICANN Meeting, Marrakech (Morocco), 26 Jun 2006**
 - [Technical Presentation about the ADNPP](#)
- **UNESCO & ICANN & NTRA - Workshop about “Towards a global multilingual Internet”, Athens , 31 OCT 2006**
 - [Technical Presentation about the ADNPP](#)
- **ICANN & UAENIC - IDN workshop, Dubai, 20 NOV 2006**
 - [Technical Presentation about the ADNPP](#)
- **Monitoring and following up ADN new activities ☺**

SaudiNIC's Experiences: Introduction



- SaudiNIC has opened the registration of Arabic domain names under (.السعودية) for test purposes on:
 - 26/9/2005 (22/8/1426 H)
- Following the regulations of the Arabic Domain Names Pilot Project (www.arabic-domains.org)

SaudiNIC's Experiences: Accomplishments (1/2)



- Writing registration policies for Arabic domains (السعودية).
- Publishing a section in SaudiNIC website about ADNs:
 - <http://www.nic.net.sa/adn.php>
- Making announcements through the media regarding
 - Arabic Domain Names Pilot Project
 - The launching date for accepting Arabic domains requests under (السعودية).
- Building forms and tools:
 - Online form for submitting registration requests.
 - Online form for instant modification.
 - Whois service.
 - Zone builder for (السعودية).
 - ADN Registration System.
 - Provide domain hosting choices for ADN.
 - And many other generic tools ...

SaudiNIC's Experiences: Accomplishments (2/2)



- **IDN/ADN Converting Tool:**
 - Convert domain names form IDN to ASCII and vice versa.
- **DNS checker for Arabic Domains:**
 - Check if an IDN domain name is hosted on any name servers.
- **Host checker for Arabic Domains:**
 - Resolve IDN domains to the correspondent IP address and vice versa.
- **Zone file editor for Arabic domains:**
 - Create and manage Arabic zone files easily using this zone editor.
- **ADN plug-in “Arabic.Arabic” (عربي.عربي)**
 - Browser plug-in that enable users to reach fully Arabic domain names for any country participating in the ADN Project

Saudi Stock Exchange -Tadawul- market and company information, Saudi Arabia Security Exchange, - Netscape

File Edit View Go Bookmarks Tools Window Help

http://الأسهم.السعودية/ Search

من سامبا From Samba TADAWUL تداول أوسع الخبرات

أفظمة السوق معلومات الشركات الإعلانات الاستثمار الأسهم أدوات المستثمر مركز المساعدة

نغز لعرض أسعار للرمز بحث عن الرمز

0.33% 17.97 ↑

ملخص السوق

11:24 07/06/2004 الوقت

1,457,639,619.00 قيمة الأسهم المتداولة

10,913,714 كمية الأسهم المتداولة

14983 عدد الصفقات

69 الشركات المتداولة

26 أسهم ارتفعت

36 أسهم انخفضت

المؤشر العام

5400

5380

5360

5340

09 11 13 15 17

المؤشر العام ومؤشرات القطاعات

% التغير المؤشر ①

0.33 17.97 5,405.07 مؤشر السوق

الإعلان التاريخ الوقت

صافولا تفتتح أربع مراكز تجارية للتجزئة تتجاوز تكلفتها 300 مليون ريال 09:41:47 07/06/2004 جديد

جمعية التصنيع الوطنية تقرر توزيع الأرباح بواقع 5 ريال للسهم كما تقرر زيادة رأس مال الشركة وإصدار سهم لكل أربعة أسهم بسعر 135 ريال 08:18:50 07/06/2004

التذبذب (10%) لسهم شركة على أساس السعر 246 ريال 2004/06/07

تعلن شركة اللجين عن بدء الاكتتاب في الأسهم الجديدة ويحق لكل مساهم الاكتتاب في سهمين مقابل كل سهم بسعر 60 ريال للسهم عن طريق فروع البنك الأهلي بدء من يوم السبت 6/12/2004. 17:11:04 05/06/2004

يسر مجلس إدارة الشركة السعودية للصناعات المتطورة "المتطورة" دعوة المساهمين لحضور إجتماع الجمعية العامة العادية (للمرة الثانية) وذلك يوم الأربعاء 1425/4/21 هـ الموافق 19/ 15:14:39 05/06/2004

شريط الأسعار | بيانات البنوك | تحميل البيانات | مواقع أخرى | البحث | إخلاء مسؤولية | خارطة الموقع | الخروج

الأسهم السعودية

Compare with:
www.tadawul.com.sa

SaudiNIC's Experiences: Policies and Regulations

- Governed by the policies and regulations of the ADNPP
- Utilize the .SA policies as a template for the Arabic domains
- Flat Registration under (السعودية)
- First come first serve (matching the policies)
- Domain names format (based on the ADNPP guidelines) :
 - Length from 3 to 30 (approximate).
 - Consists of the main 28 Arabic letters and their possible shapes.
 - U0621-U063A + U0641-U064A
 - Use Dash (-) as word separators.
 - Domain should start with the entity type or activities
 - وزارة – إدارة – مجموعة – شركة – مدرسة – مستشفى – نادي – شبكة
 - Match spelling and grammar rules (manually).
 - No registration for individuals (temporary).
 - Not permitted:
 - Mixing between languages and scripts.
 - Kasheeda (التطويلة)
 - Tashkeel (diacritica) and Shaddah
 - Numbers (temporary)
 - Character folding
 - Combining many Arabic words without separator.

SaudiNIC's Experiences: Reg. Requirements & Procedure

- **Registration Requirements:**
 - Having an active .sa domain name.
 - Filling the online form.
 - Sending a conformation letter to SaudiNIC.
 - Confirm reading the policies!
- **Registration Procedure:**
 - Reading and agreeing on SaudiNIC ADN Policies.
 - Choosing appropriate Arabic domain names
 - Guidelines that helps choosing Arabic domain name.
 - Filling the online application form.

SaudiNIC's Experiences: Technical Issues

- **Domain name hosting choices :**
 - URL forwarding/Redirecting (shared hosting)
 - IP addressing (dedicated/IP-based hosting)
 - Pointing to name servers (full DNS hosting)
 - If ISP familiar with IDN/ADN

- **Use UTF-8 for all data.**

- **Store the puny-code for the ADN.**

Microsoft Internet Explorer - المركز السعودي لمعلومات الشبكة

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address http://nic.net.sa/page.php?page=62&lang=0 Go

!sa

سجل نطاقك المحلي مجاناً وأرسل زوارك إليك بسهولة

English IP ? ? ? ? ?

المركز السعودي لمعلومات الشبكة

قواعد التسجيل تسجيل نطاق تعديل نطاق إحصاءات أسئلة شائعة مساعدة إتصل بنا النطاقات العربية

نموذج طلب تسجيل اسم نطاق تجريبي تحت النطاق العربي السعودي (.السعودية)

تعبئة النموذج إرسال الخطاب التسجيل

يجب تعبئة جميع الحقول التالية بالشكل الصحيح
ملاحظة: لتعديل معلومات نطاق عربي تم تسجيله مسبقاً استخدم النموذج التالي: نموذج التعديل

البحث عن نطاق عربي

السعودية: بحث

النطاقات العربية

قواعد التسجيل
خطوات التسجيل
كيفية الإستخدام
تسجيل نطاق عربي
تعديل نطاق عربي

أولاً: معلومات عن النطاق

اسم النطاق المسجل حالياً تحت (.sa):

اسم النطاق العربي المراد تسجيله: - السعودية

اسم الجهة المستفيدة من النطاق:

ثانياً: اختر أحد طرق استخدام وتفعيل النطاق العربي (للمزيد من المعلومات):

1- توجيهه إلى العنوان (URL): http://

2- ربطه برقم الانترنت (IP Address):

3- استضافة النطاق بشكل منفصل ومستقل على خادم أسماء النطاقات التالي (DNS Server):

اسم الجهاز (Host name):

رقم الانترنت (IP address):

ثالثاً: معلومات الاتصال بك عند الحاجة

اسمك:

رقم هاتفك (جوال):

بريدك الإلكتروني:

ملاحظات:

تم الاطلاع والموافقة على شروط وقواعد تسجيل النطاقات التجريبية

التالي مسح

SaudiNIC's Experiences: Learned Lessons

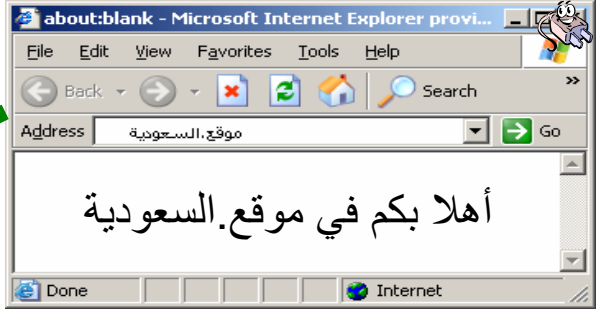
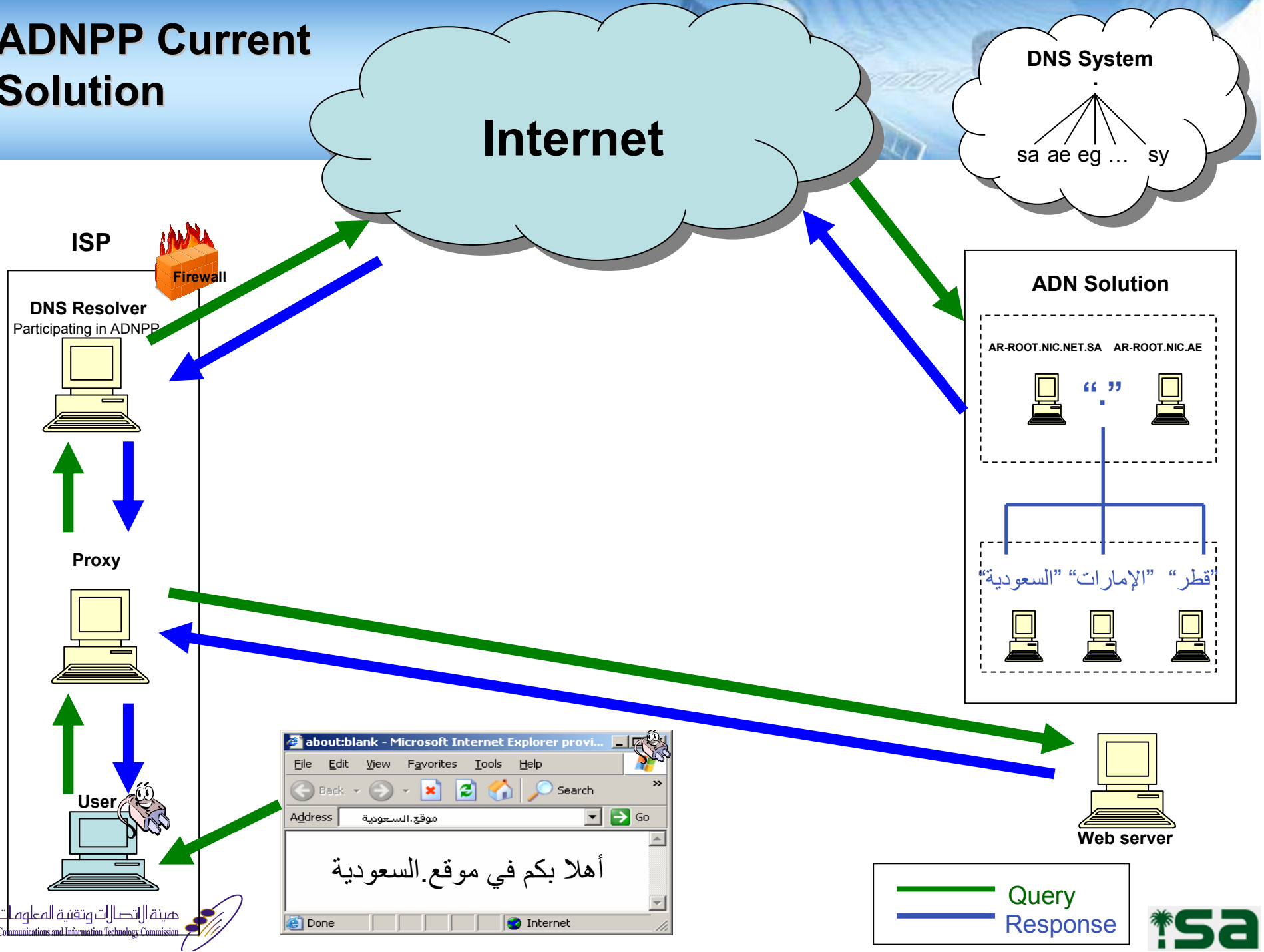
- **Users submit many requests for Arabic domains:**
 - With Arabic spelling Mistakes! (مؤسسة)
 - With English pronunciation in Arabic letters. (ورلد وايد)
 - Popular and general names of future selling purposes. (إنترنت)
- **Main Obstacles:**
 - Difficult to coordinate and make every **ISP** to join the project so users can reach ADN
 - Some ISPs lack technical experiences to work with IDN
 - MS browser IE (Ver. 6 or less) does not support IDN

Developing “Arabic.Arabic” Plug-in

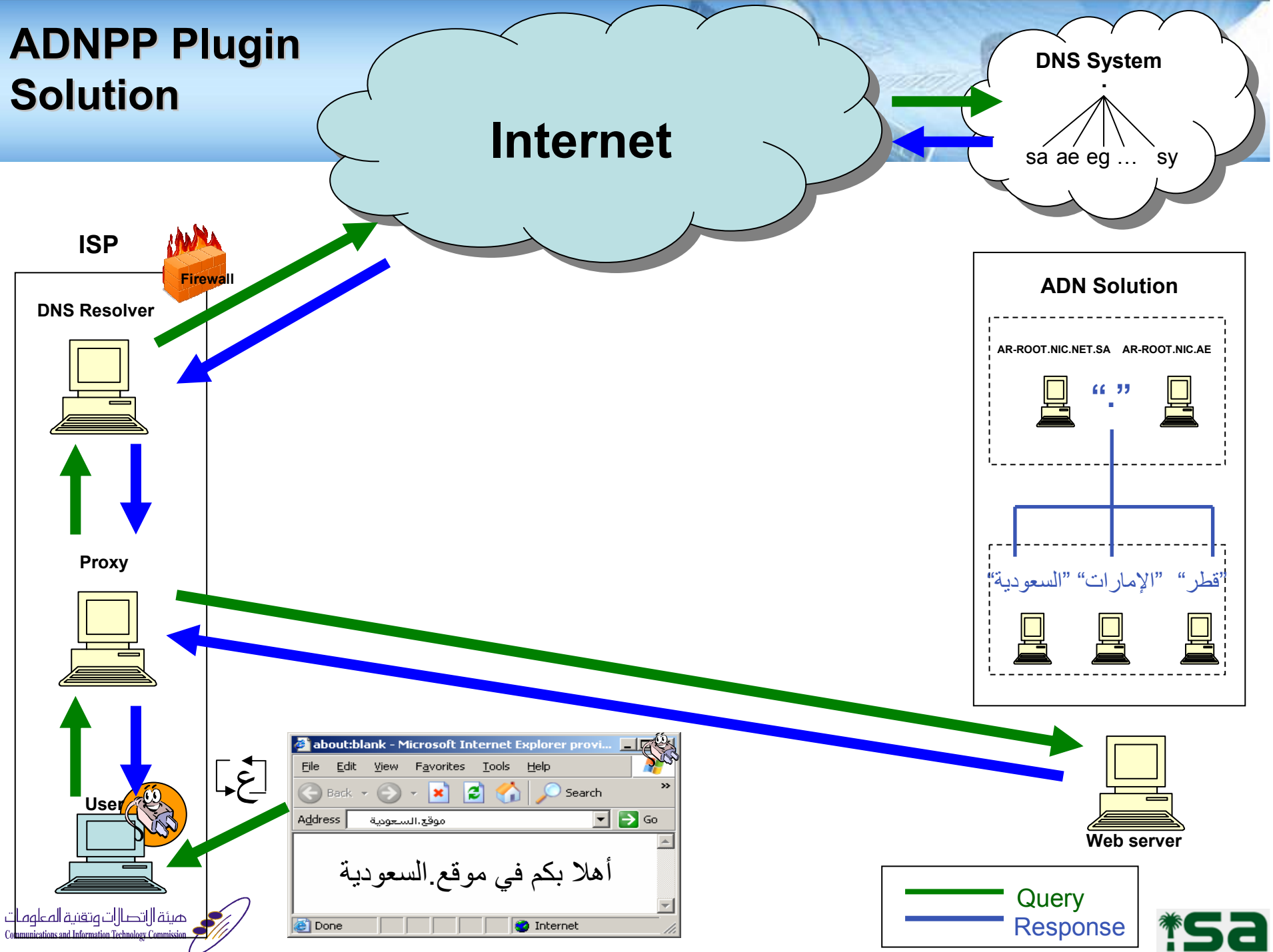


- **The Goal is to enable the Arabic user to reach Arabic domains:**
 - Independently from the ISP
 - Independently from any service/connection type.
- **The solution:**
 - Develop a browser plug-in that enable the user reaching Arabic domain names in easy and smart way.
 - The plug-in should convert any Arabic domain name to a real & reachable domain name registered in the current DNS (e.g. xn--?????.adn.sa).

ADNPP Current Solution



ADNPP Plugin Solution



“Arabic.Arabic”: Plug-in tool

- browser plug-in tool that simulate the solution.
- approved by the ADNPP.
- Latest version is 1.1
 - Supports Windows OS (2000, XP)
 - Works with IE 6
 - Auto update checking.
 - Support the IDN punycode converting (IDNA)
 - Interacts only with Arabic domain names (participant counties)
 - Support the ADNPP non-plugin solution (old way)
 - Change the Arabic domain name to real domain:
موقع.السعودية ← موقع.adn.sa ← xn--4gbrim.adn.sa
- Future versions:
 - Support other OS
 - Support IE7 & Firefox
 - Support Key word searching



Summary

- **Having Arabic Domain Names is becoming an essential requirement to our community development and it is not a commodity!**
 - Imagine ... e-government solutions using a foreign language!!
- **Not having a full **IDN root servers** by itself is a big obstacle.**
- **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]*

Thanks

شكرا

xn--mgbti4d