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Communications and Information Technology Commission

Launching IDN ccTLD

السعودية.

(.alsaudiah)

Raed Al-Fayez
SaudiNIC - CITC

Agenda

About SaudiNIC

What we have done

What is Next

Lessons learned

About SaudiNIC

About SaudiNIC
Saudi Network Information Center

- **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) since May 2010

- **Leading the local community efforts towards supporting Arabic language in DNS**
  - Chairing both Steering and Technical Committees of the ADNPP

About SaudiNIC
Latest Achievements

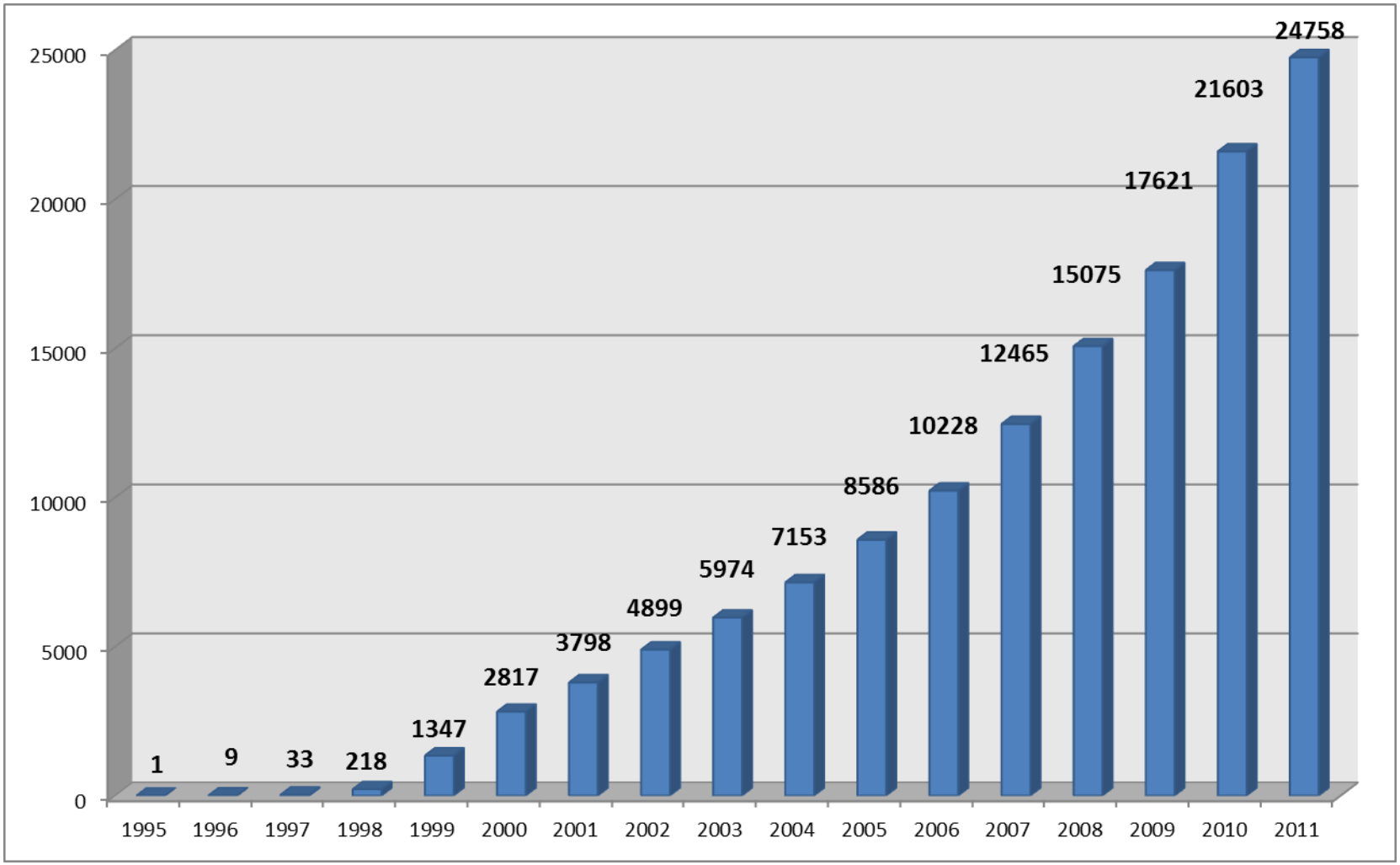
- Full **IPv6 Support** – Jan 2010
- Open registration of **Arabic** domain names under "السعودية." (سجل.السعودية) – May 2010
- Open registration of domain names **directly** under ".sa" (nic.sa) – Jan 2011
- Updated the "**Domain Name Regulations**" – Apr 2011
- Updated "**Procedures for Submitting an Objection to Saudi domain names**" (Dispute Resolution) – Apr 2011

About SaudiNIC
Coming Projects

- **Registry–Registrar model**
- **DNSSEC**
- **IDN Emails**
- **Testing and checking IDN implementation in well-known applications**

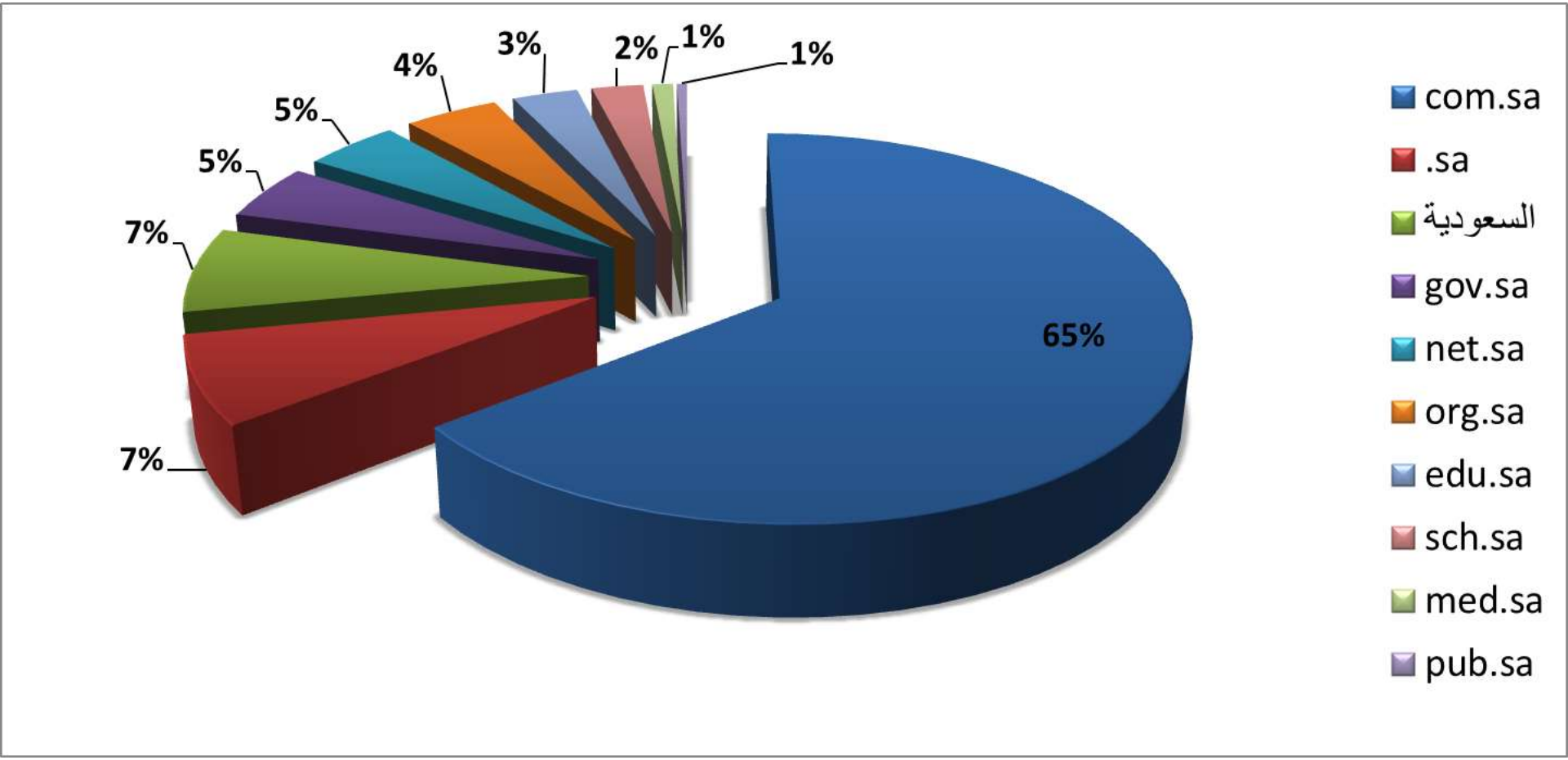
About SaudiNIC

Statistics



About SaudiNIC

Statistics



What we have done? ... السعودية.

What we have done
String Evaluation and Delegation

16 Nov 2009
ICANN opened IDN ccTLD FT Process

16 Nov 2009
Applying to fast track process

20 Jan 2010
ICANN Approved the String

24 Jan 2010
Applying for delegation

22 Apr 2010
IANA Approved the Delegation

5 May 2010
IANA added xn--mgberp4a5d4ar to the root servers

السعودية.

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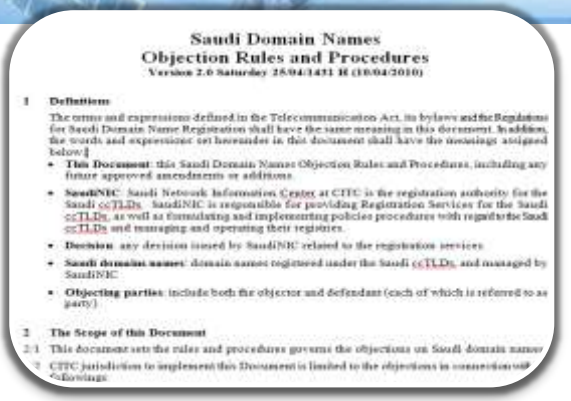
.sa

What we have done
Regulations and Guidelines

Main Registration Regulation

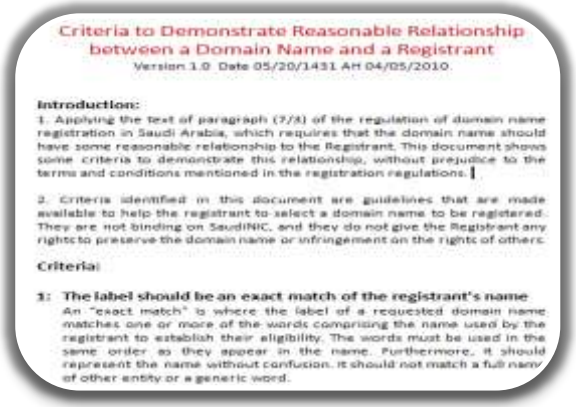
Regulation for Opening ADN Registration



Objection Rules and Procedures

Procedures Governing Reserved Names

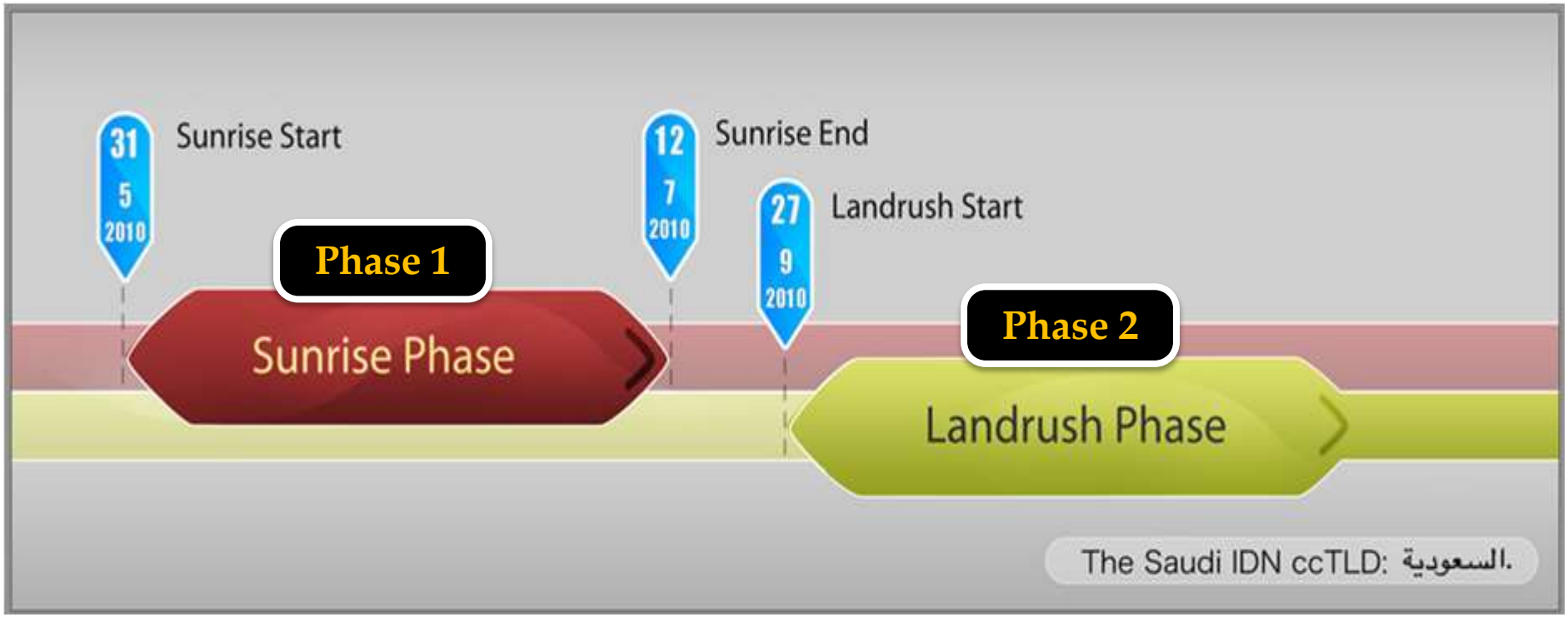
Guideline for writing ADNs



Criteria to Demonstrate Reasonable Relationship between a Domain Name and a Registrant

What we have done
Opening Registration Plan

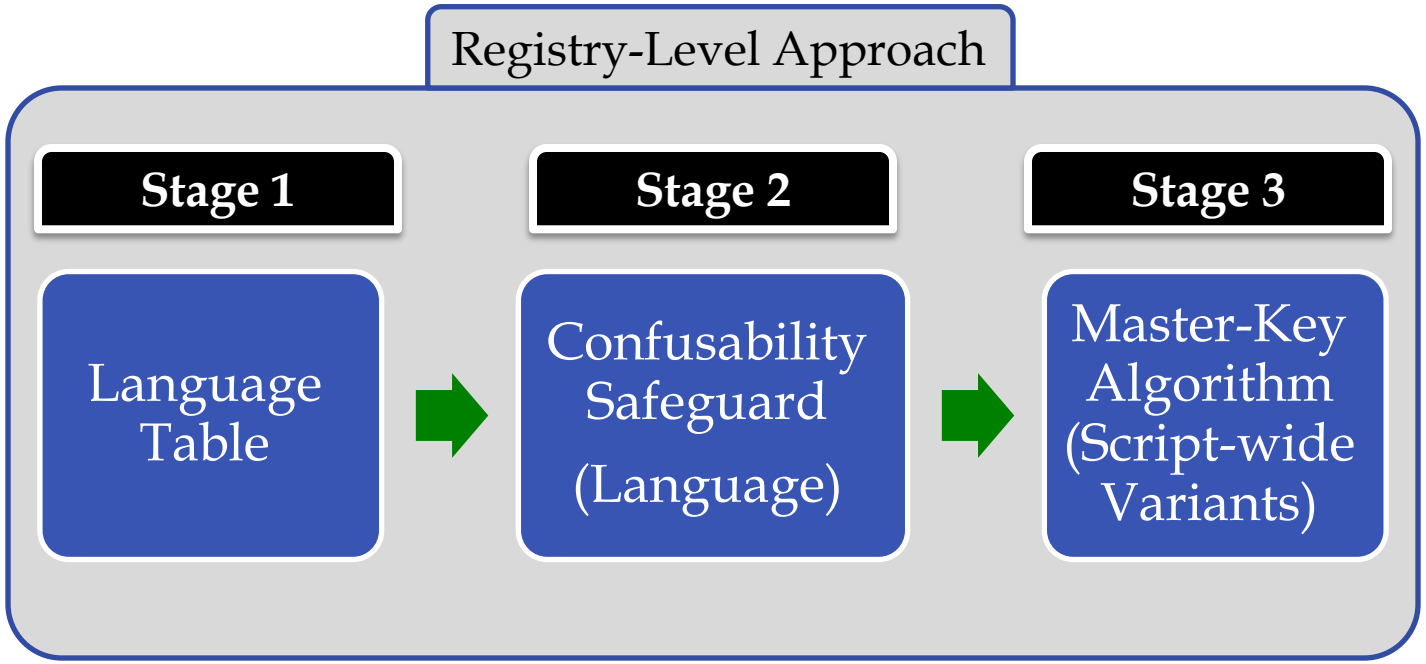
- **We announced our Registration Plan (2 phases)on**
  - 15 April 2010



What we have done
Technical Enhancements

- **Rebuilt the registration system to support (in-house)**
  - Arabic IDN
  - IDN Variants (Master-key Algorithm)
- **Increased Connection BW and installed new servers**
- **Implemented Anycast and IPv6 on our DNS servers**
- **Build some tools & scripts related to IDN**
  - IDNA 2003 & IDNA2008 implantations
  - DNS checker & Zone editor
  - Zone builder and Whois

What we have done
Developed a Registry-level Approach



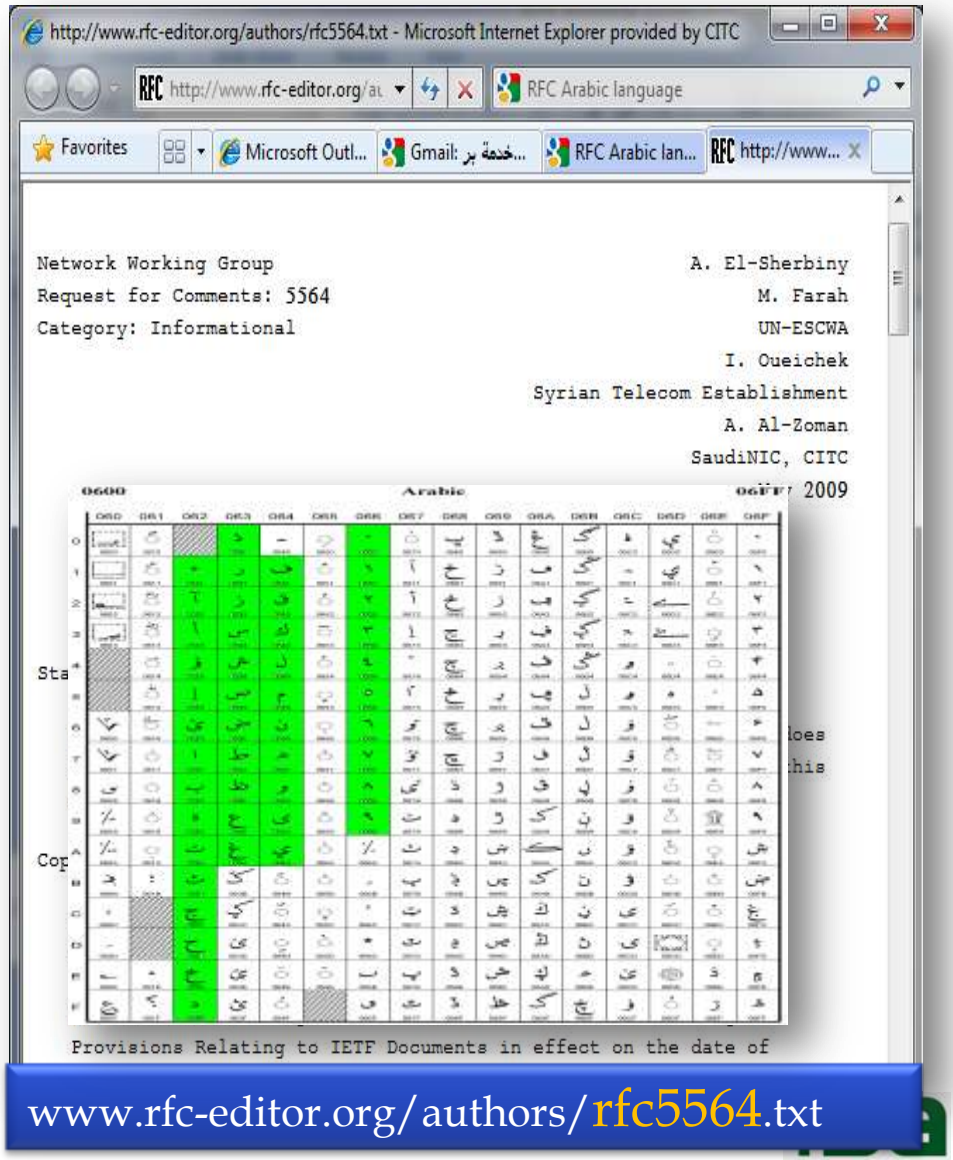
A master-key code

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

What we have done
Developed a Registry-level Approach

Stage 1: Defining Language-Table

- **List all supported code points that will be used in our IDN ccTLD (السعودية.)**
  - Based on the **RFC# 5564** (Linguistic Guidelines for the Use of the Arabic Language in Internet Domains)
    - Letters: From (أ) to (ي)
    - Numbers: From (٠) to (٩) & (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)



www.rfc-editor.org/authors/rfc5564.txt

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What we have done
Developed a Registry-level Approach

Stage 2: Language Confusability Safeguard

- **Provide a phishing protection layer (Emlaa Key Algorithm) to handle issues within the language such as:**
  - Characters that have many shapes (أ إ آ ا) (ه ة) (ي ى):

    احمد & أحمد

  - Similarities between Letter HEH (ه) and Number Five (٥):

    بريده & بريد٥

  - Similarities between Letter ALEF(ا) and Number one (١)

    رائد & ر١ئد

  - Digit mixing

    مؤتمر ٢٠١٠ & مؤتمر٢٠١٠

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What we have done
Developed a Registry-level Approach

Stage 3: Master-Key Algorithm

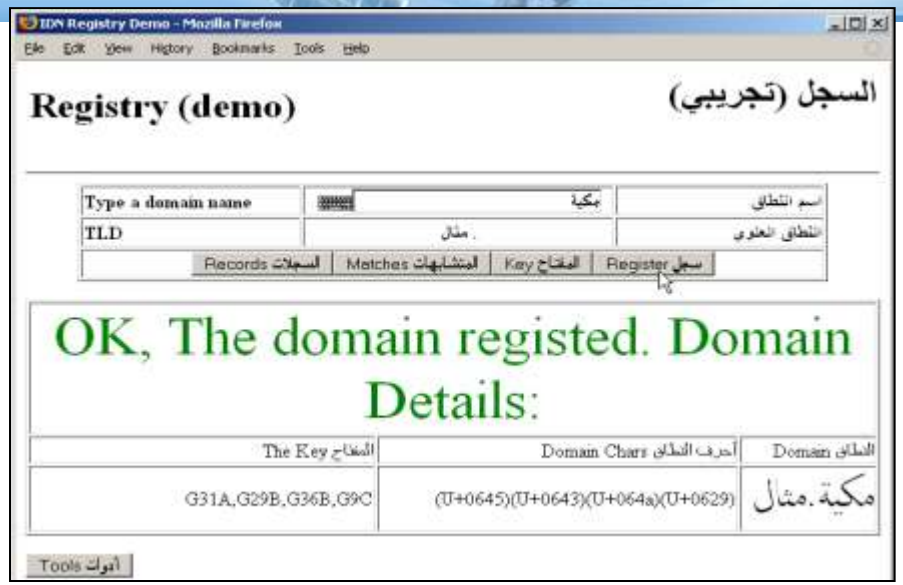
- **SaudiNIC developed an algorithm (Master Key Algorithm) that can be used at the registry level.**

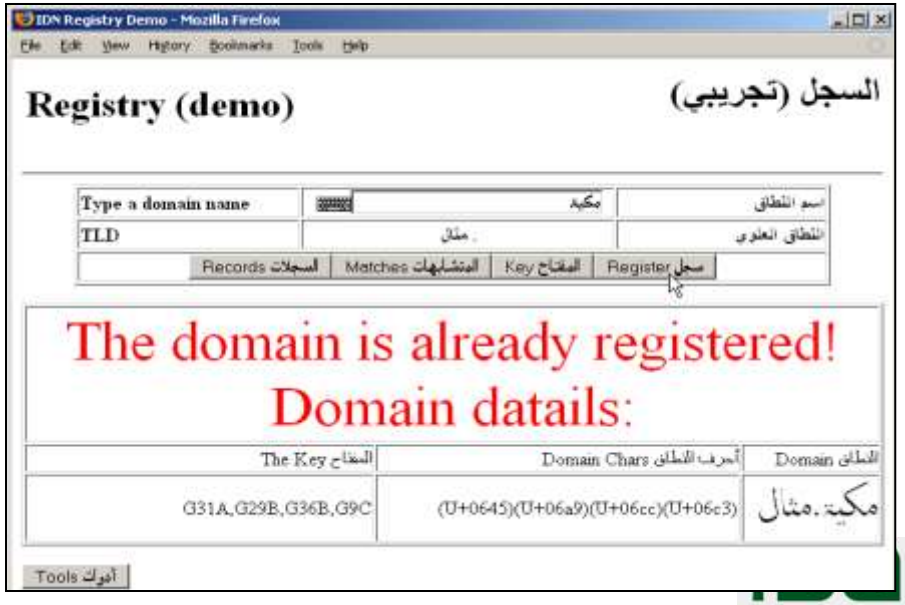
- **It will safely allow users to register a domain name using the allowed characters (from the language table) and at the same time protect the possible variants (across the script) in other languages (Arabic, Farsi, Urdu ..etc)**

- **Transparent to end users**

What we have done

Developed a Registry-level Approach





What we have done

Basic Rules for writing Arabic domains

- The Arabic Label should be at least 2 symbols.
- The Arabic Label should have a corresponding valid ASCII Label
- A label should not start or end with a dash "-"and should not have two consecutive dashes.
- The symbols representing the Arabic Label should comply with terms and conditions specified by SaudiNIC which include permitted characters and symbol to be used in registering Arabic domain names.

What we have done

Guideline Rules for writing Arabic domains

- **Guideline Rules for writing Arabic IDNs under (.السعودية) IDN ccTLD**
- **Consists of:**
  - Language Table
  - 7 Rules

قواعد إرشادية لصياغة أسماء النطاقات العربية

ضمن النطاق العربي

(.السعودية)

الإصدار ١.٠ (تاريخ ١٤٣١/٥/٢٠هـ الموافق ٢٠١٠/٥/٤م)

مقدمة:

تعنى هذه الوثيقة بتحديد الرموز المسموح استخدامها عند تسجيل أسماء نطاقات عربية ضمن النطاق العلوي العربي السعودي (.السعودية)، أيضا تضع هذه الوثيقة جملة من الإرشادات والقواعد تساعد على كتابة أسماء النطاقات العربية بشكل صحيح أخذين في الاعتبار المواضيع التي تمس اللغة أو الحرف العربي، يكون للمصطلحات والتعابير المعرفة في لائحة تسجيل أسماء النطاقات العربية نفس المعنى المحدد لها في تلك اللائحة عند استخدامها هنا في هذه الوثيقة وبالخصوص المصطلحات التالية:

- **اسم نطاق**: يطلق على أي من الصيغتين القياسيتين أو كلاهما المستخدمة لتمثيل أسماء النطاقات باللغة العربية طبقا للمواصفات القياسية الدولية الخاصة بأسماء النطاقات المدولة بحيث تكون:
  - **الصيغة الأولى باللغة العربية**: وهي عبارة عن اسم مكون من مقطعين عربيين مفصولين

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What we have done

Guideline Rules for writing Arabic domains

- **Rule #1:** Diacritics are not allowed

سَجّل.السعودية

سجل.السعودية

What we have done
Guideline Rules for writing Arabic domains

- **Rule #2:** No mixing between scripts (Arabic & Latin)

موقع-SaudiNIC.السعودية

SaudiNIC.السعودية

What we have done

Guideline Rules for writing Arabic domains

- **Rule #3:** Use of hyphen (instead of space) between words particularly if the 2 words will get connected

هيئةالاتصالات.السعودية

هيئة-الاتصالات.السعودية

مدارس-خيف.السعودية

مدارسخيف.السعودية

What we have done
Guideline Rules for writing Arabic domains

- **Rule #4:** Hyphen can not be used at the beginning or end of a label and 2 or more consecutive hyphens are not allowed

مثال (e.g.) : -هيئةالاتصالات.السعودية

مثال (e.g.) : هيئةالاتصالات-.السعودية

مثال (e.g.) : هيئة--الاتصالات.السعودية

What we have done
Guideline Rules for writing Arabic domains

- **Rule #5:** Digits can not be used at the beginning or end of a label. Digits can be used inside a label from the 2 sets without mixing.

999.السعودية

اتصل٩٩٩.السعودية

٩٩٩للنجدة.السعودية

اتصل٩٩٩للنجدة .السعودية

اتصل999للنجدة.السعودية

It is permitted to register other variants of the domain name that can be formulated just by changing the digit set

اتصل٩٩٩للنجدة.السعودية

What we have done
Guideline Rules for writing Arabic domains

- **Rule #6:** Variants within the language
  - Characters that have many shapes (أ إ آ ا) (ه ة) (ي ى)

It is permitted to register the other variants names that can be created just by changing the confusingly similar characters provided that it does not infringe on the rights of others

✔ مثال (e.g.) : شبكة-الأخبار.السعودية

It is permitted to register the other variants

✔ مثال (e.g.) شبكة-الاخبار.السعودية

✔ مثال (e.g.) شبكه-الأخبار.السعودية

✔ مثال (e.g.) شبكه-الاخبار.السعودية

What we have done

Guideline Rules for writing Arabic domains

- **Rule #7:** Variants within the script

  It is permitted to register the Variants within the Arabic Script that will allow the Arabic domain names to be used globally despite the fact that some other languages that use the Arabic script (such as Urdu, Farsi, Pashto, ...) might have characters that lock confusingly similar to some of the Arabic characters. This also takes care of the problem of having different input devices (e.g., keyboards) used within the Arabic script communities.

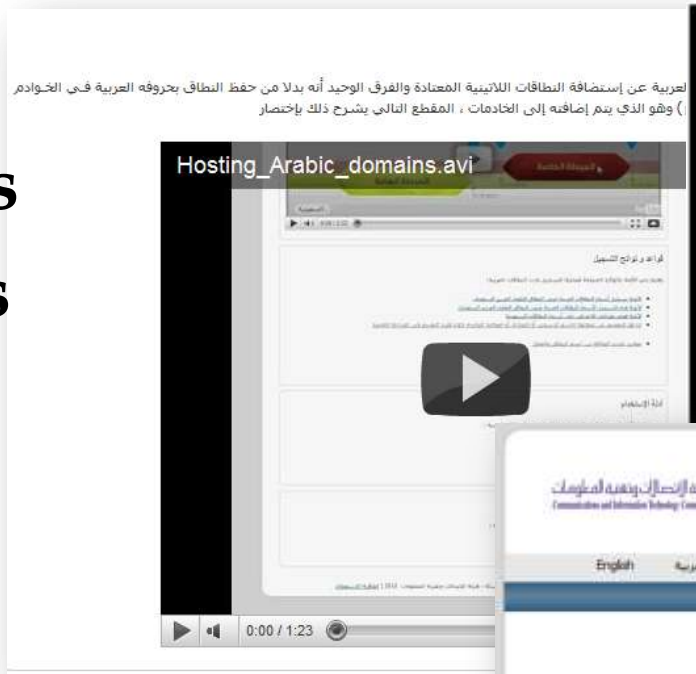
(all characters are from the Arabic Language) ✔ مكة.السعودية

(the letter KAF and THE MARBUTA are from Urdu) ✔ مكة.السعودية

(the letter KAF and THE MARBUTA are from Urdu) ✘ مكة.السعودية

What we have done
Awareness and Support

- Videos
- Documents
- Guidelines
- Support
- Training
- Blog



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What is Next ? ... السعودية.

What is next?
IDN TLD variants

There is a need to enable TLD Variants

Delegating IDN variants to our clients can not happen without getting the TLD variants.

مكة.السعودية (0643 ك)

مكة.السعودية (06A9 ک)

What is next?
IDN Support in Applications

- **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

Lessons learned

Lessons learned

- **TLD variants are a must-have!**
  - Reaching IDN domains from any place
- **Hosting Companies (local and global) dose not support new IDN TLDs**
  - Need more awareness and coordination
- **Still there are some issues with IDN applications**
  - Need to test each application version for Right-to-Left compatibilities and follow-up with their vendors
    - Generation technical reports (testing applications)
    - Attending IDN Software Developer's Consortium
- **Marketing is a must!**
  - We will deploy Registry-Registrar model soon

Thank you

شكرا

For more information you can visit:

www.nic.sa

للمزيد من المعلومات يمكنكم زيارة:

سجل .السعودية