

Internationalized Domain Names



Tina Dam
Senior Director, IDNs
tina.dam@icann.org

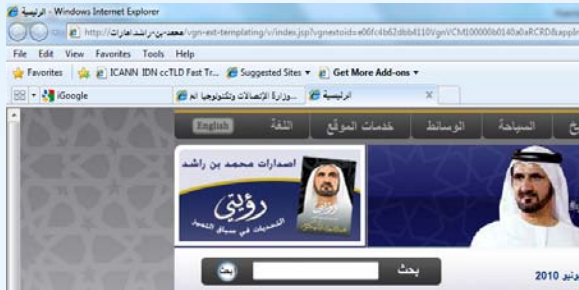
Prepared for:
Localization World
Berlin, Germany - 8 June 2010



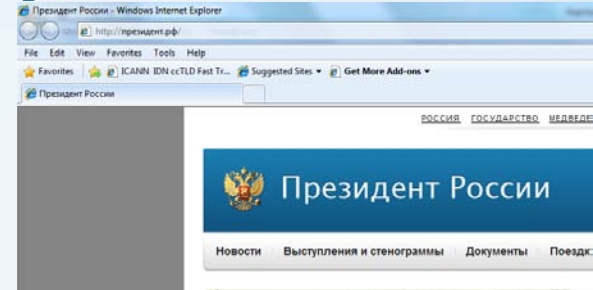
LOCALIZATION WORLD
CONFERENCE & EXHIBITS

First Four IDN ccTLDs

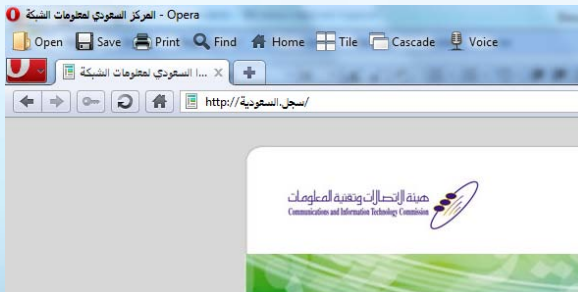
امارات



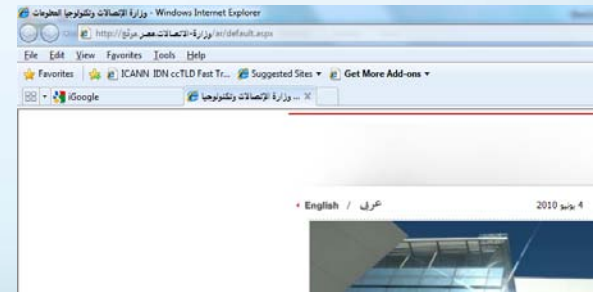
ppф



السعودية



مصر



The First Four

- Special recognition of the first four IDN ccTLD:
 - United Arab Emirates, Saudi-Arabia, Russian Federation, Egypt
 - simultaneous: delegation: مصر. and امارات. السعودية.
 - .pφ followed shortly after
- Milestones include:
 - Jun 2003: IDNA protocol, IDN Guidelines, initiation browser implemented
 - Feb 2008: First report from IDNC leading to IDN ccTLD Fast Track Process
 - Oct 2008: First draft implementation plan for IDN ccTLD Process
 - Oct 2009: ICANN Board approves IDN ccTLD Fast Track Process
 - Nov 2009: Launch of IDN ccTLD Fast Track Process
 - Jan 2010: First four IDN ccTLD labels approved
 - Apr 2010: First four IDN ccTLD approved to be delegated
 - May 2010: Introduction of the first four

Brief TLD Historical Background

- There are presently **21** gTLDs in the root zone
- Eight predates ICANN:
.com .edu .gov .int .mil .net .org .arpa
- Seven were added in a round starting in 2000:
.aero .biz .coop .info .museum .name .pro
- Six were added in a round starting in 2003:
.asia .cat .jobs .mobi .tel .travel (*soon to be added* - **.post**)
 - Experience in past rounds has been factored into a program for new gTLD introductions
- ccTLDs are currently allocated per reference to the ISO3166-1 list (e.g. **.cn** for China, **.gr** for Greece)
 - IDN ccTLDs being added via IDN ccTLD Fast Track Process

Characters, DNS, and domain names...

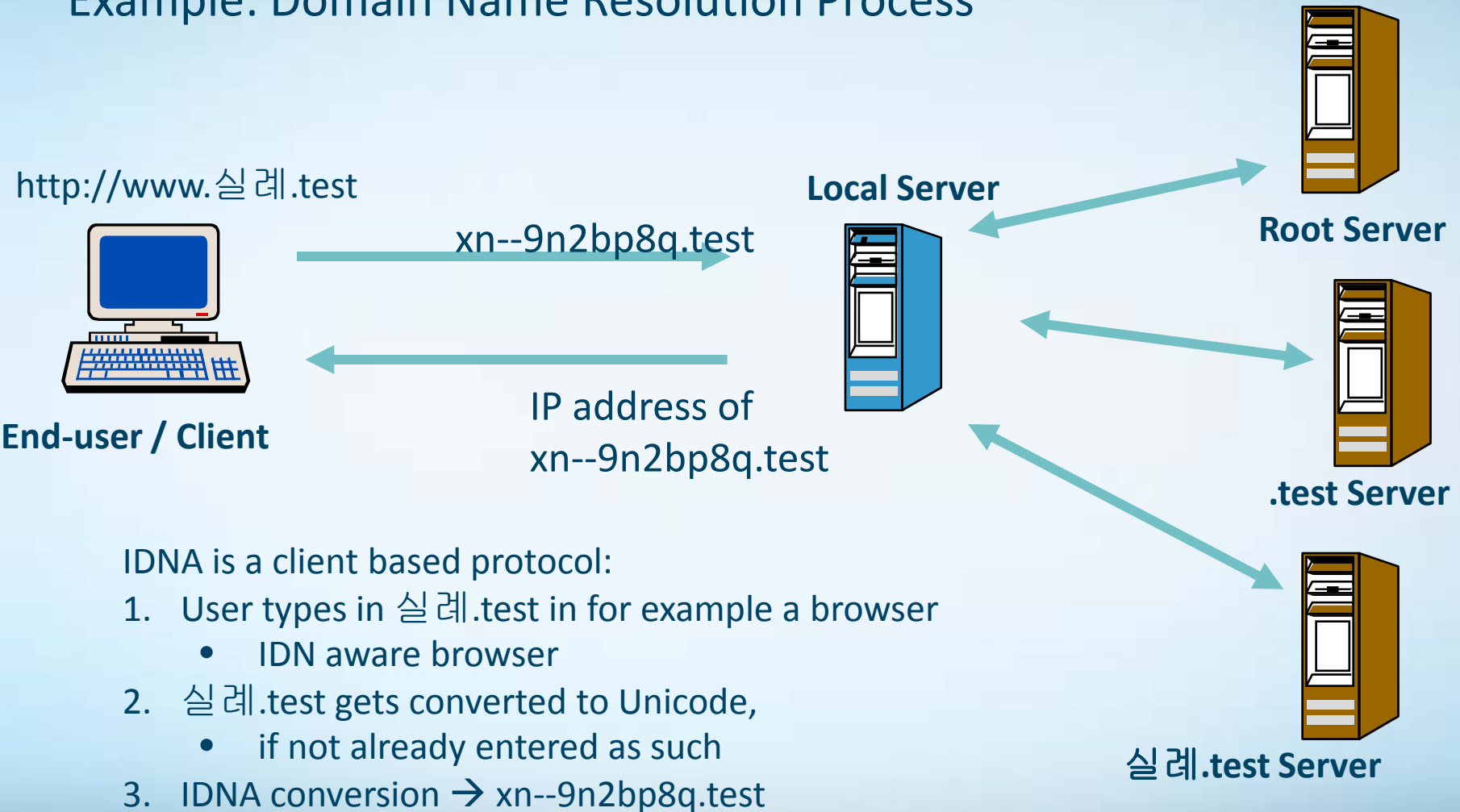
- All TLD registries implemented the LDH rule
 - Domain names can only contain:
 - (a,b,...z)
 - (0,1,...9)
 - (-)
-before internationalization....

IDN Definition

- Internationalized domain names are:
 - Names with characters other than the standard ASCII (a,b,...z), (0,1,...9), (-)
- Example:
ñandú.cl → xn--and-6ma2c.cl
- IDNs are about localized solutions
 - But need to be ‘internationalized’ due to the global nature of the Internet

IDN Functionality

Example: Domain Name Resolution Process



Browser usability examples

Internet Explorer title bar: IDNwiki - Windows Internet Explorer

Internet Explorer address bar: http://مثال.إختبار/المسألة_الرئيسية/%D8%A7%D9%84%D8%B5%D9%81%D8%AD%D8%A9_%D8%A7%D9%84%D8%B1%D8%A9

Opera title bar: IDNwiki - Opera

Opera menu bar: File Edit View Bookmarks Widgets Tools Help

Opera tab bar: New tab | الصفحة الرئيسية - IDNwiki

Opera address bar: http://مثال.إختبار/المسألة_الرئيسية/

Mozilla Firefox title bar: IDNwiki - Mozilla Firefox

Mozilla Firefox menu bar: File Edit View History Bookmarks Tools Help

Mozilla Firefox address bar: <http://xn--fsqu00a.xn--0zwm56d/%E9%A6%96%E9%A1%B5>

Mozilla Firefox title bar: IDNwiki - Mozilla Firefox

Mozilla Firefox menu bar: File Edit View History Bookmarks Tools Help

Mozilla Firefox address bar: http://مثال.إختبار/%D8%A7%D9%84%D8%B5%D9%81%D8%AD%D8%A9_%D8%A7%D9%84%D8%B1%D8%A9

Usability and Security

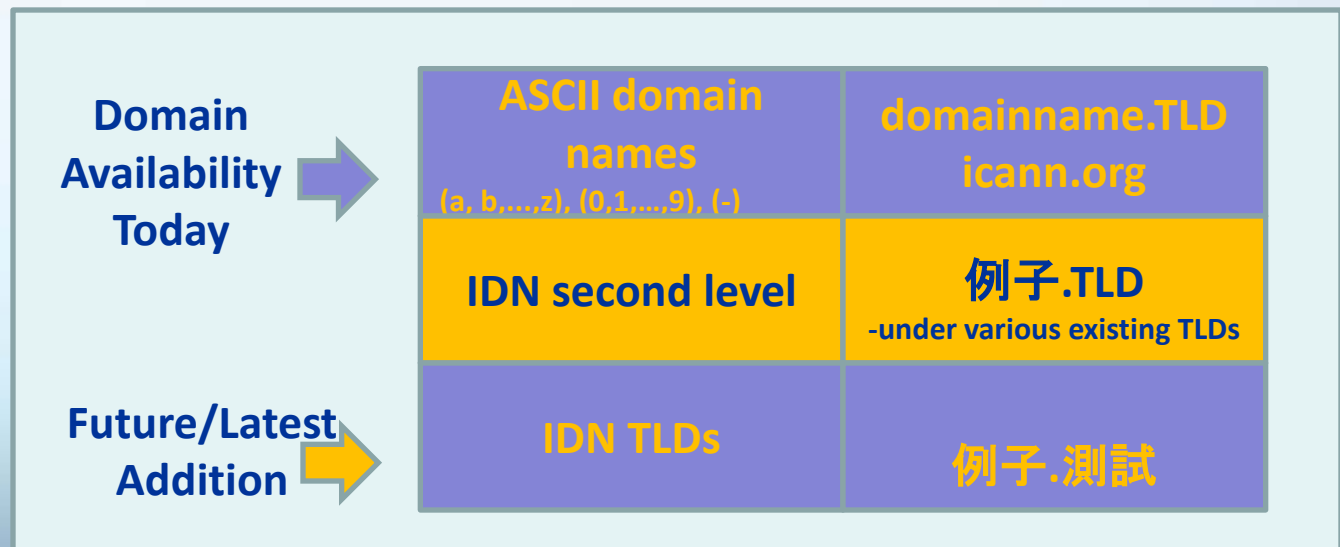
- Reason for the varying usability issues often relates to the problem of confusability
- User considerations:
 - choice, opportunity, new branding and establishing identity on Internet
- Security is best possible
 - just like “0” looks like “o” and “1” looks like “l”
 - increased problem with increased # of chars
- Recent APWG meeting shows no IDN phishing
 - lets keep it that way!

Preventing Confusability

- Some problems solved in the IDN Guidelines
 - preventing mixing of scripts unless a linguistic need
 - no mixing of fx Latin and Cyrillic
 - ok to mix scripts used to fx represent Japanese
- Registries required to develop IDN Tables & publish associated registration rules
 - inform users what characters are available
 - eliminate confusability by listing variant characters
 - strongly urging collaboration btw language communities when confusion could exist
 - languages using the same script
 - scripts looking alike (fx. Cyrillic, Greek, Latin)

IDNs so far...

- IDNs have existed as second level since 2003
 - under web protocol standards (revision - IETF)
 - some email clients (standard underway - IETF)
- Focus on IDN TLDs
 - IDN .test TLDs since Sept 2007 (<http://idn.icann.org>)
 - IDN ccTLD Fast Track Process & New gTLDs



IDN wiki

Script	Language	SLD.TLD U-labels	SLD A-label	TLD A-label
Arabic	Arabic	مثال.إختبار	xn--mgbh0fb	xn--kgbechtv
Arabic	Persian	مثال.آزمایشی	xn--mgbh0fb	xn--hgbk6aj7f53bba
Chinese, simplified	Chinese	例子.测试	xn--fsqu00a	xn--0zwm56d
Chinese, traditional	Chinese	例子.測試	xn--fsqu00a	xn--g6w251d
Cyrillic	Russian	пример.испытание	xn--e1afmkfd	xn--80akhbyknj4f
Devanagari	Hindi	उदाहरण.परीक्षा	xn--p1b6ci4b4b3a	xn--11b5bs3a9aj6g
Greek	Greek	παράδειγμα.δοκιμή	xn--hxajbhg2az3al	xn--jxalpd1p
Hangul	Korean	실례.테스트	xn--9n2bp8q	xn--9t4b11yi5a
Hebrew	Yiddish	פּערש.לײַפּראָב	xn--fdbk5d8ap9b8a8d	xn--deba0ad
Kanji Hirigana, and Katakana	Japanese	例え.テスト	xn--r8jz45g	xn--zckzah
Tamil	Tamil	உதாரணம்.பரிட்சை	xn--zkc6cc5bi7f6e	xn--hlcj6aya9esc7a

Windows Internet Explorer browser window showing the IDNwiki page. The address bar shows <http://idn.icann.org/>. The page content includes the ICANN logo, navigation links (article, discussion, view source, history), and a welcome message: "Welcome to the IDN TLD evaluation gateway!". Below this, it states "There are new articles on [Additional languages](#) and [Technical topics](#)." and provides a table of contents for the article.

IDNwiki

Welcome to the IDN TLD evaluation gateway!

There are new articles on [Additional languages](#) and [Technical topics](#).

Contents [hide]

- 1 Introduction
- 2 Your participation is important!
- 3 Limited evaluation period
- 4 Things to test
- 5 Further information about the IDNwiki
- 6 The example.test names

Introduction

This page provides an introduction to a test of IDN top-level domain names that ICANN is coordinating. The test is based on eleven new internationalized domains representing the name **example.test** entirely in scripts other than the familiar Latin characters that appear in current top-level labels. The languages initially selected for illustrating this are listed in the table below, and the rationale behind their choice is discussed in the sidebar article on [basic concepts](#). These TLDs can be accessed by clicking on the links in the first column in the table. However, as with any other IDNs, if they are typed or copied and pasted directly into the address line of a browser, they will only work if that browser has full support for IDN. The names in the second column are intended to be used in that manner and, if they don't initially perform as intended, some software reconfiguration may help. Additional articles discuss [local configuration](#) and individual [software applications](#).

Your participation is important!

Public participation in the evaluation of these domains is one of the most important parts of the project. Joining this initiative requires nothing more than for you to click through one or more of the links in the table and report about the experience on the "discussion page" indicated with a tab at the top of this and the other IDNwiki articles.

- Were the results what you expected?
- Were there any problems that you could not solve?

IDN TLD Processes

Launched: IDN ccTLDs Fast Track Process

- to introduce a limited number of IDN ccTLDs
- non-Latin scripts only, matching ISO3166 list
- must match country/territory names

In Policy Development: IDN ccTLDs – Long Term

- full policy that caters for all
- follows the ccNSO Policy Development Process

In Implementation: New gTLDs

- includes internationalized domains
- IDN technical requirements same as Fast Track
- focus on non-ASCII squatting & confusingly similarity solutions
- no launch date specified

IDN ccTLD Fast Track Process

- Introducing limited number of IDN ccTLDs
 - on ISO-3166 list (or EC)
 - official language not based on Latin (extended)
 - ISO 639 (UN manual) listed or Government doc
 - technical string criteria (IDNA and Guidelines)
 - 2 char minimum + IDN tables submission
 - meaningfulness of string
 - long or short version in UN manual
 - if not in UN manual → documentation required
 - can be acronym
 - usability issue with strings longer than 3 chars

Technical reference manual for the standardization of geographical names

United Nations Group of Experts on Geographical Names

ISO	COUNTRY- English (UN)	ISO code; Language	Short name	Formal name
AF	AFGHANISTAN	Dari ps: Pashto	افغانستان <i>Afghānestān</i> افغانستان <i>Afghānistān</i>	جمهوری اسلامی افغانستان <i>Jomhūrī-ye Eslāmī-ye Afghānestān</i> د افغانستان اسلامي جمهوریت <i>Afghānistān Islāmī Jumhūrīyat (Dê)</i>
AL	ALBANIA	sq: Albanian	Shqipëri / Shqipëria	Republika e Shqipërisë
DZ	ALGERIA	ar: Arabic	الجزائر <i>Al Jazā'ir</i>	الجمهورية الجزائرية الديمقراطية الشعبية <i>Al Jumhūrīyah al Jazā'irīyah ad Dīmuqrāṭīyah ash Shaḅīyah</i>
AD	ANDORRA	ca: Catalan	Andorra	Principat d'Andorra
AO	ANGOLA	pt: Portuguese	Angola	República de Angola
AG	ANTIGUA AND BARBUDA	en: English	Antigua and Barbuda	Antigua and Barbuda
AR	ARGENTINA	es: Spanish	Argentina (la)	República Argentina
AM	ARMENIA	hy: Armenian	Հայաստան <i>Hayastan</i>	Հայաստանի Հանրապետություն <i>Hayastani Hanrapetut'yun</i>
AU	AUSTRALIA	en: English	Australia	Commonwealth of Australia
AT	AUSTRIA	de: German	Österreich	Republik Österreich

IDN ccTLD Fast Track Process

1. Preparation locally in country/territory
 - choice of IDN ccTLD
 - community activities & government support
2. String Evaluation
 - Initial completeness check
 - Linguistic process check
 - Technical and confusability check
3. String Delegation
 - Determine the entity to manage the TLD
 - Follow the same process as for ASCII ccTLD delegation and re-delegations

#2 String Evaluation

A. Check request for completeness

- all material and support letters included & from adequate government / public authority
- technical string check initiated

B. Linguistic process check

- verification that processes has been followed for:
 - official language
 - meaningfulness of string
 - community support for string

C. DNS stability evaluation

- technical criteria & confusability w/ existing strings
- revised IDNA protocol is used

IDN ccTLD Status and Timing

- Process launched 16 November 2009
 - 31 requests from countries and territories
 - 19 languages
 - updates: <http://www.icann.org/en/topics/idn/fast-track/>
 - 4 strings approved and delegated
 - السعودية, مصر, امارات, рф
 - Saudi-Arabia, Egypt, United Arab Emirates, Russia
 - <http://blog.icann.org/2010/04/idn-cctld-delegations-approved-by-the-icann-board/>
 - 9 string pass string evaluation (ready for delegation)
 - full list online: <http://icann.org/en/topics/idn/fast-track/string-evaluation-completion-en.htm>

Roles: IDN ccTLD Managers vs. ICANN

- ICANN provides:
 - string evaluation and string delegation
 - includes community support for the string and the IDN ccTLD Manager
 - terms & conditions focused on security/stability
- IDN ccTLD Manager provides:
 - registration policies
 - dispute resolution mechanisms
 - etc.

Synchronized IDN ccTLDs

- Synchronized IDN ccTLDs
 - type of variant IDN ccTLDs
 - proposed to address need and achieve experience with variant TLDs and inform ongoing work
- Proposed Implementation Plan
 - published for comments 22 March 2010
 - clarifying Q/A feedback to community concerns
 - two webinars conducted to increase communication
- Board consideration 22 April 2010
 - did not approve the process for launch
 - 2 requests approved for delegation w/special circumstance
 - more work otw, see <http://blog.icann.org/2010/04/update-about-synchronized-idn-cctlds/>

More Work Ahead

- IDN ccTLD Fast Track:
 - additional countries/territories on the way
 - 31 requests for IDN ccTLDs this far
 - review to ensure continued functionality
- Internationalized email (IETF protocol)
- IDN Guidelines (revision on the way)
- Solution for TLD Variant Management
- Internationalized gTLDs
- Long term process for IDN ccTLDs
- IDN and Applications

In Summary: what can we expect?

- Internationalized Domain Names
 - IDN ccTLDs and IDN gTLDs to address community needs
- Increase in creativity, innovation and choice
- Increase competition in the domain name space
- More geographic gTLDs
- New ways of branding and establishing corporate identity on the Internet

Thank You

**Internationalization of the internet means
that the internet is equally accessible from all
languages and scripts**

<http://www.icann.org/en/topics/idn/>

<http://www.icann.org/en/topics/idn/fast-track/>