Universal Acceptance of All TLDs

JIG 12 June 2012
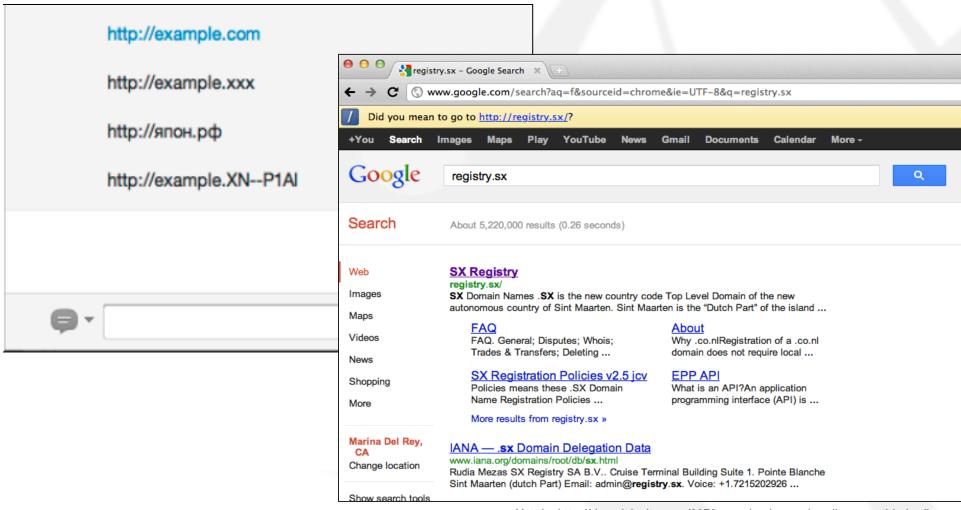
What is Universal Acceptance?

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- Ensure that software on the Internet universally accepts all domains, ASCII and IDN

- Does not cover policy aspects of what domains should be allowed or restricted

Acceptability Issues Example

Hat tip: http://domainincite.com/8978-google-chrome-handles-new-tlds-badly

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Acceptability Issues Example

Examples of Causes

- Improper logic in software for checking valid domains

- Lack of IDNA support

- Old software that is not yet upgraded

- Issues caused by publicsuffix.org?

Example of Hard-Coded List

```
472      "tz",          // Tanzania
473      "ua",          // Ukraine
474      "ug",          // Uganda
475      "uk",          // United Kingdom
476      "um",          // United States Minor Outlying Islands
477      "us",          // United States of America
478      "uy",          // Uruguay
479      "uz",          // Uzbekistan
480      "va",          // Vatican City St
481      "vc",          // Saint Vincent a
482      "ve",          // Venezuela
483      "vg",          // British Virgin
484      "vi",          // U.S. Virgin Isl
485      "vn",          // Vietnam
486      "vu",          // Vanuatu
487      "wf",          // Wallis and Futu
488      "ws",          // Samoa (formerly
489      "ye",          // Yemen
490      "yt",          // Mayotte
491      "yu",          // Serbia and Mont
492      "za",          // South Africa
```

```
$_cctld = array(
    'ac',
    'ad','ae','af','ag',
    'ai','al','am','an',
    'ao','aq','ar','as',
    'at','au','aw','ax',
    'az','ba','bb','bd',
    'be','bf','bg','bh',
    'bi','bj','bm','bn',
    'bo','br','bs','bt',
    'bu','bv','bw','by',
    'bz','ca','cc','cd',
    'cf','cg','ch','ci',
    'ck','cl','cm','cn',
    'co','cr','cs','cu',
    'cv','cx','cy','cz',
    'de','dj','dk','dm',
```

```
$_gtld = array(
    'aero',
    'biz',
    'cat',
    'com',
    'coop',
    'edu',
    'gov',
    'info',
    'int',
    'jobs',
    'mil',
    'mobi',
    'museum',
    'name',
    'net',
    'org',
    'pro',
    'travel',
    'asia',
    'post',
    'tel',
    'geo',
)
```

Czechoslovakia?

.geo

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Example of String Length Check

But you can do much more with regular expressions. In a text editor like EditPad Pro or a specialized text processing tool like PowerGREP, you could use the regular expression \b[A-Z0-9._%+-]+@[A-Z0-9.-]+\.[A-Z]{2,4}\b to search for an email address. *Any* email address, to be

All TLDs must be 2-4 ASCII letters (A-Z)

So how does one universally accept domains?

Checking TLDs

- Do you need to check domain validity?
  - If not, don't do it. Rethink why you do it.
  - e.g. if it is an email that needs to opt-in, will be caught that way

- If so, is it an online application?
  - If so, use a DNS query which is instant and up-to-date, don't rely on a fixed list.

- Last case scenario
  - Use a fixed list of TLDs, but make sure it has an update mechanism (e.g. once per day)

Don't forget IDNs

- Multiple representations of the same domain

- New concepts like "right-to-left"

- Not just in the "domain name" field, can be in email addresses, web addresses, name servers, and elsewhere.

U-label

例え.テスト

xn--r8jz45g.xn--zckzah

A-label

What's been done so far?

Activities to Date

- SSAC Recommendations

- IAB RFC3696 "Application Techniques for Checking and Transformation of Names"

- ICANN created discussion forum and dedicated webpage:
  http://www.icann.org/en/resources/tld-acceptance

- Posted TLD verification tool on github: github.com/icann

- Technical recommendations and tools

- JIG WG Initial report on Universal Acceptance of IDN TLDs

- Consultations with impacted parties

- Round table in Costa Rica
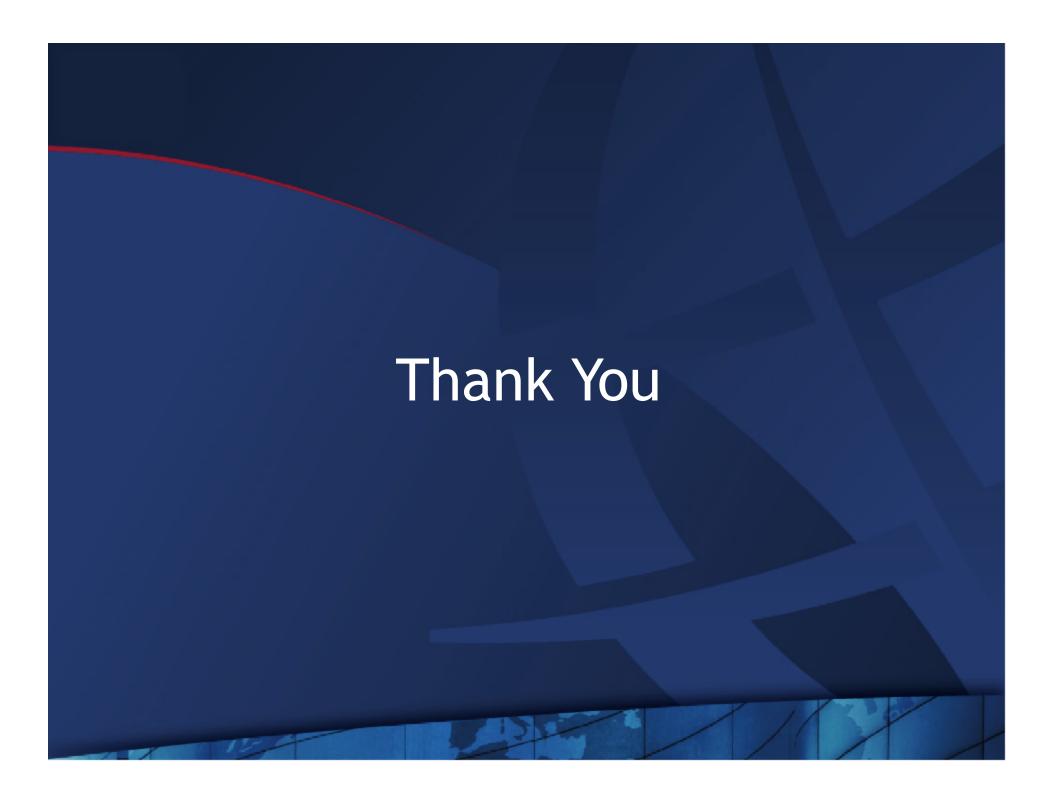
What's in the works

ICANN tasks

- Out reach campaign

- Improve TLD verification libraries

- Continuing work on informational and educational materials

Your tasks

- Check your software — do all your applications properly support all domains?

- Inform and educate vendors and others

- Send us feedback and suggestions at: tld-acceptance@icann.org

Thank You

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Questions