Universal Acceptance of All TLDs

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 Examples

http://example.com

http://example.xxx

http://япон.рф

http://example.XN--P1AI

registry.sx – Google Search

www.google.com/search?aq=f&sourceid=chrome&ie=UTF-8&q=registry.sx

Did you mean to go to http://registry.sx/?

+You   Search   Images   Maps   Play   YouTube   News   Gmail   Documents   Calendar   More

Google — registry.sx

Search

About 5,220,000 results (0.26 seconds)

Web
Images
Maps
Videos
News
Shopping
More

Marina Del Rey, CA
Change location

Show search tools

SX Registry
registry.sx/
SX Domain Names .**SX** is the new country code Top Level Domain of the new autonomous country of Sint Maarten. Sint Maarten is the "Dutch Part" of the island ...

FAQ
FAQ. General; Disputes; Whois; Trades & Transfers; Deleting ...

About
Why .co.nlRegistration of a .co.nl domain does not require local ...

SX Registration Policies v2.5 jcv
Policies means these .SX Domain Name Registration Policies ...

EPP API
What is an API?An application programming interface (API) is ...

More results from registry.sx »

IANA — .sx Domain Delegation Data
www.iana.org/domains/root/db/**sx**.html
Rudia Mezas SX Registry SA B.V.. Cruise Terminal Building Suite 1. Pointe Blanche Sint Maarten (dutch Part) Email: admin@**registry.sx**. Voice: +1.7215202926 ...

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

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)

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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

Activities to date...

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

- Posted TLD verification tool at:

  https://github.com/icann

- Consultations with ICANN stakeholders

- JIG WG initial report

- Technical recommendations

- Outreach campaign

Going Forward...

- Outreach campaign

- Improve TLD verification libraries

- Informational and educational materials
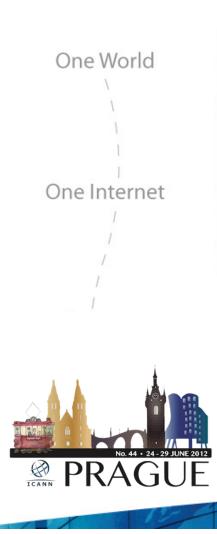
- Your suggestion?

How can you help??

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

- Inform and educate software developers and others

- Contact us at:
  tld-acceptance@icann.org

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Questions