Universal Acceptance of All TLDs

18 May 2012
What is Universal Acceptance?

- Ensure that software on the Internet universally accepts all domains (both ASCII and IDN domains)

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

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

```php
$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', 'cy', 'cz',
    'dk', 'dm',
);`
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 strict, a more similar regular expression (where the first \b with \A and the last one with \z) can be used by...
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.
例え.テスト

xn--r8jz45g.xn--zckzah
What’s been done so far?
Activities to Date: 2003-2004

- SSAC recommendations:
  - Develop an advisory
  - Create central repository of known issues
  - Internet Infrastructure providers and Internet software application developers review and test software to support new TLDs

- IAB - RFC3696

  “Application Techniques for Checking and Transformation of Names”
Activities since 2004 (1/2)

- Discussion forum and dedicated web page
- Prepared technical recommendations
- Posted TLD verification tool, see github.com/icann
Public Repositories (5)

<table>
<thead>
<tr>
<th>Repository</th>
<th>Language</th>
<th>Stars</th>
<th>Forks</th>
</tr>
</thead>
<tbody>
<tr>
<td>uniaccept-python</td>
<td>Python</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>uniaccept-java</td>
<td>Java</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>uniaccept-c</td>
<td>C</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>uniaccept-cs</td>
<td>C#</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>uniaccept-perl</td>
<td>Perl</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Activities since 2004 (2/2)

- “Initial Report on Universal Acceptance of IDN TLDs” published by JIG Working Group
- Consultations with impacted parties
- Round table in Costa Rica
What should we do now?
ICANN tasks

- Out reach campaign
- Improve TLD verification libraries
- Create and share informational and educational materials
- (Your idea here.)
Collateral Proposal

Existing Project Pages

New Dedicated Microsite

New Fact Sheet

Specific technical info pages on individual topics

Form for end-users to report broken software and websites

Having a problem with a website?

Form for end-users to report broken software and websites
Your tasks

- “Walk it like you talk it” — do all your applications properly support all domains?
- Inform and educate vendors and others
- Feedback to: tld-acceptance@icann.org
Thank You