

The background features a large, semi-transparent white sphere on the right side, partially overlapping a larger, semi-transparent orange sphere. The spheres are rendered with soft gradients and subtle reflections, creating a clean, modern aesthetic. The text is centered over the white sphere.

International Domain Names in IE7

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IDN IE7 implementation basics

- **IE7 treats valid Punycode domain names as their Unicode equivalent**
 - Minimize Punycode exposure in the User Interface
 - Equivalency between Punycode and Unicode links (IRI)
- **The Punycode translation is performed by the network stack**
- **Addressing security concerns**
 - Script based mitigation
- **Based on core platform services**
- **Compatibility (legacy support)**

Platform services

IDNA functions:

IdnToASCII

IdnToUnicode

IdnToNameprepUnicode

Script functions:

GetStringScripts returns script list for a string

GetLocaleInfo(...,LC_SCRIPTS,...) returns script list for a locale (Vista), or

DownlevelGetLocale Scripts

VerifyScripts compares two list of scripts

Link consistency

- **A hostname entered as punycode is treated as it was entered in Unicode**
- **Names are entirely processed in native Unicode encoding until they are sent to the network stack**
 - But may be shown in Punycode format if deemed ‘unfamiliar to the user’ (mixed scripts, out of locale reach)

**räksmörgås.josefsson.org is the same as
xn--rksmrgs-5wao1o.josefsson.org**

**納豆.w3.mag.keio.ac.jp is the same as
xn--99zt52a.w3.mag.keio.ac.jp**

Preventing homoglyph spoofing attacks

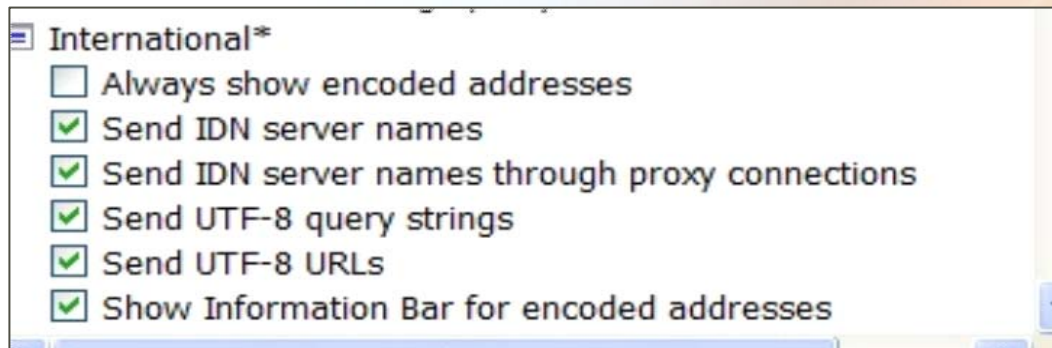
- **IDN names with contents not familiar to the user are shown in Punycode form**
 - Scripts unknown to a user (locale based)
 - Mixed scripts (unless customary for the language/locale)

<http://味の素.jp/> OK for a Japanese user, although it contains both Han and Hiragana

<http://игрпoshop.com/> always shows as <http://xn--shop-k4d3a7bp.com/>

Compatibility

- **Detailed controls in the Advanced options dialog allowing to get previous behavior**



More work to do

- **In-script confusables**
 - Opt in servicing model
 - In script confusable names can be compared to a list of known non-phishing hostnames.
- **Using user feedback from Beta 2**
 - Tuning mixed script policy
 - Mixing ASCII with other scripts
 - Per registry policy?
- **Usage of the restricted list from UTS#39 Unicode Security Mechanism:**
 - Idnchars.txt
 - Virtually no symbols
 - Only modern use characters
- **IDN.IDN**

Resources

- <http://www.microsoft.com/windows/ie/ie7/ie7betaredirect.msp>
 - IE7 Beta 2
- http://msdn.microsoft.com/library/en-us/intl/nls_IDN.asp
 - IdnDL.dll (down level scripts APIs)
 - Normaliz.dll (IDN and normalization functions)
- <http://blogs.msdn.com/ie/>
 - Recent developments on IE7
- <http://www.unicode.org/reports/tr36/tr36-4.html>
 - Information about confusables, IDNchars.txt, ...
- <http://www.unicode.org/reports/tr24/tr24-7.html>
 - Script tables



DEMO!