

Using Internationalized Domain Names (idn) in Firefox 2.0

Presented at APRICOT, Bali, March 1st 2007

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<http://www.viagenie.ca>

IDN



- Internationalized domain names
 - Support of non-ASCII characters in domain names
 - Supports most of Unicode 3.2
 - RFC3490, 3454, 3491, 3492
 - Implemented in most recent browsers

IDN



User type:

Browser processing

DNS resolution

viagénie.com

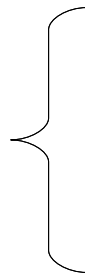
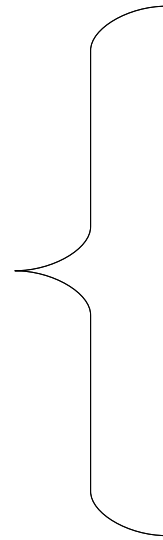
Nameprep

Convert to punycode

Prepend 'xn--'

xn--viagnie-eya.com

DNS query (A, AAAA)



Attacks on domain names



- Homograph attacks can be done:
 - Using ascii:
 - google.com and google.com are not the same!
 - Using idn:
 - paypal.com and paypal.com are not the same!
 - (uses cyrillic 'a' instead of ascii 'a').
- Possible countermeasures for idn (none for ascii!):
 - Display the punycode (not sure what the user could do with it)
 - Restrict use of multiple scripts in same label

TLD registries



- TLD registries have different policies regarding registration of idn:
 - Some do not support the registration of idn.
 - Some support only domain names in some scripts (i.e. Language(s) used in the country) with some restrictions
 - Some support many scripts without restrictions (.com)

Browser support



- Firefox 2.0:
 - By default, shows idn but only for a list of registries who enforce some policies on idn
 - The list is compiled and put statically in firefox by Mozilla developers.
 - User can change the static list
 - .com is not in the default list.
 - To add it:
 - about:config
 - Filter on idn
 - Add new item: network.IDN.whitelist.com and set it to “true”

Demo

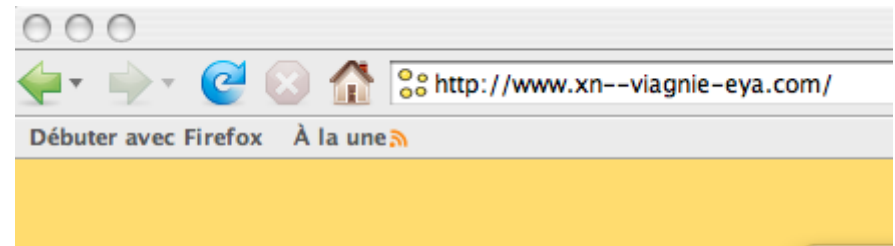
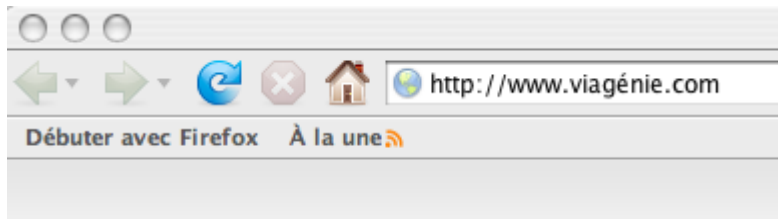


- Firefox 2.0 by default:

User type: www.viagénie.com

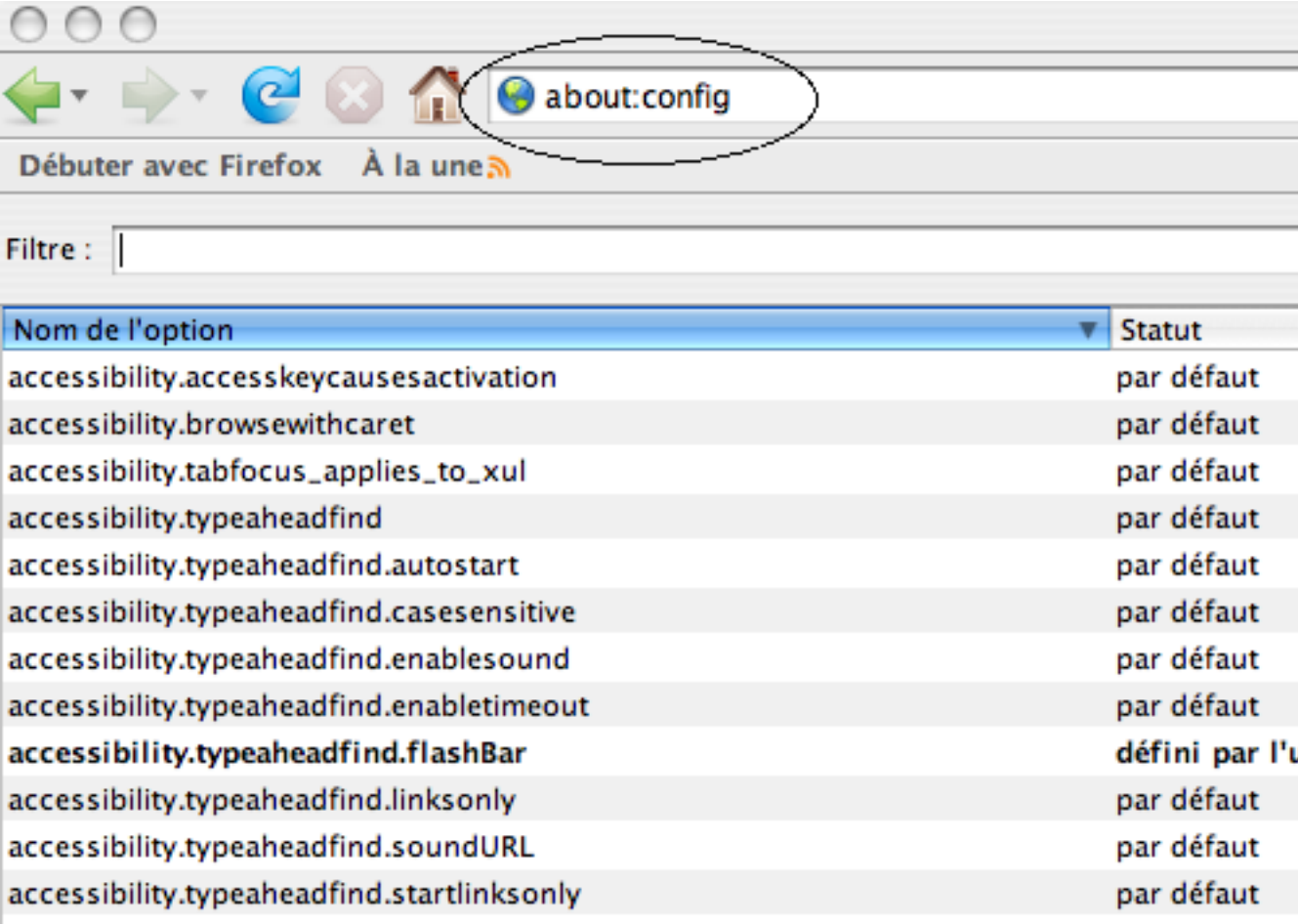


Browser display: www.xn--viagnie-eya.com



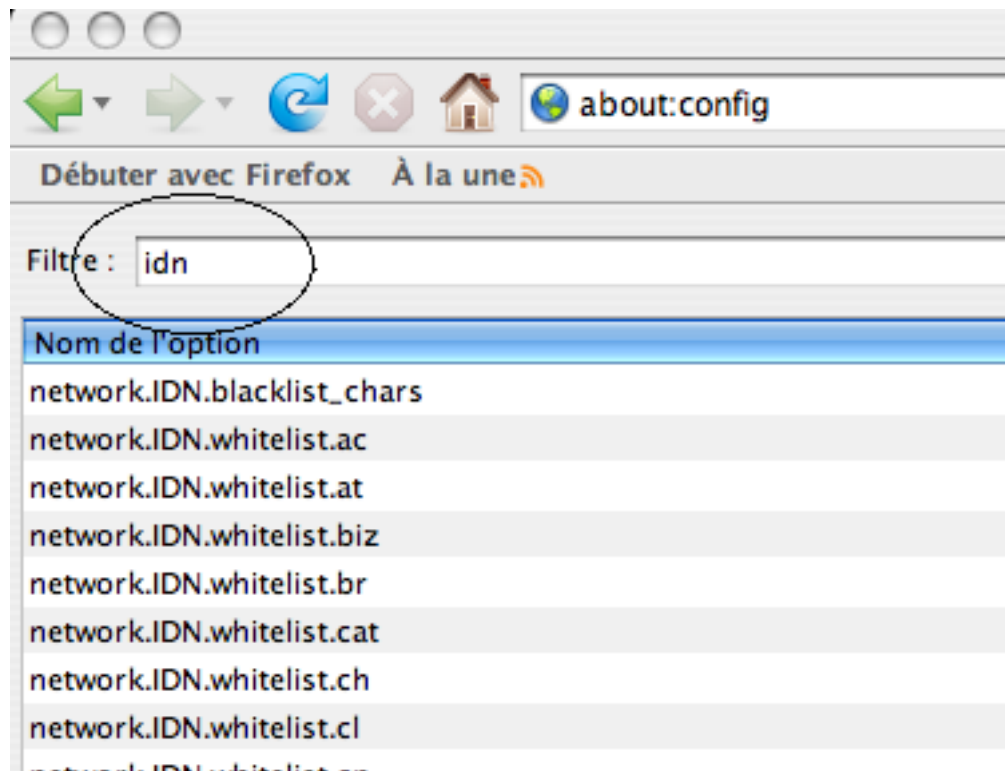
Note: Demo uses french, since French is my primary language. Demo uses our company name since it has a 'é' and is registered as idn in .com.

Demo

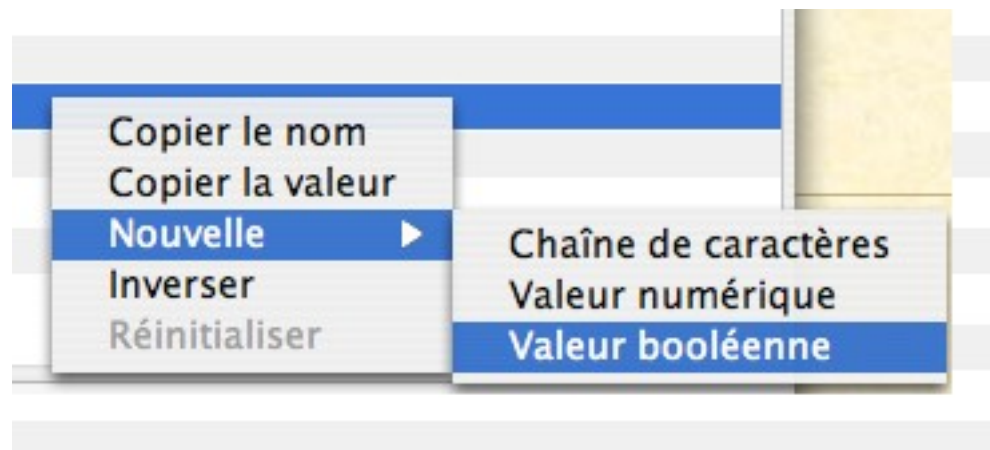
A screenshot of the Firefox browser's 'about:config' page. The address bar shows 'about:config' circled in black. Below the address bar is a search filter field labeled 'Filtre :'. A table lists various configuration options, with 'accessibility.typeaheadfind.flashBar' highlighted in bold. The table has two columns: 'Nom de l'option' and 'Statut'.

Nom de l'option	Statut
accessibility.accesskeycausesactivation	par défaut
accessibility.browsewithcaret	par défaut
accessibility.tabfocus_applies_to_xul	par défaut
accessibility.typeaheadfind	par défaut
accessibility.typeaheadfind.autostart	par défaut
accessibility.typeaheadfind.casesensitive	par défaut
accessibility.typeaheadfind.enablestext	par défaut
accessibility.typeaheadfind.enabletimeout	par défaut
accessibility.typeaheadfind.flashBar	défini par l'u.
accessibility.typeaheadfind.linksonly	par défaut
accessibility.typeaheadfind.soundURL	par défaut
accessibility.typeaheadfind.startlinksonly	par défaut

Demo



Demo



Demo



about:config

about:config

Débuter avec Firefox À la une

Filtre : idn

Nom de l'option	Statut	Type	Valeur
network.IDN.blacklist_chars	par défaut	chaîne	¼½??."":ç³¹,
network.IDN.whitelist.ac	par défaut	booléen	true
network.IDN.whitelist.at	par défaut	booléen	true
network.IDN.whitelist.biz	par défaut	booléen	true
network.IDN.whitelist.br	par défaut	booléen	true
network.IDN.whitelist.cat	par défaut	booléen	true
network.IDN.whitelist.ch	par défaut	booléen	true
network.IDN.whitelist.cl	par défaut	booléen	true
network.IDN.whitelist.cn	par défaut	booléen	true
network.IDN.whitelist.com	défini par l'u...	booléen	true
network.IDN.whitelist.de	par défaut	booléen	true
network.IDN.whitelist.dk	par défaut	booléen	true

Additional information



- <http://marcblanchet.blogspot.com>
- http://en.wikipedia.org/wiki/Internationalized_dor
- <http://www.icann.org/topics/idn/>
- http://en.wikipedia.org/wiki/IDN_homograph_atta
- <http://www.mozilla.org/projects/security/tld-idn-policy-list.html>