



Experiences on implementation of Internationalized Domain Names under .pl



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Agenda

- ▶ Preparation period
- ▶ Launch of IDNs
- ▶ Statistics
- ▶ Policy development

Preparations

- ▶ study of the subject
- ▶ test registrations
- ▶ establishment of the registration policy
- ▶ preparation of an on-line conversion tool and the registration system
- ▶ trainings of a contact center
- ▶ creation of an IDN WWW sub-service (<http://www.dns.pl/IDN/>)
- ▶ PR activities

Registration assumptions

- ▶ no Sunrise period
- ▶ First Comes First Served (FCFS) rule
- ▶ no trademark protection
- ▶ registration of an ACE form of an IDN only
- ▶ no language tags
- ▶ no automatic variant/equivalent domain name registration
- ▶ registration of domain names with other prefixes prohibited

Impact on other services and systems

▶ No impact on:

- ▶ a billing system
- ▶ a whois service
- ▶ online electronic forms at NASK
- ▶ the Terms and Conditions - a subject of an agreement between registry and registrant is an ACE form of an IDN

Before the launch

- ▶ press conference (March 2003)
- ▶ series of presentations on international conferences: CENTR Administrative Workshop (Frankfurt 2003), CENTR Technical Workshop (Frankfurt 2003), IETF (Viena 2003) and RIPE (Amsterdam 2003)
- ▶ 11 August 2003 - IDN registration rules under .pl were published at IETF as an Internet-Draft

The launch

▶ Phase 1

- ▶ 11 September 2003 - release of IDNs under .pl only
- ▶ an IDN could contain only Polish diacritics: ą (U+0105), ć (U+0107), ę (U+0119), ł (U+0142), ń (U+0144), ó (U+00F3), ś (U+015B), ź (U+017A), ż (U+017C)

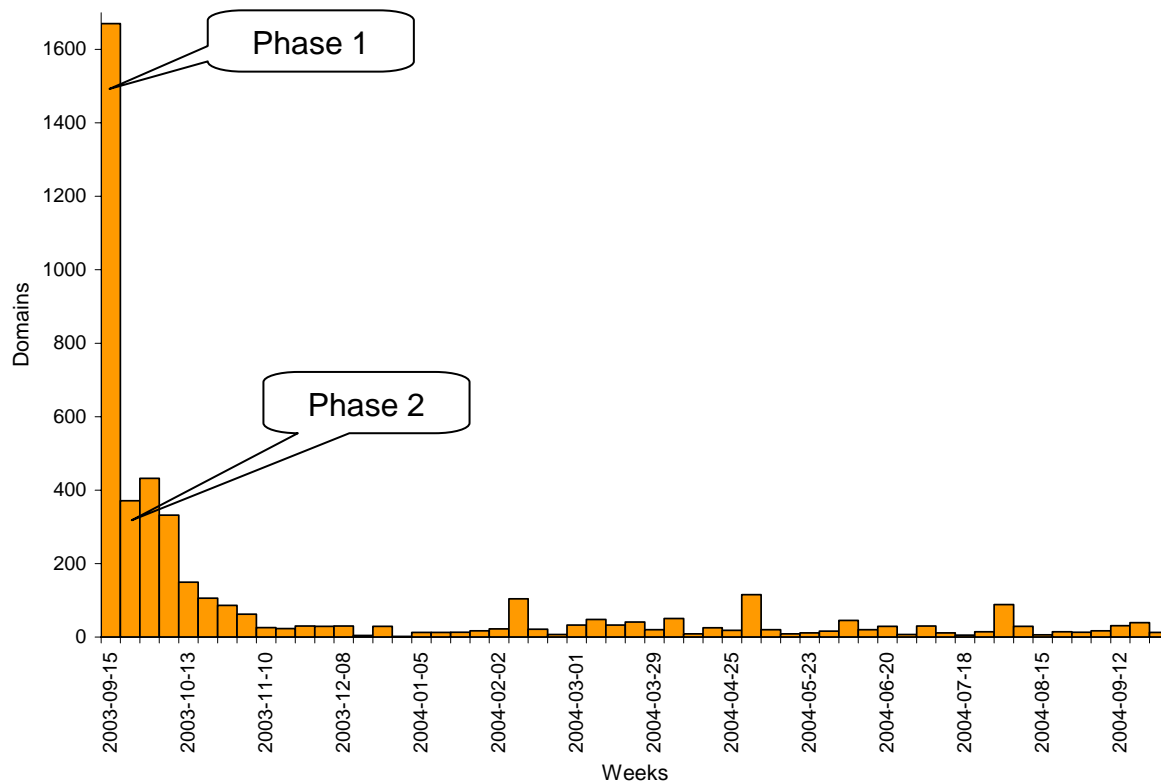
▶ Phase 2

- ▶ 18 September 2003 - the launch of IDNs registration under second level domain names governed by NASK
- ▶ only Polish diacritics

Statistics

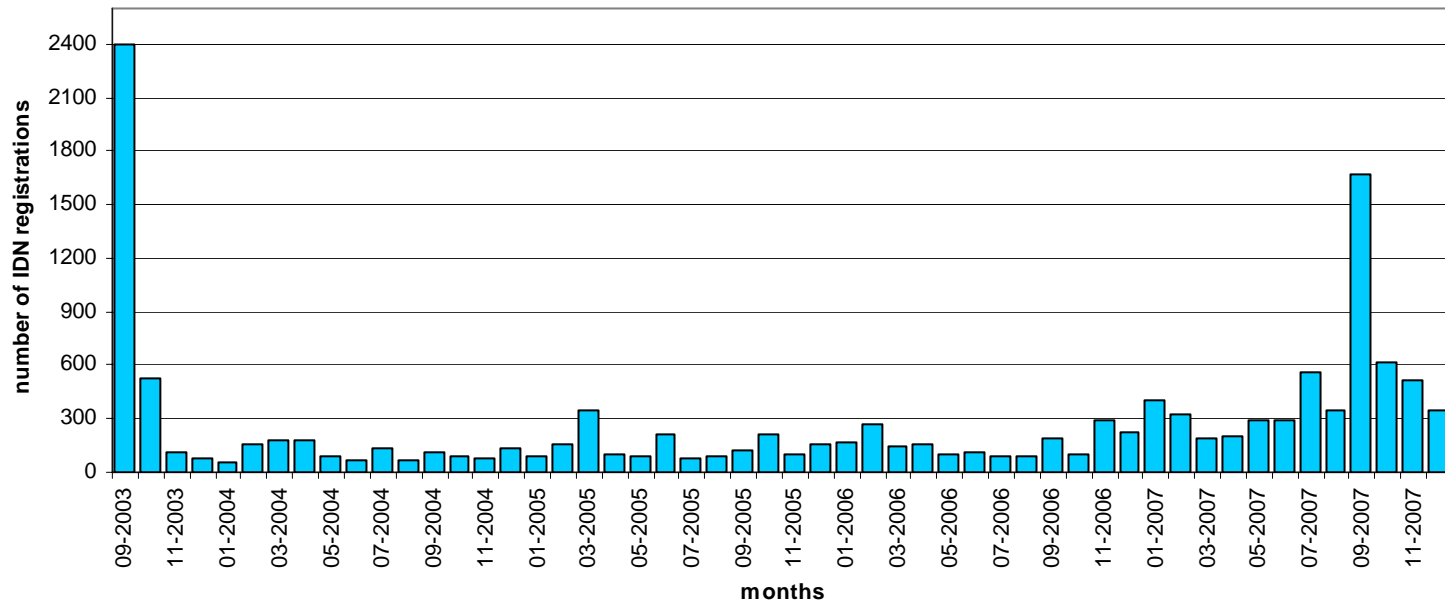
Weekly registration of IDNs

period: 09.2003 - 09-2004



Statistics

Monthly registrations of IDNs in 2003/2007

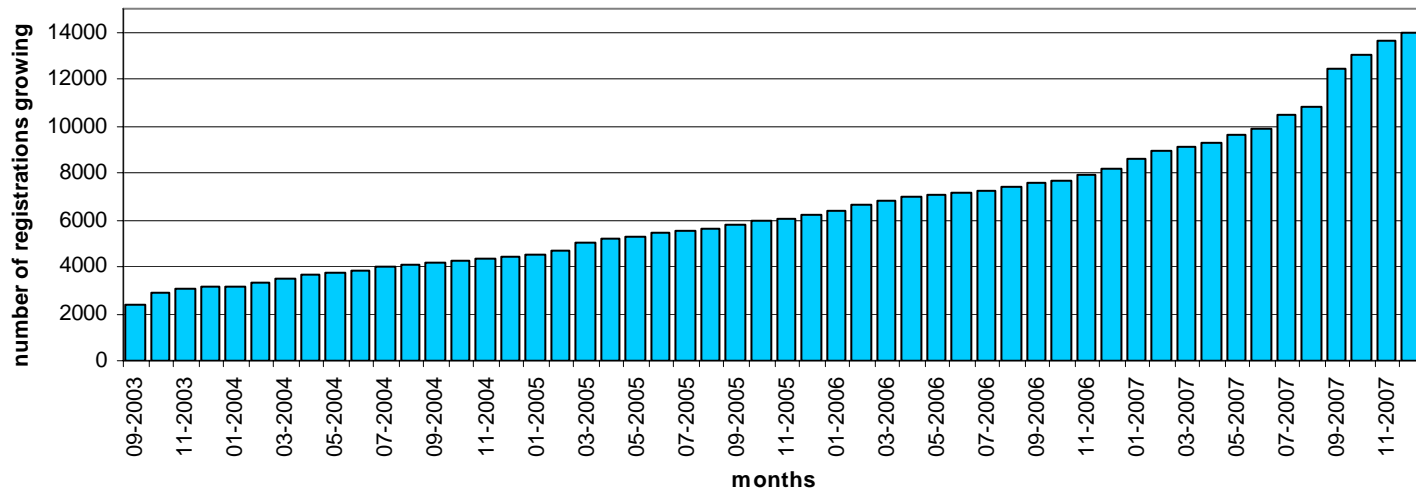


2006 avg. = 163 IDNs a month

2007 avg. = 480 IDNs a month

Statistics

Number of IDNs 2003/2007



16 May 2008 – **15779** IDNs registered

Policy development

- ▶ 6 October 2003 - adding the German diacritics ä (U+00E4), ö (U+00F6), ü (U+00FC).
- ▶ 20 October 2003 - adding selected characters from Unicode scripts: Latin-1 Supplement and Latin Extended-A;
- ▶ 3 November 2003 - release selected characters from Unicode scripts: Arabic, Greek, Hebrew;
- ▶ 26 February 2004 - release of characters derived from Unicode Cyrillic script.

IDN registration policy

- ▶ <http://www.dns.pl/IDN/idn-registration-policy.txt>
- ▶ registered only ASCII form of an IDN
- ▶ allowed characters are divided into sets: Cyrillic, Greek, Hebrew, Latin (includes characters from Latin-1 Supplement and Latin Extended-A)
- ▶ mixing characters from different sets is not allowed

IDN registration policy

- ▶ The registry system have special “anti-homograph” mechanism implemented.
- ▶ It is complex and comprehensive preventive system against „domain spoofing”.
- ▶ The mechanism:
 - ▶ filters out all single-script spoofable domains (not only IDNs) during the registration process,
 - ▶ create variant domains in accordance with a mapping table and check against existing domains (both IDNs and ASCII one).
 - ▶ A registration process will be finished successfully when neither being registered domain nor its possible variants exist in the registry system.
- ▶ The algorithm and mappings are explained in the IDN Registration Policy available at <http://www.dns.pl/IDN/idn-registration-policy.txt>.

IDN registration policy

Latin			Cyrillic			Greek		
glyph	code point	character name	glyph	code point	character name	glyph	code point	character name
6	0036	DIGIT SIX	б	0431	CYRILLIC SMALL LETTER BE			
a	0061	LATIN SMALL LETTER A	а	0430	CYRILLIC SMALL LETTER A			
c	0063	LATIN SMALL LETTER C	с	0441	CYRILLIC SMALL LETTER ES			
e	0065	LATIN SMALL LETTER E	е	0435	CYRILLIC SMALL LETTER IE			
i	0069	LATIN SMALL LETTER I	і	0456	CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I			
j	006A	LATIN SMALL LETTER J	ј	0458	CYRILLIC SMALL LETTER JE			
o	006F	LATIN SMALL LETTER O	о	043E	CYRILLIC SMALL LETTER O	ο	03BF	GREEK SMALL LETTER OMICRON
p	0070	LATIN SMALL LETTER P	р	0440	CYRILLIC SMALL LETTER ER	ρ	03C1	GREEK SMALL LETTER RHO
r	0072	LATIN SMALL LETTER R	г	0433	CYRILLIC SMALL LETTER GHE			
s	0073	LATIN SMALL LETTER S	с	0455	CYRILLIC SMALL LETTER DZE			
u	0075	LATIN SMALL LETTER U				υ	03C5	GREEK SMALL LETTER UPSILON
v	0076	LATIN SMALL LETTER V				ν	03BD	GREEK SMALL LETTER NU
x	0078	LATIN SMALL LETTER X	х	0445	CYRILLIC SMALL LETTER HA			
y	0079	LATIN SMALL LETTER Y	у	0443	CYRILLIC SMALL LETTER U			
è	00E8	LATIN SMALL LETTER E WITH GRAVE	è	0450	CYRILLIC SMALL LETTER IE WITH GRAVE			
ë	00EB	LATIN SMALL LETTER E WITH DIAERESIS	ë	0451	CYRILLIC SMALL LETTER IO			
ï	00EF	LATIN SMALL LETTER I WITH DIAERESIS	ï	0457	CYRILLIC SMALL LETTER YI	ι	03CA	GREEK SMALL LETTER IOTA WITH DIALYTIKA
ó	00F3	LATIN SMALL LETTER O WITH ACUTE				ο	03CC	GREEK SMALL LETTER OMICRON WITH TONS
ħ	0127	LATIN SMALL LETTER H WITH STROKE	һ	045B	CYRILLIC SMALL LETTER TSHE			
ı	0131	LATIN SMALL LETTER DOTLES I				ι	03B9	GREEK SMALL LETTER IOTA
Ɔ	0138	LATIN SMALL LETTER KRA	к	043A	CYRILLIC SMALL LETTER KA	κ	03BA	GREEK SMALL LETTER KAPPA
			п	043F	CYRILLIC SMALL LETTER PE	π	03C0	GREEK SMALL LETTER PI
			φ	0444	CYRILLIC SMALL LETTER EF	φ	03C6	GREEK SMALL LETTER PHI
			е	0454	CYRILLIC SMALL LETTER UKRAINIAN IE	ε	03B5	GREEK SMALL LETTER EPSILON

IANA Repository of IDN Practices

▶ <http://www.iana.org/domains/idn-tables>



Internet Assigned Numbers Authority

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Repository of IDN Practices

IANA maintains a collection of "IDN tables", which represent permitted code points (letters) allowed for Internationalised Domain Name registrations in particular registries. To learn about the policy and procedures for this repository, including the process to lodge an IDN table, read the [IDN Repository Procedures](#).

Table	Type	Version	Date	Registry
.BIZ Danish	language	1.0	2006-11-01	NeuLevel
.BIZ German	language	1.0	2004-08-10	NeuLevel
.BIZ Spanish	language	1.0	2006-11-01	NeuLevel
.BIZ Icelandic	language	1.0	2006-11-01	NeuLevel
.BIZ Japanese	language	1.0	2007-04-23	NeuLevel
.BIZ Norwegian	language	1.0	2006-11-01	NeuLevel
.BIZ Swedish	language	1.0	2006-11-01	NeuLevel
.BIZ Chinese	language	1.0	2007-04-23	NeuLevel
.BR Portuguese	language	1.0	2005-05-09	Registro.br
.CL Latin	script	1.0	2005-09-21	NIC Chile

Thank You

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