

Global Trends in New TLDs

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“The views expressed in this presentation are my own personal views, and are not necessarily those of any organization, specifically including the World Wide Web Foundation, ISOC (The Internet Society), and ICANN (Internet Corporation for Assigned Names and Numbers).”

Presentation Outline

- Some Ancient History
- Names and Numbers
- DNS Evolution Until Today
- Introduction of International Domain Names
- Current Domain Name Industry Issues
- Laissez-faire model issues
- Domain Name Industry Futures

Some Ancient History

- Initial ArpaNet host numbers 1 ... 256
- IPv 4(1983) allowed for maximum of $4 \cdot 10^9$ #s
- DNS introduced in ~1984+ by Paul Mockapetris
- Hierarchical vs. flat name space model
 - Initial approach was taxonomic – library-like
 - com, org, net, edu, int, arpa, and 200+ ccTLDs (ex. us, de, su)
 - But no enforcement mechanism created
 - 2nd level policies differ among both types of TLDs
 - Note: DNS not a critical Internet resource
 - TNS (telephone name system) has worked for 100 years
 - IGF habitually calls DNS critical resource and attacks ICANN

Names and Numbers

- Numbers have little semantic content
- Names (strings) have a lot of semantic content
 - Names are used as trademarks
 - Names provide individual and corporate identity
- Some telephone numbers have semantic content via the telephone keypad
 - For example, 767-7492 = ROSSIYA

DNS Evolution Until Today

- DNS operation privatized by US-NSF in 1993
- Registration monopoly to Network Solutions
 - Popularity of .com, Verisign dominance
- ICANN created (1998) for competition and consumer choice
 - Competition as a means or as an end?
- Initial Expansion of DNS top level in 2001+
 - sTLDs: Sponsored TLDs, ex.: .museum, .post
 - gTLDs: Generic TLDs , ex.: .biz

Introduction of IDNs

- Major expansion of domain name space
- Technically very challenging
 - Dependent upon mature version of UNICODE
 - Correspondence of UNICODE and ASCII punycode
- Concern regarding string similarity
- IDN ccTLD's introduced in November 2009
 - Initial ccTLDs in Russian, Arabic, Chinese, Tamil, ++
- IDN gTLDs a part of new gTLD program
 - Availability perhaps in a year or more

Current Domain Name Industry Issues

- Registrar-Registry model, now back end providers
- Intellectual property implications
 - Is defensive registration real or unimportant?
- Realignment of industry structure
 - Vertical integration debate for new gTLDs
- Emergence of classes of domain names
 - Single user, brand, community, geographic TLDs
 - Financial implications for ICANN
- Cross-cultural acceptability of names (MOPO)
- Strange behavior: demand for hierarchies of terms
 - e.g. if .sport is created, can .football also be created?

gTLD Laissez-faire Model Issues

- Bestows rights to use of strings to individuals
 - Creates secondary markets in names
 - Leads to socially non-beneficial behavior
 - Examples: name hoarding, front running, domain name tasting, typosquatting
- Allows for failure of registries and registrars
 - User expectations re stability of domain names
 - Who has responsibility to meet expectations
 - Mitigation strategies

Domain Name Industry Futures

- Explosion of non-ASCII Domain Names
 - More than half of people use non-ASCII characters
- Single user and brand names will survive
- ASCII general name space more uncertain
 - Will industry over-invest, leading to failures?
 - Nature of demand for more top level names?
 - Will compelling complementary services emerge?
 - Will alternative resource locator systems emerge?

Conclusion

- Domain Name industry is in its adolescence
- Non-ASCII (IDN) name market will be robust
- ASCII name market likely to be turbulent
- Domain name structure is more in flux now than any time since 1999
 - Decisions being made will set industry direction
- Very difficult to predict future of TLDs and Domain Name Industry

Thank you!

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