



INRegistry

The .IN Domain Name Registry



Building Indian IDNs

IDN Panel Discussion

APTLD Meeting

Dubai

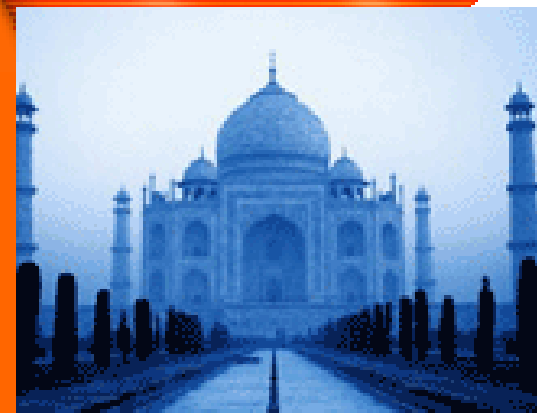
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भारत
INDIA



.IN Brief History

- Opened in 1992, run by R&D insitutions through 2004
- 6,600 names registered through 2004
- From 2005:
 - Managed by National Internet Exchange of India (NIXI), Afiliast registry Technical Partner
 - 2nd & 3rd level domains available on an unlimited basis
 - Separation of Registry & Registrar functions
- 250,000 registrations through May 2007
- No IDN registrations so far



India's Multi-lingual society

- Total Population 1.002 billion (2001 Census)
- 2 Classical Languages – Tamil (2nd century BC) & Sanskrit (5th century BC)
- 22 Official Languages
 - **Devanāgarī** (देवनागरी) script based (North Indian):
 - Hindi, Marathi, Sanskrit, Kashmiri, Sindhi, Nepali, Manipuri
 - **Dravidian** script based (South Indian):
 - Tamil, Telugu, Kannada, Malayalam, Konkani
 - **Arabic** Script Based: Urdu
 - **Other** script basis: Bengali, Oriya, Gujarati, Punjabi, Assamese
- Worldwide Audience:
 - Hindi - 400 Million Speakers
 - Bengali - 200 Million Speakers
 - Tamil - 70 Million Speakers
 - Telugu - 80 Million Speakers
 - 7 more languages with audience of 25-50 million speakers
- Schools teach in 58 different languages
- Newspapers publish in 87 languages
- Radio programmes broadcast in 71 languages
- Movies released in 15 languages

South Asian Language Map



Assamese (অসমীয়া) Source: Wikimedia commons

Bengali (বাংলা)

Gujarati (ગુજરાતી)

Konkani (कोंकणी,
ಕೊಂಕಣಿ, ಕೊಂಕಣಿ)

Bodo (बोड़ो)

Dogri (डोगरी or ڈوگری)

Kashmiri (کٔشُر, کٔشُر)

Maithili (मैथिली)

Urdu (اردو)



The .IN IDN Plan

- Introduce Hindi & Tamil IDNs for .IN first
- Develop Language Policies
- Consider Issues Brought About by Variants
- Ensure Standards-Compliance
- Effect Single-Root plan
- Enhance Dispute Resolution Policy to cover IDNs



Building Indian IDNs

- Language & Architecture Challenges
 - About 12 Indian languages are based on Devanagari script ...
 - Many-to-many problem set (many languages using more than one script for equivalent representation)
- Other Linguistic & Script Representation Challenges
 - Bi-directional text
 - Multiple diacentric positioning
 - Word Breaking
- Current Unicode mapping considered insufficient by Indian government & linguists
 - Unicode Consortium (UTC) & Indian Govt form South Asian Scripts subcommittee to evaluate & identify potential solutions



Launch Process Questions

- Registry Considerations:
 - Should an IDN Sunrise be imposed?
 - Should there be a Landrush process?
 - Should there be new reserved names?
 - Should existing ASCII registrants get first shot at equivalent IDN registrations?
- Registrar Considerations:
 - New/modified client software to connect to registry
 - Conformance to standards
- Standards:
 - Use a standards-based process



Next Steps To A Multi-Lingual Internet

- **Internationalize** ... design technology to accommodate languages
 - *IDNs are only the start*
 - Build standard language tables/repertoire
- **Localize** ... define character sets that define a language, and create local language strings
 - Convert to local languages and scripts
- **Standardize** ... provide a uniform, cohesive and standard representation and protocol
 - Ensure we have a global standard – that works in all applications
 - Browsers
 - Email
 - Mobile Devices



Conclusions

- Over \$3mm committed funding & >20 staff members dedicated to Indic script IDN efforts
- Since Indian languages are spoken worldwide, our work will likely impact other nations and their people
- Likely to be one of the most complex IDN implementations ever undertaken worldwide





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Questions?

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