ccTLD Services

NeuStar

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Agenda

- Context of ccTLDs
- Launch Services
- IDNs
- Primary/Secondary DNS
- Registry Gateway
- Other Services
ccTLD Context

• A digital national asset
• As unique as the host nation; wide variation in
  – Goals
    • Revenue source
    • Growing local commercial sector
    • Growing local technical capabilities
  – Policies
    • Registration restrictions
    • Documentation
    – Registrar communities
• Technical expertise and resources
  – Personnel and infrastructure
Launch Services

- Policy development
  - Balancing growth with local concerns
- Intellectual Property Claims
  - Precursor to Sunrise
  - States claim to a name
- Sunrise
  - Trademark variations
  - Derivative names
  - Intellectual property documentation
  - “First past the post”
  - Auctions
- Landrush
  - Scalability, Experience, Innovation
- Registrar market reach
Language tables
- .BIZ (Timeline, per-language)
- Consistent with IANA language tables

Reserved names
- Conservative; i.e. reserve more

Bundling
- E.g.: RFC 3743 (JET) and RFC 4713 (CDN)

Policy
- Active in ccNSO and gNSO IDN WG
• Advanced i18n needs
  – eXtensible Resource Identifiers
  – Registry Model Customizations

• Future
  – Bidi languages
  – IDNA200x

• Open Source Project
  – EchIDNA
  – Preparation for IDNA200x
DNS Solutions

- Extensive qualifications
  - Infrastructure provider for over 30 {cc,s,g}TLDs
  - Manage ~25 million domains, over 20% of global market
  - Network processes over 175 billion queries per month
- Primary or secondary DNS capabilities
- Flexible update interface from Registry: XML API or IXFR/AXFR
  - Changes propagated globally in ~2 minutes
- Customized TLD network, separate from enterprise customers
- Custom infrastructure solutions available
  - Anycast of TLD-controlled IP addresses
  - Disaster recovery solution
  - Real-time enablement of NeuStar infrastructure for high-volume periods
- Advanced features
  - DNSSEC, IPv6, IDN, ENUM
Current Data Centers (14)

- North America
  - California (2)
  - Illinois
  - Virginia
  - New York
  - Florida
  - Texas
- Europe
  - Luxembourg
  - UK
- Australia
  - Sydney
- Africa
  - South Africa
- Asia
  - India
  - Hong Kong
  - China

Planned Expansion
- South America
DNS Shield for DDoS mitigation

- Top global ISP/network providers
  - AOL, EarthLink, Cablevision, Qwest, Yahoo!, etc
- Private nodes within ISP/network infrastructure
  - Inaccessible to public internet
  - Accessible only to trusted recursive servers
- Service providers create and maintain ACLs
  - Forms a protected environment for query/response traffic
- Partners have two or more authoritative private nodes
  - Utilize Anycast
  - Connected privately to update infrastructure
DNS Shield: How it works

ISP Network

Existing Recursive Servers

NeuStar Private Node

NeuStar Public Node

NeuStar Private Updater

End User

Backup query via public nodes

Updates via VPN

Injection

ccTLD Registry

Ethernet link

Updates via VPN
Registry Gateway

• ccTLD maintains authoritative database

• ccTLD gains:
  – Instant access to global registrar community
  – Protocol adaptation
  – Operating efficiency

• NeuStar provides all Registrar support
  – Phone/email
  – Billing

• Enables cross-sell opportunities for registrars
  – Increased convenience for registrants
Registry Gateway: How it works

- Domestic Registrant
- Domestic Registrar
  - EPP or Custom
  - ccTLD Registry
- International Registrant
- International Registrar
  - EPP
  - NeuStar Registry Gateway
  - EPP or Custom
Registry Gateway Success Stories

- **.CN Registry Gateway**
  - Launched in late 2002
  - 75 Registrars
  - Over 140,000 names

- **.TW Registry Gateway**
  - Launched in early 2004
  - 41 Registrars
  - Over 30,000 names
Additional Services

- **Private ENUM**
  - Tier 1/2 and SIP/VoIP signaling
- **Mobile IM**
  - Community and interoperability solutions
- **Resource Administration**
  - Numbering (telephone)
  - Short codes (SMS)
- **Number portability**
  - fixed and mobile
- **Identity and XRI/iNames**
Questions?