EPP Overview

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Summary

• Why EPP?
• What is it?
• XML
• The parts
• Registration Model Nameservers
• Extensions
• Implementations
EPP

Client: Registrar / Registrant

Registration Process

DNS Service

Registry Data Store

whois Service

"Boxes"
Hardware / Operating System / Connectivity

Registry Implementation
Before EPP

• Multiple (gTLD) domains
  – arpa, com, net, org
  • ccTLDs not a marketing force

• One Registry, one registrar
  – Network Solution

• Monopoly to be squished by ICANN
  – horizontally
  – vertically
Protocols in use

• Original Email templates
  – Ad variations there off

• For vertical integration:
  – RRP Protocol
    • Original proprietary protocol
    • Informational RFC 2832 for version 1.10
      – documents lots of shortcomings
    • No peer review
    • Not a standard
Complications

• Rise of ccTLDs
• Addition of (g)TLDs
• More players, more ways of communication channels
  – NxM is a bad idea
• Open and transparent processes desired
  – ICANN required IETF standard to be used for new registries
Design Phase

• Functionality of protocol
  – Registration ???
    • Policy free
  – Whois ???
    • External view on internal database
      – Publication policy
• BOF: 49\textsuperscript{th} IETF San Diego, CA
• PROVREG-WG: 50\textsuperscript{th} IETF Minneapolis
Functionality Defined

• Registration protocol only
• No public whois like features
  – Separate issue: CRISP-WG
• Requirements document September 2002
  – RFC 3375
• Proposed Standard March 2004
  – RFC 3730-3734
• Informational 3735
WG Closed

• Lingered a long time (3Qt 2005)
  – Waiting on normative refs
• Protocol implementations starting to catch-up
  – Implementations towards old drafts
• Maillist still active
• Extensions got published
• Draft Standards May 2007
  – Not a WG effort
RFC 4930: Basic of EPP

- RFC 4930 Protocol
  - Protocol State Machine
    - Independent of transport
  - Protocol extension framework
    - See also RFC 3735
- Objects identification
- Protocol Commands
  - Session management (login, logout)
  - Query commands (check, info, poll, transfer)
  - Transform Commands (create, delete, update etc.)
4931: Domain Mapping

- EPP command syntax & semantics applied to domain names
- Details of `<create>`, `<delete>` etc.
- Scope of commands
  - Allow mechanism for “Offline Checking” for out of band review
- Name Server description
  - Attribute of domain or separate object?
4932: Host mapping

• EPP command syntax & semantics applied to Host names
• Again, allows out of band review
4933: Contact Mapping

- EPP command syntax & semantics applied to contacts
- Social data
  - Email, telephone etc
  - Authorization info
    - disclosure policy (privacy)
- Again, offline review possible
4934: TCP Transport

- Session management
- Message exchange
- TLS is a MUST
- IANA assigned port 700
  - 3121 was for development & testing
Implementation Notes

- XML parsing
  - generic parsing
    - maybe slow
    - flexible, more graceful error processing
  - special parser
    - faster
    - rigid
- EPP prefers UTF-8 encoding
EPP Extensions

• Extra policy by registry
  – Different RR model

• Special extra contact mappings
  – Dns.be, EurID
Extensions Guidelines

• RFC 3735
  – Guidelines for Extending EPP
    • all extensions in XML
    • how to maintain backwards compatibility
    • identifying extensions
    • documenting them ...

• Mail list still active
  – To subscribe: ietf-provreg-request@cafax.se
  – Quick response time
Extensions RFCs

- RFC 3915 Grace Period Mapping
  - extends <update>
    - Adds <restore> command
  - extends <info> responses
    - Adds <restore> command
    - Adds various status indicators to response
- RFC 4114 E.164 (Enum) Mapping
  - Adds elements to Domain Mapping
- RFC 4310 DNSSEC Mapping

http://www.nlnetlabs.nl/
(067, 3F, ?)