

Net::DRI for EPP & IRIS

Free software for domain name needs

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Today Topics

- EPP
- EPP in .FR
- IRIS
- Net::DRI
- Demonstrations

EPP

- IETF Provreg Working Group
- EPP : Extensible Provisioning Protocol
- March 2004 : RFC 3730,3731,3732,3733,3734
- May 2007 : RFC 4930,4931,4932,4933,4934 (small changes)
- Some extensions have been specified : DNSSEC, E164, Grace Period, ENUM Validation
- Work towards full IETF standard status started in October 2008 : in discussion with IESG, issues with TLS bindings

EPP Current Status

- Adopted by all gTLD registries (ICANN requirement)
- Being adopted by more and more ccTLDs, often in addition with previous interface (emails, web services, etc.)
- Many registries with local extensions, of various types, more or less conformant to EPP RFCs
- Impossible to ignore, no same level alternative

EPP PROs & CONs

- PRO: Technically consistent (XML, extensible, performance, tracking, etc.)
- PRO: Standardization (common tools, shared knowledge, market for services)
- CON: Standardization (data model not in line with local policies ?)
- CON: Some areas could have been better designed (ex: domain name status values)
- CON: Late in the game? (transition needed + no trivial amount of work)

One EPP to rule them all ?

- Extensions of various quality
- various local XML schemas offsprings replacing RFCs ones
- 3 possible type of extensions: protocol, object or command-response level
- nameservers: attributes or objects ?
- contact postalinfo: loc or int or both ?
- non core objects: nsgroup, emailfwd, defreg, future, av, account, notifications, etc.
- registry messages (poll)

EPP Domain status (RFC4931)

- a string can be attached, describing the rationale
- some combinations are prohibited
- for registrars: clientDeleteProhibited clientHold
clientRenewProhibited clientTransferProhibited
clientUpdateProhibited
- for registry: server* instead of client* plus the following
- inactive, ok (nominal status)
- pendingCreate pendingDelete pendingRenew pendingTransfer
pendingUpdate

EPP introduction in .FR (1)

- Starting with: emails and some webservice
- 2003-2007 : regular lobbying by registrars
- 2004-09 : first presentation on EPP by registry

- 2007-10 : EPP is a priority for 2008
- 2008-02-21 : first technical workshop on EPP with 5 willing .FR registrars and one reviewer

EPP introduction in .FR (2)

- 2008-07 : first EPP server prototype and specifications
- 2008-07..2008-10 : registry data normalizations
- 2008-11 : second EPP server prototype
- 2009-01 : last EPP server prototype
- 2009-03-30 : EPP live ! (still coexisting with emails)
- 2009-09 : expected review of the transition

Recent EPP Deployments

- .NO
- .UK
- .SE (March 2009)
- .ES
- .NL
- others
- you ?

The future is here

- IPv6 from the start
- IDNs (kind of)
- DNSSEC for EPP: RFC 4310
- E164 for EPP: RFC 4114
- ENUM Validation for EPP: RFC 5076
- Trouble with whois?
IRIS DCHK: RFC 3981, 5144, 4993

IRIS

- IETF CRISP Working Group
- To work on port 43 (whois) alternative
- IRIS : The Internet Registry Information Service
- January 2005 : RFC 3981,3982,3983

- Various types of registries: dreg, areg, enum
- August 2007 : RFC transports : XML chunks (replacing initial BEEP), UDP+compression
- February 2008 : DCHK (lightweight domain availability service)

Whois (RFC914,3912) / IRIS

Format	Unspecified XML	
Content	~ ASCII	UTF-8
Queries	Unspecified Lookup and Searches (beginsWith,endsWith)	
Objects	Domain IP	Domain Contact Registrar ENUM AS Network
Transport	TCP:43	TCP:713,714 or UDP:715, with S-NAPTR
Delegations	~ Hack	Precisely specified (with bags)
Tiered access	Implicit	Explicit
Authentication	No	Yes (SASL)
Confidentiality	No	Yes (TLS)

IRIS Current Status

- VeriSign labs prototypes (client and server), discontinued
- RIPE worked on areg, but interest discontinued
- DENIC announcement on September 25th 2008 starting an IRIS DCHK server
- No other server offerings
- Clients: DENIC, dchk on sourceforge, and Net::DRI

Net::DRI

- Domain Registration Interface (but also more !)
- pure Perl object-oriented toolkit
- free software licence: GPL
- 49926 (32894) lines, 273 modules, 2134 functions
- 4+ years of work
- ~20 outside contributors (from simple bugfix to whole extensions)
- only open source toolkit with all EPP extensions, RRP, Whois, IRIS, etc.

Net::DRI Protocols

- RRP
- EPP : GracePeriod, SecDNS, ENUM, ENUM Validation... (10 RFCs)
- Whois
- DAS
- IRIS (3 RFCs)
- AFNIC (email/WS), DENIC (RRI)
- BookMyName/Gandi/OVH (WS)
- OpenSRS (XCP)

Net::DRI Transports

- UDP/TCP/TLS
- HTTP/HTTPS
- SOAP/WSDL/XML-RPC
- SMTP

Net::DRI Supported TLDs

- COM NET ORG BIZ INFO MOBI COOP NAME TRAVEL CAT ASIA PRO JOBS AERO MUSEUM TEL
- EU CC TV LU NU BE AU US DE CH LI HN SC VC AG BZ LC MN ME CZ BR SE AT NO FR WS PL PT UK
- CentralNIC : UK.COM DE.COM EU.COM etc.
- CoCCA : CX GS TL KI MS MU NF HT NA
- TW CN : old EPP variant
- IENUM +43

Net::DRI Uniform API (1)

- add_registry registry=CoCCA
- new_current_profile name=p1 type=epp client_login=X client_password=Y
- domain_info whatever.cx
- We are doing an EPP domain:info query !

Net::DRI Uniform API (2)

- add_registry registry=AT
- new_current_profile name=p1 type=whois

- domain_info whatever.at
- We are doing a whois query !

Net::DRI Uniform API (3)

- add_registry registry=DENIC
- new_current_profile name=p1 type=dchk
- domain_info whatever.de
- We are doing an IRIS DCHK query !

Thanks

- Dr Eberhard Lisse
- Audience of this talk, and the ccNSO
- Authors of RFCs on EPP, IRIS, etc.
- Contributors to Net::DRI

Live Interactions

- Questions ?
- Live Demonstration ! Shell, IRIS, .FR, CoCCA, etc.
- Feedback ?
- Collaboration ?

Net::DRI

- CPAN
- <http://www.dotandco.com/services/software/Net-DRI/>
- Other software & services: <http://www.dotandco.com/services/software/>
- Interested in gTLDs registries and registrars statistics ? See http://www.dotandco.net/ressources/icann_registries/ and http://www.dotandco.net/ressources/icann_registrars/