

EPP meets DNSSEC

IEPG

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A demo follows...

- The context of this talk
- EPP
- DNSSEC
- What this means to the Internet

- In reference to
 - <http://www.ietf.org/internet-drafts/draft-hollenbeck-epp-secdns-08.txt>

Registration

- The "on-ramp" to the Information Super Highway ;)
 - Registration of domain names and address numbers (v4, v6, AS) gets stuff onto the network
 - A lot of non-technical issues
 - Tools for DNS mgmt need to consider this

Why is Registration Sticky?

- Identity is important
 - For official reasons
 - For business image
 - For post-mortem investigations
- So, in march "policy bodies"
 - ICANN for domain names
 - RIRs for IP number resources

Impact of ICANN

- ICANN 'cause...they kinda spurred EPP
- Distributed access to single resource
 - Shared Registry System
 - Creates "Registrars"
- Regulation can be a pain, but it can also motivate gains
 - Not here to question it, but to deal with it

Pain

- By creating a new layer in the registration of domain names
 - Can no longer assume direct interaction of DNS "parent and child"
 - Tools assuming a direct parent-child relationship can't be used (in all circumstances)

Gain

- (Domain Name) registries are now
 - "Bigger" representing more benefit of the Internet
 - "Faster" time to use is lowered
 - Maybe no gain for the DNS as a technical object, but gains are made in other ways

Why? How?

- The Internet is more useful to society
 - That's what we wanted all along, right?
- Improved protocols are one ingredient
 - Manual, closed-shop means don't scale
 - What we see now
 - EPP, IRIS

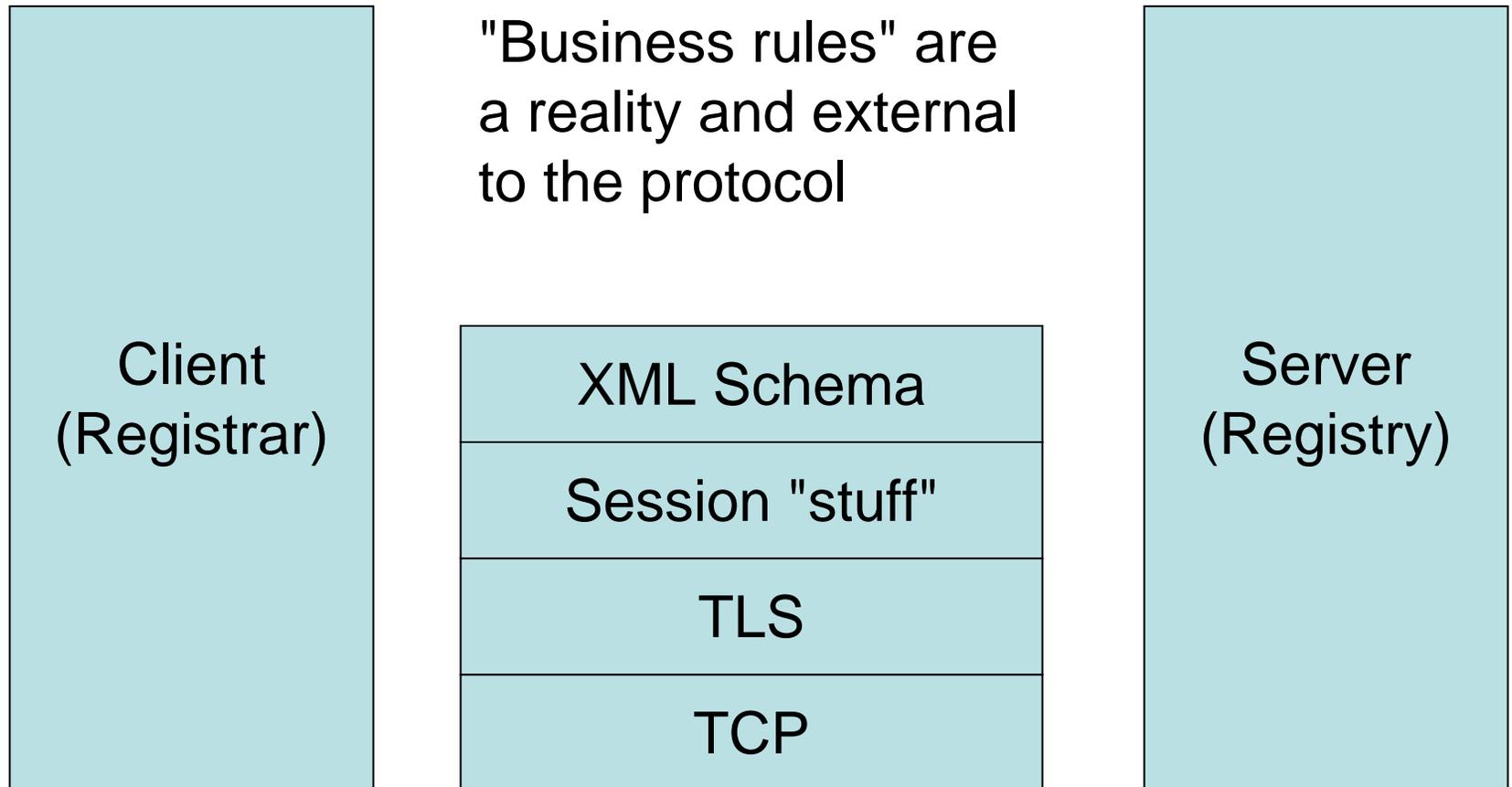
My point is...

- I see a lot of tools for managing, troubleshooting, administering DNS
- If these tools are to be generally useful, they need to consider the operational realities of the network
- EPP-SECDNS is one such tool
 - Perhaps borne of the need to "deal"

EPP

- In short, a "business-to-business" protocol for provisioning "x"
 - "X" initially is domain names
 - Pre-arranged security in place
 - "Just" a client-server protocol for requesting registrations
 - Perhaps tinted by the ICANN SRS, time will tell

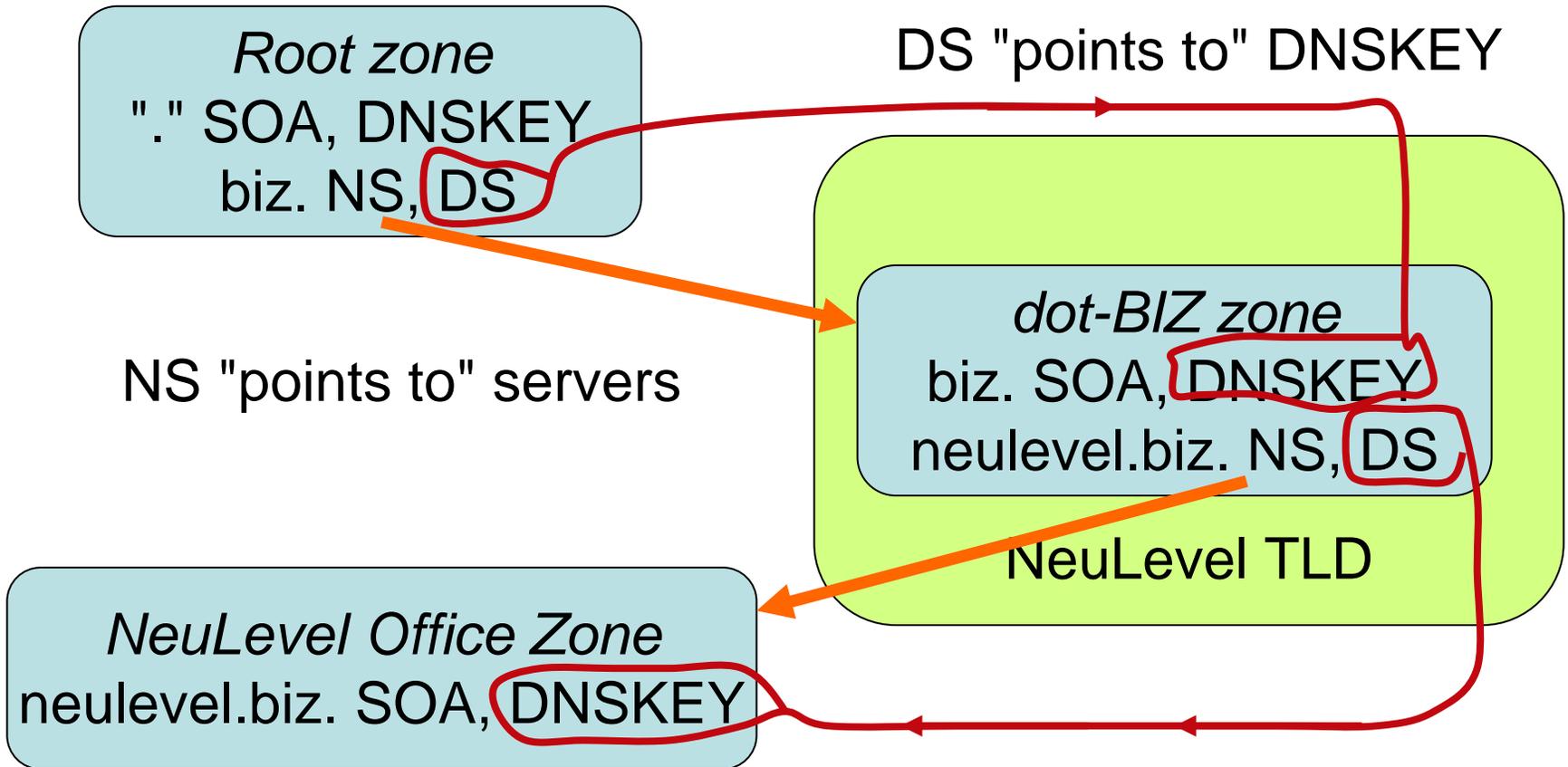
EPP Protocol Stack



DNSSEC

- Add security to DNS
- Parent zone needs data from Child
- Analogy to current registration process
 - Like name server declaration and changes
 - DNSSEC needs to have a DS RR appear
- Can't assume parent and child have direct business relationship

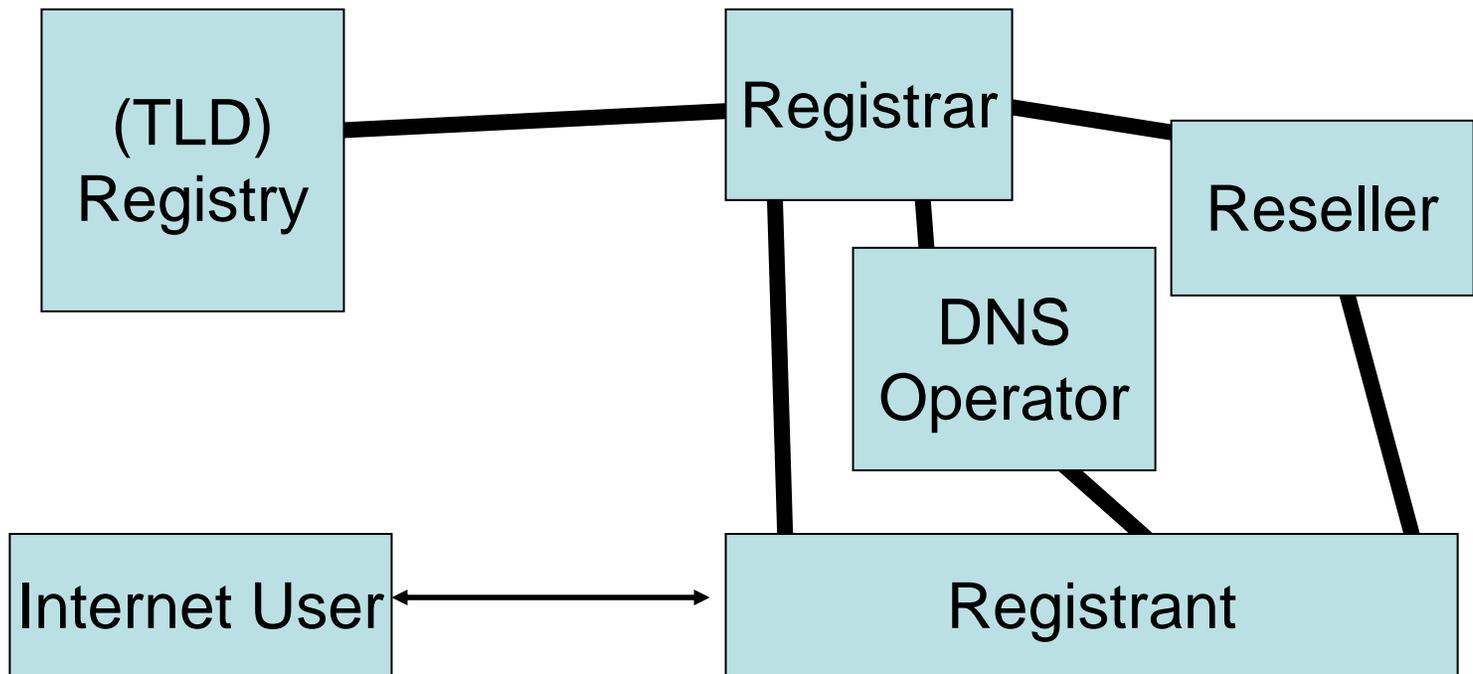
DNS vs. DNSSEC



While we are at it

- Let's make the relationships more interesting
 - Registrant hires a DNS operator
 - Registrant is a customer of a registrar
 - Registrar may or may not be a DNS op
 - Registrar is a customer of a registry

Registration "market"



I know that this is the IEPG, but seeing the market sets the interfaces.

The DNS Operator may be part of one or more of the registrant, registrar, reseller

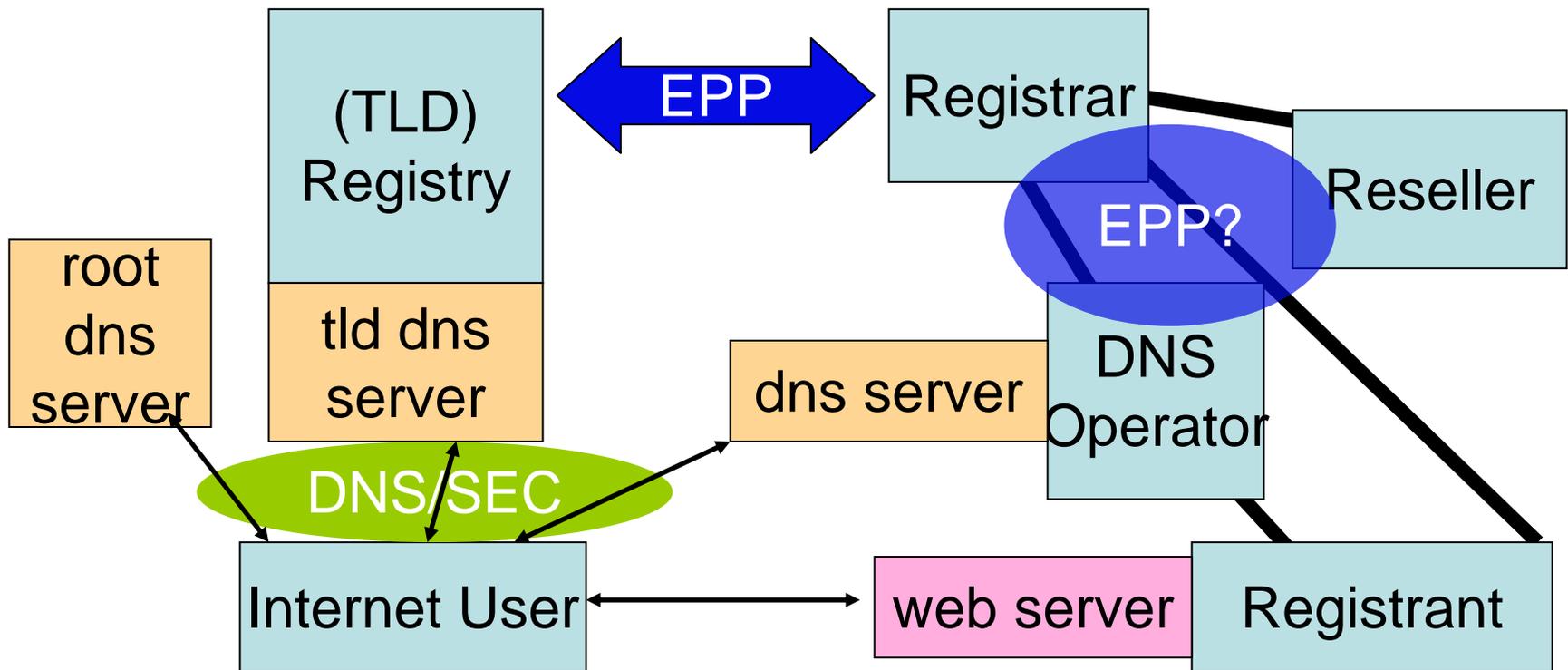
Pain or Gain?

- More interfaces
- More flexibility
- Need more protocols
 - One way to make gains worth pain
 - Simple protocols for a complex world

EPP DNSSEC Extensions

- In the RFC Editor Queue
- Define means to pass DS record (and DNSKEY record) data from place to place
- Designed for registrar to registry interface, perhaps useful for other interfaces

EPP/DNSSEC & Registration



So what?

- DNSSEC administration in a shared registry
- An early demonstration of an idea pre-RFC! (Scott's document is not just a paper spec.)
- *Quicker depletion of Geoff's Internet resources, perhaps? ;)*

"Prototype"

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

..."act" is the important word



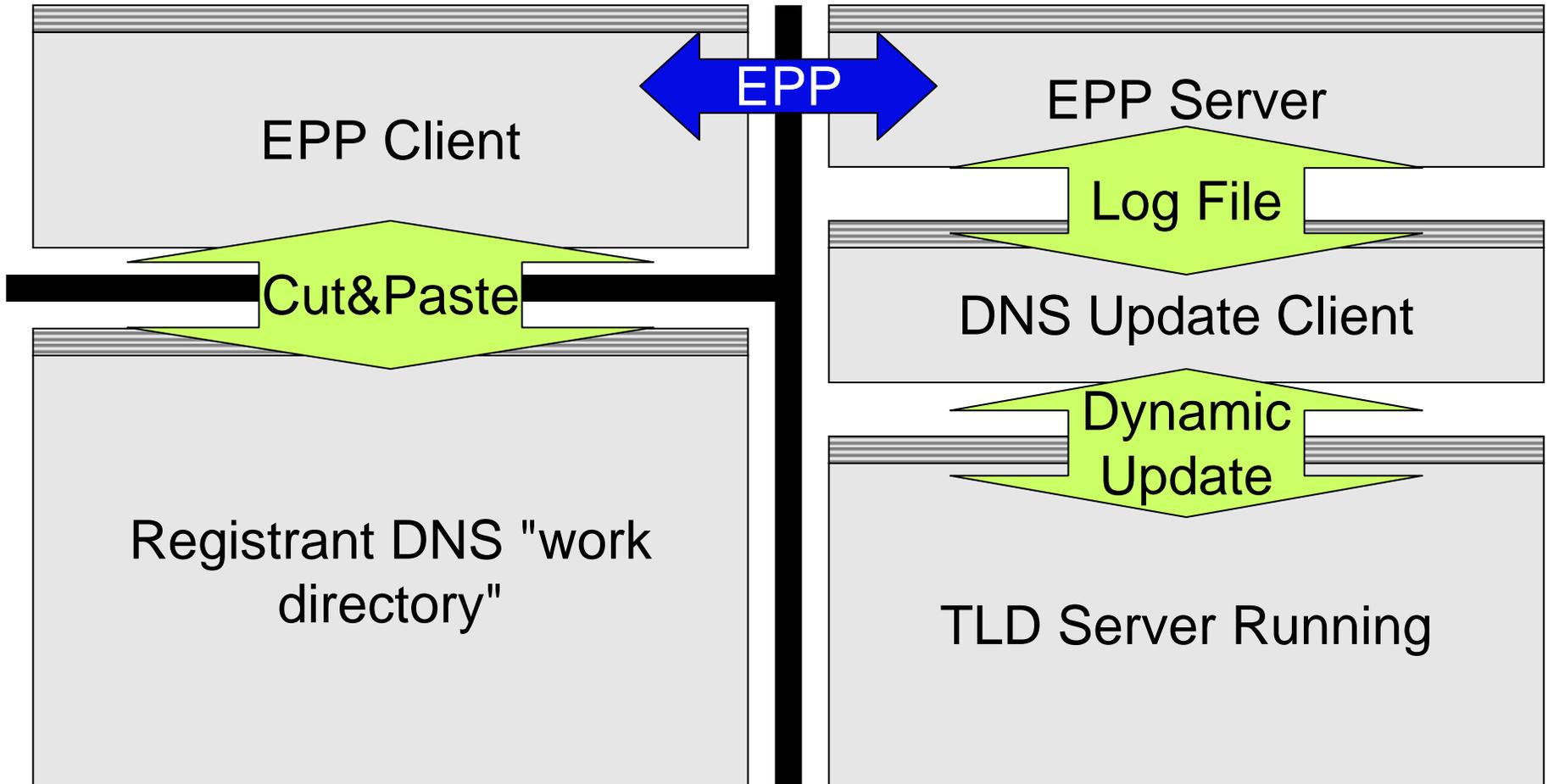
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Demo

- TLD DNS(SEC) server, dynamic update
- Registrant DNS, signed
- EPP Client to submit delegation
- EPP Server to accept delegation
- DNS Update Client to change zone
- Note: missing registry "database" *

* - see epilogue

Window layout



Clean-up

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

- Discussion?
- Reference Documents
 - DNSSEC: RFC 4033, 4034, 4035
 - EPP-DNSSEC:
 - draft-hollenbeck-epp-secdns-08.txt
 - In RFC Editor Queue

Epilogue

- The PIR registry is running a EPP and DNSSEC trial
 - <http://www.pir.org/RegistrarResources/DNSSecurityTestbed.aspx>
 - With a database behind it
- Neustar ran a limited-time trial last year, the demo you saw is a byproduct of that