DNS/DNSSEC Workshop

Software Overview

UNIVERSITY OF OREGON

NSRC
Network Startup Resource Center

DNS software overview

- Many vendors and software platforms out there
- Commercial and Open Source solutions
- Good overview here

http://en.wikipedia.org/wiki/Comparison_of_DNS_server_software

- On the Internet, historically Berkeley/ISC BIND has been the dominant software platform

DNS software mini-comparison

- Many Open Source solutions, both for recursive/caching and authoritative use:

Software	Authoritative	Recursive	DNSSEC	DB / API
ISC BIND	X	X	X	X
PowerDNS	X	X	X	Native
Unbound		X	X	Native
NSD	X		X	patch
DJB djbdns		X		?
DJB tinydns	X			?

Note: tinydns/djbdns have incomplete v6, EDNS0 support and no DNSSEC support

DNS software overview (2)

- BIND is the most popular
- TinyDNS is still second most popular, though this might change with IPv6 and DNSSEC
- We'll focus on 3 implementations
  - BIND 9.9
  - Unbound 1.4
  - NSD 3.2

DNS software: BIND

- Version 4 released with BSD 4.3 in 1986
- Currently at version 9.9
- BIND 10 is in development – but still at least 1 year away
- Most feature rich DNS implementation out there
- Often considered ”the reference”
  - BIND zone format is the de-facto notation
- Used in many commercial products

DNS software: BIND (2)

- Features include
  - ACLs
  - Views
  - DB API
  - Dynamic DNS support
  - DNSSEC signing and validation
  - Many more...

DNS software: NSD

- Developed by NLNetLabs
- Authoritative only
- Developed to mitigate risk of a single bug taking out all BIND implementations
- At least 1 root server uses NSD
- Zones are “compiled” into a precalculated “on the wire” format
  - all possible answers are calculated, then stored into a binary DB, ready to send out
  - very fast

DNS software: Unbound

- Developed by NLNetLabs
- Caching only
- Developed with performance in mind
- Much more lightweight that BIND
  - More efficient memory usage
  - More features to control caching
  - Fast...

Questions?

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