So You Inherited a DNS Server…

DNS Best Practices from Day One
How did the DNS find you?

- Because I knew *nix
- No one else would
- It just sort of happened...
- voluntold
The Question

- What would you do if dropped into an existing organization to run their DNS?
First action, Recon!

- Actually, first action is freak out!
- 2nd action is caffeine, then deep breath and recon:

Any network or infrastructure diagrams available?
Pick a nameserver, login!

- Running a current version of dns software?
- OS?
- How is dns service started on this box? Does this match the version currently running?
- Is there a nanny script in use?
% named -V
BIND 9.8.4-P2 built with '--prefix=/usr' '--infodir=/usr/share/info' '--mandir=/usr/share/man' '--enable-threads' '--enable-getifaddrs' '--disable-linux-caps' '--with-openssl=/usr' '--with-randomdev=/dev/random' '--without-idn' '--without-libxml2'
using OpenSSL version: OpenSSL 0.9.8zd-freebsd 8 Jan 2015
On to configuration

- Do the global options make sense?

- Basic security check:
  - TSIG secured zone transfers?
  - allow-transfer?
  - allow-query (is this an open resolver?)
Global options

options {
  directory "/etc/namedb/";
  dnssec-enable yes;
  dnssec-validation yes;
  allow-recursion { none; };
  allow-query { any; };
  allow-transfer { none; };
  notify no;
  key-directory "/etc/namedb/keys";
  max-journal-size 32k;
  zone-statistics yes;
  listen-on { 192.168.53.251; };
  listen-on-v6 { 2001:db8:100::251; };
  notify-source 192.168.53.251;
  notify-source-v6 2001:db8:100::251;
};
zone stanzas

zone "example.com" IN {
  file "example.com-zone";
  type slave;
  masters { 192.168.53.4; 192.168.53.8; }; 
  notify no; 
};
Is the logging stanza sane and actually occurring?

Check the config as well as the actual logs.

Have a look at the system logs
logging stanza

logging {
    channel query_log {
        file "logs/query.log" versions 5 size 1M;
        severity info;
        print-time yes;
    };
    category queries { query_log; };
};
checkconf is your friend

$ named-checkconf –z

zone ./IN: loaded serial 121 (DNSSEC signed)
zone test.dnslab.org/IN: loaded serial 50 (DNSSEC signed)
rndc

- Is rndc configured?
- If not, ‘rndc-confgen –a’

- rndc status
- rndc notify zone
- rndc retransfer zone
Recon Repeat

- Repeat the prior Recon for all known nameservers!

- If diagrams were available, check to see if configs match stated functionality.
SOME FUN THINGS YOU OUGHT TO KNOW...
DNS personality disorders

- Clients are often happy even when servers aren’t configured well.

- A bit passive-aggressive… things are acceptable until they’re not.

- OCD, clients and resolvers are content to retry and retry and retry…
THERE ARE RULES...

THE RULES KEEP US SAFE
# RFCs

https://www.isc.org/community/community/rfcs/dns/

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Here is the address of www.example.com.
BACK TO YOUR NEW PREDICAMENT...
Authoritative specific

- Use external tools to check service:
  - DNSViz
  - dnscheck.iis.se
  - ednscomp.isc.org (firewall check)
Recursive specific

- Perform queries against these servers via dig

  dig @192.168.53.53 www.example.com.

- Are they answering appropriately?

- Are they refusing appropriately?
Actions for Day 2 and beyond

Meet with the following teams:

- Provisioning: how fast for new servers?
- Operations: how’s life?
- Security: about those firewalls…
- Monitoring: alerting on?, peak traffic?
- Architecture: future plans?
- Management: support?
Interconnectedness

- Get your boss to send you to DNS-OARC meeting(s)

- Join some lists:
  - dns-operations (DNS OARC)
  - nanog
  - etc
Questions
Thank You!

www.isc.org

info@isc.org