



Resolving DNS on FreeBSD

Past, present, future

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Danmarks plads på Internettet

Past

- History
 - *named* at least since FreeBSD 2.0 with NAMED 4.9.3-beta
 - *libc res_** at least since 4.3BSD
- Complete BIND in base
- nslookup, host, dig, nsupdate
- named
 - recursor
 - authoritative
- dnssec-keygen, dnsec-signzone, etc.

Why not BIND?

Technical, not political!

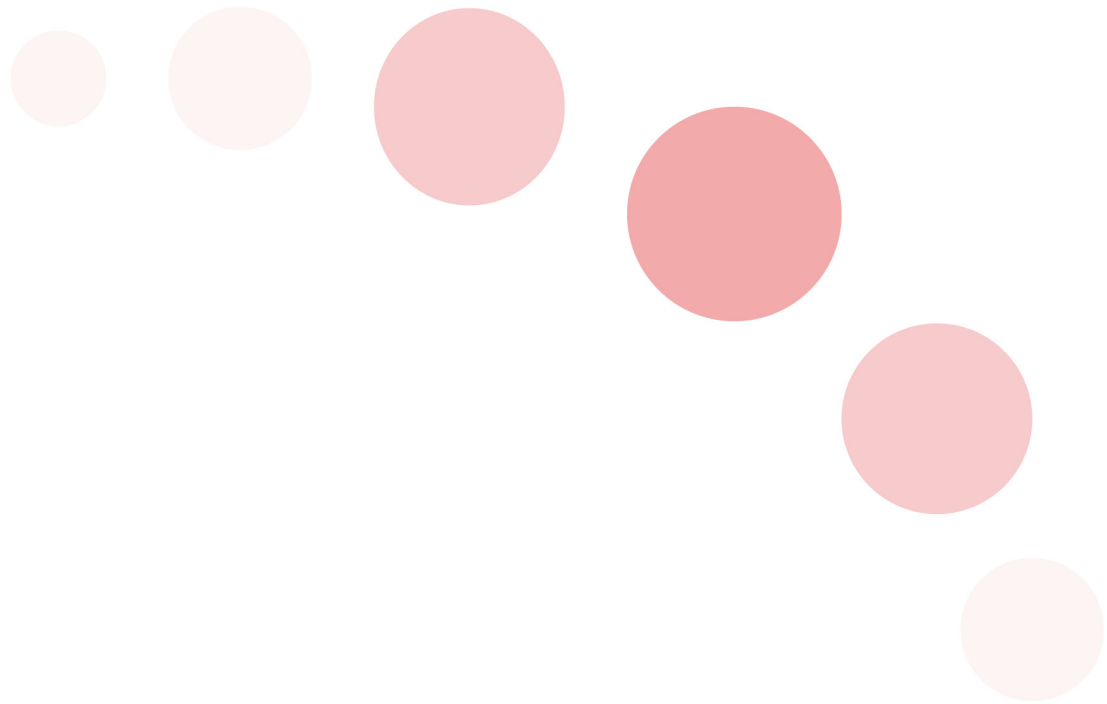
ISC is a major sponsor of FreeBSD Project infrastructure

Why not BIND?

- Smaller codebase
 - recursor only
- Security Advisories
 - see smaller codebase
 - highly scrutinised
 - not necessarily related to code quality
- Support lifecycle
 - upgrading or backporting
 - not better in other projects
- BIND10
 - external dependencies
 - python
 - botan
 - BIND9 EOL?
- Historic implementation on FreeBSD
 - Too many options to support

Abbreviated wish list

- DNSSEC-aware resolver library
- Caching recursor daemon
- CLI tools
- Liberal license (BSD or similar)



Ecosystem

- BIND
- knot
- Powerdns
- djbdns
- dnsmasq
- Idns / unbound
- ...

If not BIND, then...

- BIND
- ~~knot (GPL, utilities only)~~
- ~~Powerdns (GPL)~~
- djbdns
- ~~dnsmasq (GPL)~~
- Idns / unbound
- ...

Present

- unbound
- Idns
- host-wrapper, drill

- Local caching recursor daemon only
 - Any resolver supported as 3rd party package
- Simple setup
 - For complicated setup, install package
- DNSSEC validating
- SSHFP
- Easy to replace
 - FreeBSD 11

Future

- DNSSEC-aware resolver library
- Caching resolver daemon
- CLI tools (host, dig, (nsupdate))
- Liberal license (BSD or similar)
- low footprint
- fast
- thread safe
- compartmentalised (Capsicum, Casper)
- standardised API
 - DANE, SSHFP, ...
 - [get-api (Hoffmann)]
 - draft-hayatnagarkar-dnsexp-validator-api
- In production in 1,5 years

Questions?

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Wiki:

<https://wiki.freebsd.org/DNSBase>

Slides:

<http://people.freebsd.org/~erwin/presentations/20131118-ICANN-FreeBSD-DNS.pdf>