

Moving servers, IPv6 and stuff

Måns Nilsson, KTHNOC/SUNET

`mansaxel@sUNET.se`

6 maj 2004

—

This presentation is made possible by funding from the Internet Infrastructure Foundation of Sweden.

Gossip on DNS from Sweden

- Setting the scene
- Moving servers around – load during redirection.
- Performance of hardware solution
- IPv6 – present and future
- TTL discussions.
- Future planning.

Background

SE has a name-compressed setup of servers, provided by 4 different organisations, of which KTHNOC is one – the others are Telia, NetNod and Unet. KTHNOC operates two servers, both in SUNNET, under contract to IIS, the sponsoring organisation.

We strive for diversity in placement and platform. Together with the other operators we also offer a mix of DNS server implementations.

Refining setup by moving things around

- Old SUNNET setup had two boxes, of which one was recursing.
- Both boxes were running BIND.
- We wanted to get rid of recursion and interference by other zones.
- IPv6 was another goal. More later on that.

Refining setup by moving things around

- Implementation chosen was to move into separate boxes.
- NSD was chosen as name server software.
- One box is completely dedicated to SE, one is shared with a few infrastructure (ARPA) zones.

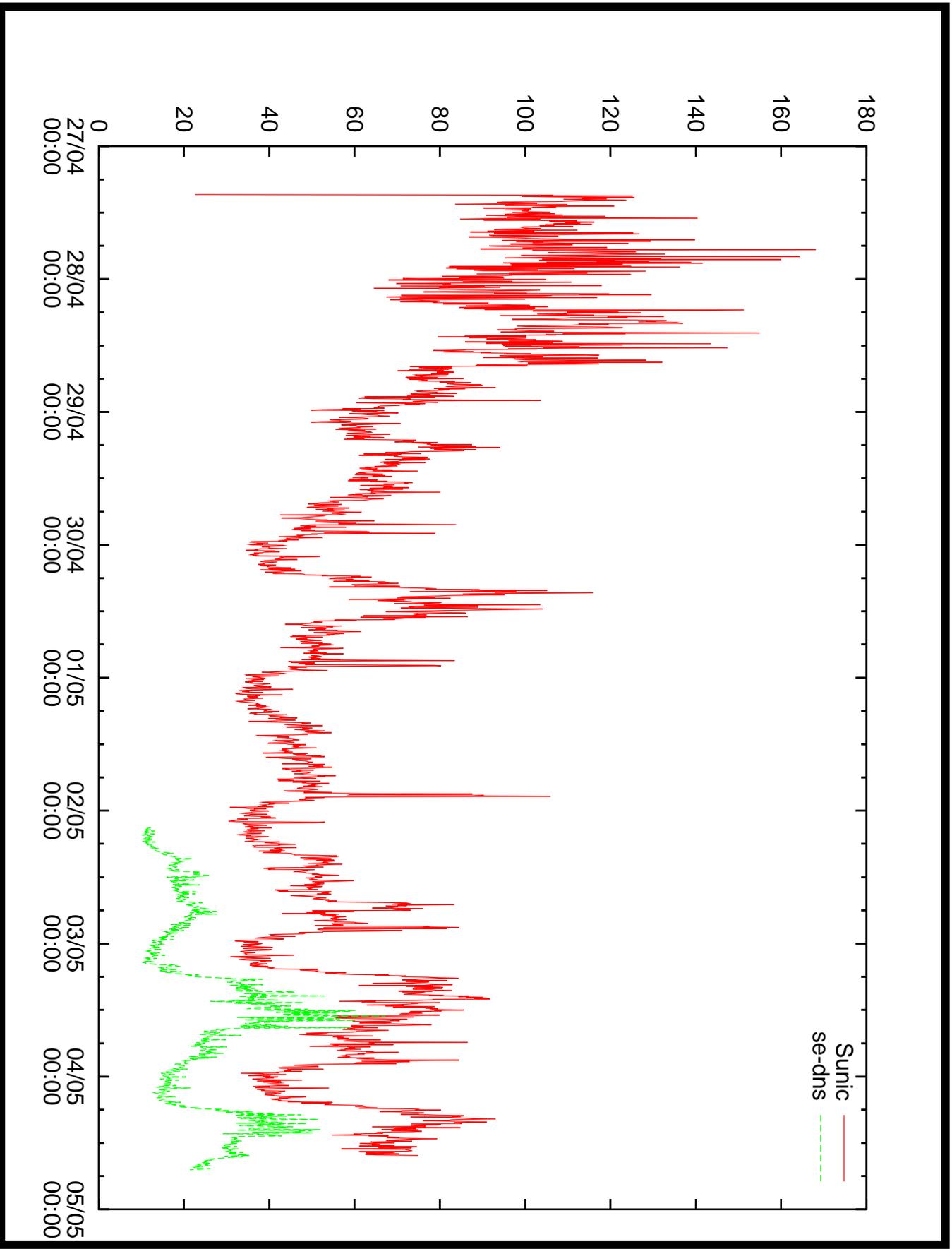
Query load as a function of presence in root

We are in mid-transition right now – having done the switch in-zone.

IANA is being asked to redelegate to new address.

By just redelegating in-zone we see a shift in query patterns.

(All this is v4 only)



Performance

Statistics:
Parse input file: once
Ended due to: reaching end of file
Queries sent: 560739 queries
Queries completed: 560720 queries
Queries lost: 19 queries
Percentage completed: 100.00%
Percentage lost: 0.00%
Started at: Tue Apr 27 20:08:08 2004
Finished at: Tue Apr 27 20:08:51 2004
Ran for: 42.673755 seconds
Queries per second: 13139.692066 qps

Performance

This is on an Compaq Alpha DS20E, from 2001.

NetBSD and NSD are a very potent pair in answering lots of queries very fast.

IP version 6

We have in-zone AAAA records for the two servers operated by KTHNOC.

They do not see very much traffic:

F: 0.623 qps

G: 0.423 qps

With current compression, there is room for perhaps 2 more.

TTL

We are experimenting with TTL in SOA+NS

```
se. 2D IN SOA catcher-in-the-rye.nic-se.se. registry.nic
2004050601 ; serial
2H ; refresh
1H ; retry
4W ; expiry
2H ) ; minimum
```

We expect slightly lowered load on root (can't really measure that) and better responsiveness wrt. negative caching.

Future

Ahead lies:

NetBSD 2.0 (soon)

DNSSEC (in 6 months)

v6 glue in root zone (any guesses?)

Questions

Måns Nilsson,

`mansaxel@sUNET.se`