DNS-OARC Systems Update

DNS-OARC Workshop

Montreal, CA

October 3, 2015

Status

- Update from last time, best to refer to last workshop's slides for details
- Services, Systems and Data archives all operating normally.
- Data in particular is undergoing fundamental changes due to external forces, the good news is that the existing plans are simply being accelerated instead of being re-written.

Data Archives Status

- Quite a bit has changed and will be changing
- All thumpers have been retired, shedding around 50TB capacity
- A plan to standardise on disk type and capacity (4TB) has yielded a number of benefits
  - fs2, 15TB of 45TB used, instead of only 17TB max
  - fs3, currently 22TB max, will also go to 45TB, with 22TB used
  - Standardising will decrease cost of having too many diverse components – but diversity is still optimal to achieve.
- On balance, we're heading towards around the same capacity, but with a reduced physical and electrical footprint – it's hard to be green. ;-)
- To be pedantic, 219TB used, of 309TB total capacity
- Fs1 holds a copy of *all* data, 118.5TB of 129TB used
- Access to that data available via analysis servers!

Ongoing Data Collections

- RSSAC-002 archives
  - A, C, H, J, K and L root servers supplying this data - now mirrored by DNS-OARC locally.
- Long-term AS112 queries, 2-week durations of collections for the year
  - Including data for before, during and after the surprise RFC 7534 deployment
  - Continues to the end of the year
- DSC has been consolidated off fs3 for exclusive processing on ix2
  - uploads have been consolidated to ix2 as well.

Reminder: DITL 2016

- Some proposed changes are coming to the way the next collection will be made
  - HPN-SSH, a high-performance version of SSH used by the NREN's & Science to speed up data transfers using SSH
    - http://www.psc.edu/index.php/hpn-ssh
    - Recommended reading: http://fasterdata.es.net/
    - (For the adventurous: Would tuning systems increase or decrease DNS performance?)
  - Relocating DITL uploads and post-processing in another country, along with the whole DITL data catalogue may become a bigger possibility
  - Having separate upload accounts for each query group (AS112, in.addr-arpa, etc)
  - Switching to a more efficient compression tool, like xz which has consequences for the entire DITL analysis tool chain and researchers
- Watch for announcement of next DITL test and DITL dates after the New Year.
- It is hoped fs5 will be upgraded in time to be the DITL capture and processing system, which then in turns pushes data out to the fileservers for research consumption

Micro-DITL in Late 2015

- There may be a small DITL collection in November/December 2015
- This would only be for tracking the effects of renumbering of h.root-servers.net
- Might be a small dataset, with only a handful of participants
- Details about going ahead or not will be posted this month.
- Is this worth pursuing? “So what?”

Future

- DNS-OARC must relocate all its systems by early next year
- Reconfigure systems along a policy of self-containment
  - i.e. minimise inter-system dependencies requiring NFS
- There are a number of options being looked at
  - Shutdown of certain services
  - Shrinking system footprint
  - Like-for-like co-lo searches
  - DNS Lab shutdown and dismantled
  - Etc.
- Backup site planning remains unaffected, as does TLDMon deployment

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