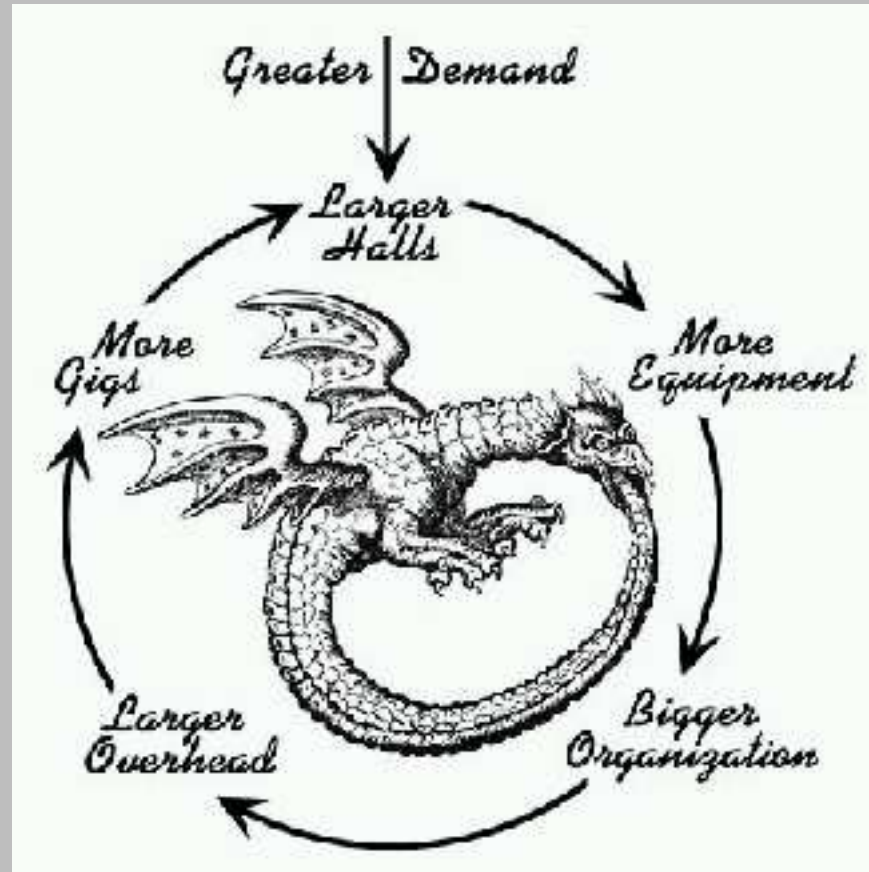


Notes from the IAB Multihoming BOFs



David Meyer

RIPE 52

Istanbul, Turkey

http://www.1-4-5.net/~dmm/talks/RIPE52/bof_updates

http://www.1-4-5.net/~dmm/talks/RIPE52/bof_updates.pdf

Agenda

- NANOG 35

- APRICOT 2006

- Futures

Issues from NANOG 35

- Issue 1: End-System Complexity
- Issue 2: DNS Latency
- Issue 3: Inbound Traffic Engineering
- Issue 4: IPv6 Routing and Addressing Architectures

Issue 1: End-System Complexity

- The issue here, articulated by Vijay Gill, is basically that assuming an industry standard 2% churn/month on low margin customers, one support call can destroy the margin on that customer for the expected lifetime of the customer.
- The concern here is that the dynamically changing ULIDs and locators will cause new and harder to diagnose problems, resulting in an increased frequency of calls to the help desk.
 - Which in will either hurt or destroy the margin on the customer

Issue 2: DNS Latency

- Several content providers expressed the concern that shim6 will require sifting through the DNS looking for viable ULID/locator pairs.
- In reality, shim6 doesn't require this. Rather, client connects to the server just like today.
 - i.e, the application tries connect to each IPv6 address in turn until one succeeds. Nothing new for shim6 here.
 - At some (later) point in time, shim6 at either end of the communication determines that some heuristic applies (e.g., number of packets between the pair of IP addresses; NOTE: not per TCP connection).
 - That point in time could be *never*

Issue 3: Inbound Traffic Engineering

- First off, in a shim6 context, inbound TE won't be solved by shim6 itself but by an extra component that dynamically manages shim6's preferences.
- And that component can use a site wide policy set by the site's operator.
- Future work item for the shim6 WG
- That being said...

Issue 3: Inbound TE, cont

- Issues raised at NANOG 35 included:
- Current multi-homing is site based not host based. Host based multi-homing does not lend itself to current operational processes, as there are
 - A large number of hosts,
 - Complex routed network, and
 - End users do not own network/traffic engineering preferences
- Note also that TE decisions are currently made and configured at the network level
 - As opposed to in all end hosts

Issue 3: Inbound TE, continued

- The Internet facing routers and end hosts may not be managed same group of operators
- Operators want to manage the inter-AS TE policy in a few well defined places in their networks
 - As opposed to in every host
- Transit AS TE capabilities may be a requirement

Issue 3: Inbound TE, continued

■ Finally....

- There was some concern that TE (as practiced in IPv4) won't scale in any event, so the lack of a TE solution for shim6 was seen by some as an unfair criticism

■ Jason Schiller has a nice set of slides on this topic

<http://www.nanog.org/mtg-0510/pdf/schiller.bof.pdf>

■ Issues In Traffic Engineering with SHIM6

- Extended Shim6 Design for ID/loc split and Traffic Engineering
- draft-nordmark-shim6-esd-00.txt
- draft-meyer-shim6-and-te-00.txt

Not yet finished; Please see me later if you'd like to help/contribute

Issue 4: IPv6 Routing and Addressing Architectures

- shim6 was designed for the currently available routing and addressing architecture
- A scalable routing and addressing architecture for the Internet is still an open problem
- However...it will be several years (best case) before we could deploy any new technology in this space

Issues from APRICOT 2006

- One important "Stat" about the APRICOT BOF
 - Had relatively few participants from the region
- Session not very interactive
 - As a result, not too much discussion of shim6
- Dissussion issues included
 - RIRs and address allocation issues
 - Future routing and addressing architectures

Futures

- The plan is to continue the xNOG BOF series
 - On this and possibly other topics

Questions/Comments?

Thanks!