IAB IPv6 Multi-homing BOF Update
(NANOG 35)

IETF 64
Vancouver, BC
http://www.1-4-5.net/~dmm/IETF/IETF64/nanog35

Agenda

- Administriva
- Meta Goals
- BOF Agenda
- Conclusions
- Proposed Next Steps

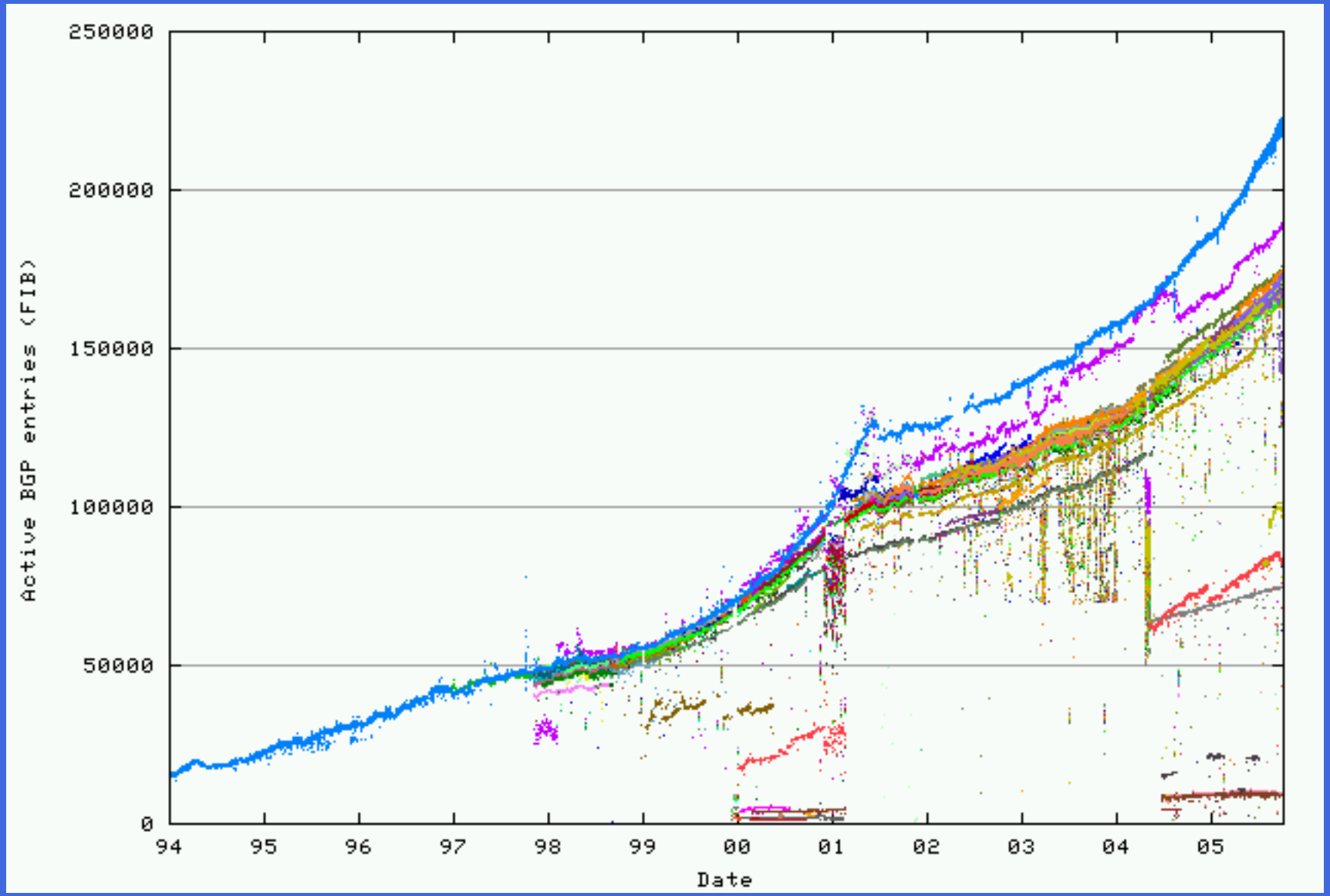
Administriva

- The BOF took place at NANOG 35
  - http://www.nanog.org/mtg-0510/agenda.html
- Spencer Dawkins and Susan Harris recorded minutes
- Merit has provided archived Realmedia
  - http://www.nanog.org/mtg-0510/iab.html
- Prepared talks and minutes will be made available on an IAB web site
  - TBD

Meta Goals

- Around IPv6
- Around IETF and Operators
- On to the BOF agenda...

IAB IPv6 Multi-homing BOF



Agenda

- Goals and Objectives
  - Meyer/All (5 minutes)
- What is the IAB anyway?
  - Meyer (10 minutes)
- Organized Input
  - SHIM6 Context
    - Huston (10 minutes)
  - Service Provider Perspectives
    - Jason Schiller (MCI) (7 minutes)
    - Ted Seely (Sprint) (7 minutes)
    - Vijay Gill (AOL) (7 minutes)

Agenda, cont

- Community Input and Discussion
  - All (45 minutes)
- Wrap Up and Next Steps
  - Meyer/All (10 minutes)

Goals and Objectives

- The Objective of this BOF is two-fold
  - To provide context for the ongoing discussion of the evolution of technical aspects multi-homing in the Internet
    - And of course, its consequences
  - Provide additional opportunity for the operational community to provide feedback to the IETF on the direction the IETF is taking with respect to multi-homing in IPv6
- Finally, note that while this session is a bit of an experiment, the Best Way to get your input into the IETF is to participate in the IETF WGs
  - In this case, the shim6 WG

Desired Outcomes

- The beginning of an ongoing dialog
  - For the operator community
    - Awareness about the shim6 effort
    - And how you can get involved with efforts in the IETF
  - For the IETF community
    - Awareness about operator concerns
- In general, we are seeking input on possible operational issues with the emerging shim6 spec
  - And realizing that...
    - shim6 is not the complete answer
    - nor is a "pure" PI or PA allocation policy
  - And...there are operational aspects of shim6 multi-homing are TDB
    - e.g., traffic engineering

Rules of Engagement

- First and foremost, we're here to listen to your comments and concerns
- Second, let's make sure we keep the information flow going in a bi-directional fashion
- During our discussions, please remember that
  - IPv6 is being deployed
    - so the multi-homing problem for IPv6 must be solved
  - shim6 is about IPv6
    - as opposed to IPv4 or other (future) version of IP
  - shim6 may not solve all needs for multi-homing in IPv6
    - rather, shim6 is designed to address the site multi-homing problem

With that brief introduction...

- To join the shim6 mailing list:
  - To Subscribe: shim6-request@psg.com
  - Archive: http://ops.ietf.org/lists/shim6/
  - General Discussion: shim6@psg.com

- On to Geoff to set the shim6 context

Wrap Up and Next Steps

- Was discussion useful?
  - And how could this kind of thing be made more useful?
- Was this a good forum?
  - Noting that we're hoping to do this at the other NOGs
- Summary/minutes will be posted on:
- TBD

Before we review the discussion

- Throughout this discussion, keep in mind that the results of the BOF represent just one data point
- In particular
  - Results at NANOG, for the most part, represent a decidedly North American perspective
  - Though not exclusively
- And there could have been some (unintentional) "intimidation factor"
  - i.e., those with dissenting opinions might not have spoken up
  - although no such person (or persons) contacted me

Service Provider Conclusions

- Concern that shim6 doesn’t address TE requirements
  - Since this is a (the) primary concern, TE must be supported day one
  - or worse, shim6 is in conflict with SP’s TE requirements
  - and what about RPF/Firewall issues
- Including in-bound TE
  - and how transit ASes will multi-home?
- And does PI space --> much larger swamp?
- Running through the whole discussion....
  - Complexity, complexity, complexity
    - Specification, implementation, and operation

Content Providers Concerns

- State in servers
- Initial delay in setup
  - Customers will move to content provider if latency is significant
  - This is about first hits
- And what about multi-homing for short conversations?
- And again, complexity
  - Vijay’s regarding low-margin customers

Another summary

- All of this was summarized quite nicely in an email from John Payne
- http://ops.ietf.org/lists/shim6/msg00987.html
- He lists the following conclusions:

Another summary, cont

- Traffic engineering, traffic engineering and traffic engineering - do NOT put this in the hands of the end system, this needs to be site level, or at the very least the site needs to be able to override the end system's decisions.
- The first hit is of critical importance to content providers (many of whom couldn't legitimately justify a /32). Hunting through DNS to find a locator that works won't fly.
- It was good to hear in a widespread forum that shim6 is not expected to be THE only multi-homing solution. However, we were left uninformed as to where the other work is going on.

Next Steps

- Compile the materials for the IAB site
- Rerun the same BOF at APRICOT 2006
- Feed results back into the IETF process

Questions/Comments?