"Current practices in managing IPv4 address space"
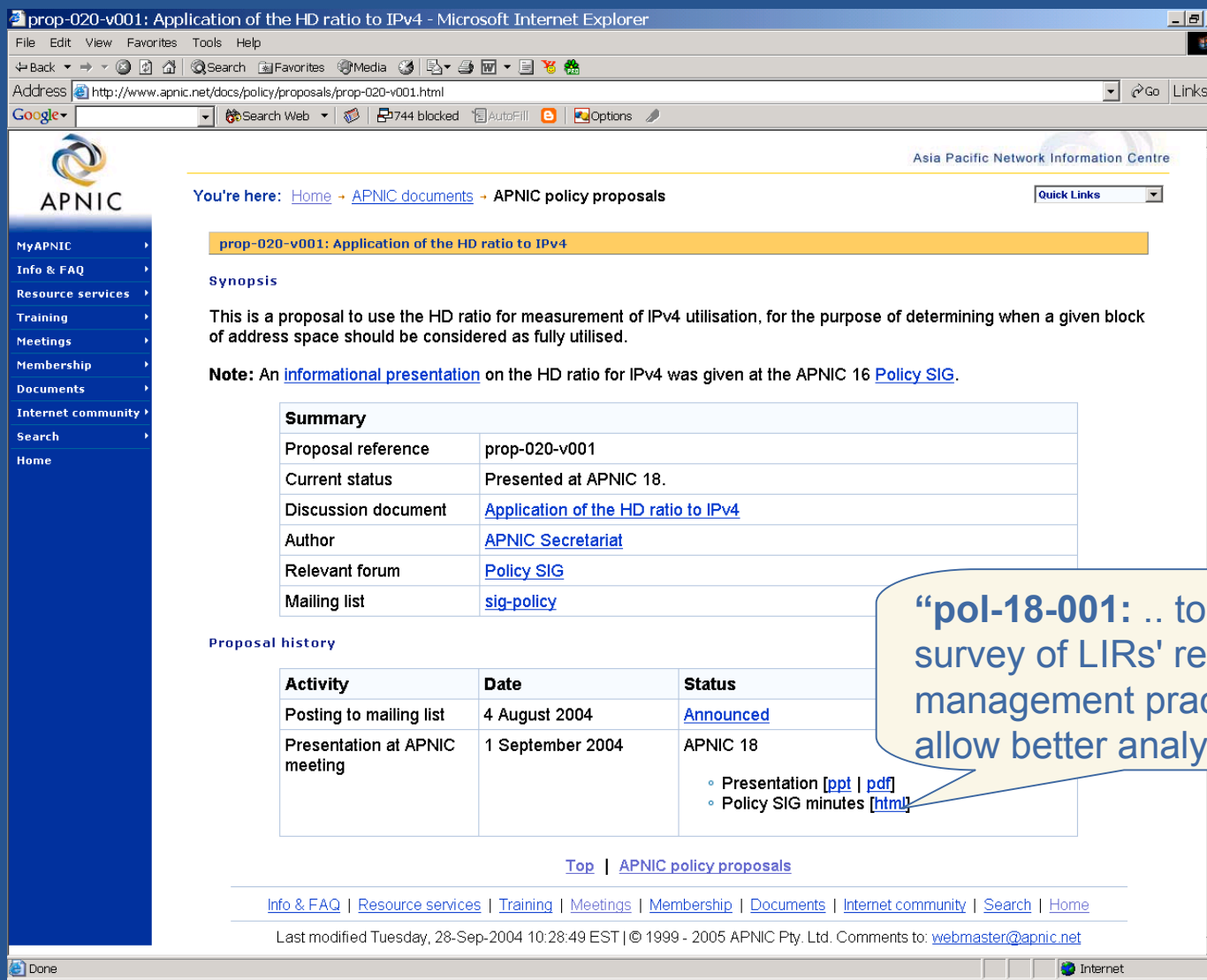# Survey Update

Policy SIG

Feb 24 2005

APNIC19, Kyoto, Japan

Background – the HD ratio

"**pol-18-001:** .. to conduct a survey of LIRs' resource management practices, to allow better analysis of issues"

http://www.apnic.net/docs/policy/proposals/prop-020-v001.html

Recap - what is the problem?

- Feedback to Secretariat
  - Larger LIRs have difficulty in meeting 80% utilisation which is required for a subsequent allocation in IPv4

  - Unlike IPv6, no allowance for impact of hierarchical networks when managing IPv4 address space

  - "One size fits all" approach is unfair in the context of improving services to APNIC members

What is the HD ratio?

- ## HD ratio
  - Models the relationship b/w size & number of levels of structure & address utilisation efficiency

- ## Observation
  - Large IP networks create internal administrative & routing structures to assist in managing and scaling their networks eg. POPs -> Cities -> Regions -> Core
  - The larger the network the greater the no. of levels of internal structure
  - Overall utilisation depends on the no. of levels of internal structure

- ## HD ratio proposal
  - Proposes to use variable % measure of utilisation

Questions about the HD ratio?

- Is the observation about structure, size and levels correct?

- What is the relationship b/w network size and number of levels of hierarchy?

- APNIC tasked to conduct a survey of LIRs to allow a better understanding

Aims of survey

- Title
  - "Current practices in managing IPv4 address space"
- Objective
  - To gather information about how LIRs manage their address space
    - Examine if larger LIRs have more difficulty than smaller ones in achieving 80% utilisation
    - To ask some questions about use and extent of private address space

Survey – project timelines

- 1st phase
  - Questionnaire design
    - With assistance from the NIRs (TWNIC has conducted an initial survey), Secretariat and others..
  - Test survey design
    - Gather feedback on 'questions' at the APNIC19 meeting from volunteers
    - Assistance from NIRs
  - Incorporate feedback
    - Circulate on sig-policy/apops mailing list for further feedback

Survey – project timelines

- 2nd phase
  - Finalise survey design
  - Carry out survey
    - With assistance from NIRs
  - Evaluate feedback
  - Present results at APNIC20
  - Share with other RIRs
   - Active policy proposal in RIPE and in the ARIN regions

Survey design

- Quantitative
  - TWNIC survey of LIR members
  - Obtained valuable supporting information
    - Will assist in design of qualitative interviews
- Qualitative
  - One on one interviews with volunteer LIR members
    - One page of questions
    - Asked to draw diagram of how they manage their address space to 'complement' questions
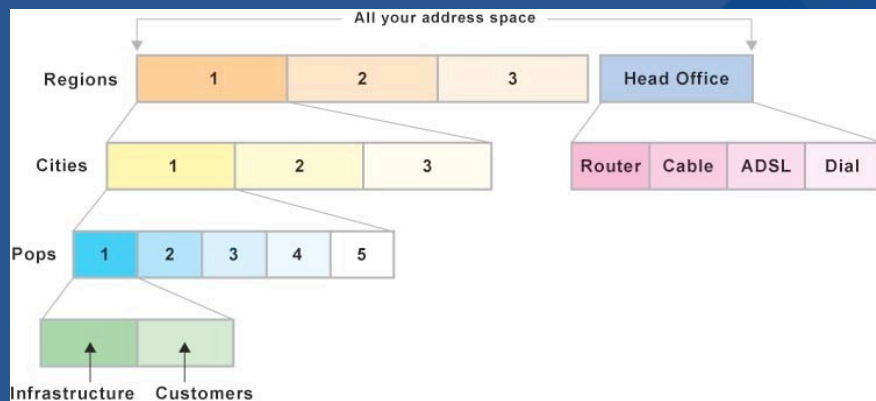
Example question

- Sketch out how you manage your address space, giving as much detail as possible at each level of hierarchy. Use the example diagrams provided below as a guide
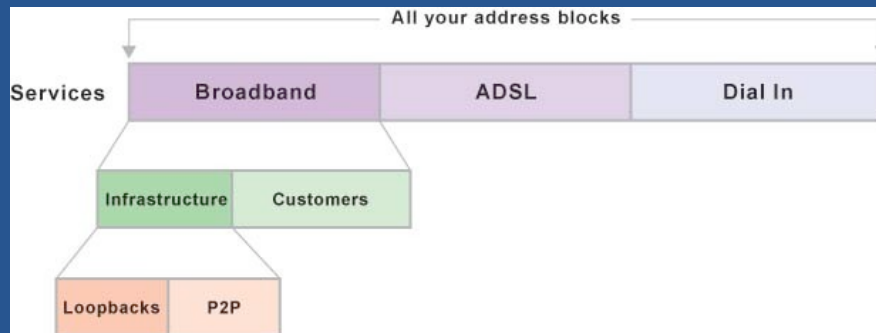
Network divided by services

Network divided by regions and services

Network divided by POPs and customers

Questions?

- Volunteers needed to provide feedback for draft survey

- If interested to participate
  - Send email to anne@apnic.net

- Thank you