RIPE IPv6-wg and Renumbering

- Address Policy working group wants advice from the IPv6 working group
  - Renumbering has policy implications
  - The policy should be informed by technical reality
- IETF recently formed a working group dedicated to IPv6 renumbering

IETF IPv6 Enterprise Site Renumbering WG (6renum)

IPv6 WG Meeting

RIPE 63, 1st Nov 2011

Slides by Tim Chown

Problem and formation

- Renumbering is considered hard/expensive
  - Leads to a desire for PI address space for sites
- PI doesn't remove need for sites to renumber
  - Internal triggers, e.g. network re-organisation
- 6renum WG formed after BoF at IETF80
  - BoF showed the huge scope of the problem
  - WG formation required tightly focused charter
  - First meeting at IETF81

Previous work

- RFC 4192
  - "Procedures for Renumbering an IPv6 Network without a flag day"
  - Showed can renumber network elements using phased multi-addressing, but much complexity elsewhere
- RFC 5887
  - "Renumbering still needs work"
  - A decent gap analysis
- draft-chown-v6ops-renumber-thinkabout-05
  - Older (long!) draft, some used in RFC 5887
- RFC 2894
  - "Router Renumbering for IPv6" – believed to be obsolete

6renum charter

- Two core activities (texts) included
  - IPv6 enterprise scenarios, BCPs, tools, etc
  - Gap analysis (all issues)
- Excluded from charter:
  - IPv4
  - IPv6 SOHO
    - Though 6renum enterprise work may benefit SOHOs
    - Some coverage of this now in new IETF homenet WG
  - ISP
    - Though obviously has a relationship to enterprises it serves
  - Renumbering avoidance

Enterprise text

- Current draft:
  - draft-jiang-6renum-enterprise-01
- Documents renumbering triggers
  - External and internal
  - Having PI doesn't help you for internal triggers
- The draft considers three perspectives through which future renumbering could be simplified:
  - During initial network design
  - Preparation for renumbering
  - During renumbering
- Need for enhanced address management tools
  - Minimise use of literals
  - e.g. aware of and track/validate renumbering process

Gap analysis text

- Current draft
  - draft-liu-6renum-gap-analysis-01
- Covers many areas, including
  - Protocols
  - Policies and procedures
  - Managing addresses and prefixes
  - Management tools
  - Renumbering event management
- Not necessarily all solvable
  - Documenting all issues/gaps, even if no obvious solution at this point

Need (your!) operator feedback

- 6renum is focused on enterprises
  - But many represented directly or indirectly within RIPE community
  - And all enterprises have a relationship to their ISP

- What would be your recommendations?
- What are the key issues?
- Would you rather try to avoid renumbering?