Renumbering (still) considered painful

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(ftp://ftp.ripe.net/ripe/presentations/ietf-geertj-renum6.ps.Z)

Why

We have auto-configuration, but is that sufficient?

- Can't renumber routers automatically
- Can renumber individual networks, but renumbering of a cloud of networks still manual and hard

Will you renumber your IPv6 net every 3 months?

Renumbering is needed

- Customers changing ISP should not result in additional prefix ('CIDR-hole')
- ISP changing transit should have minimal effect on customers (PA/PI-space discussion)
- Topology changes may make renumbering needed without visible change for customer/ISP

- Number of routing prefixes currently one of the most important issues in the operation of the Internet

- Pilot-sites are asking for 'real' addresses because they don't want to renumber later. Duh.

Legacy-problem (1)

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CIDR REPORT for 22Nov96


Table History
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Date Prefixes
171196 40868
181196 40933
191196 42076
201196 40674
211196 40583
221196 40525

AS Summary
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Number of ASes in routing system: 1813

Number of ASes announcing only one prefix: 741 (384 cidr, 357
classful)

Largest number of cidr routes: 463 announced by AS3561
Largest number of classful routes: 1259 announced by AS174
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Legacy-problem (2)

From Tony Bates' CIDR report:

```
1813 ASes active
~40000 announced prefixes
```

- ❍ Ideally, should only have one prefix per AS
- ❍ Loss of 2200%
- ❍ Mainly caused by 'legacy-assignments'
- ❍ If we're not careful, then we will have the same problem we have with IPv4

IMHO we should...

Make **whole-cloud** renumbering easy:

- ❍ Use some kind of prefix-distribution mechanism?
- ❍ Make address = ISPprefix+CUSTprefix+NETprefix+host?
- ❍ Split R and I space (8+8, ohta, ...)
- ❍ ???

- ❍ Work on the PIER-problem (IP's in config files) before we have a legacy-problem with IPv6