

Requirements for IPv6 dialup operation

<draft-itojun-ipv6-dialup-requirement-01.txt>

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outline

- **IPv6 dialup operational requirements are very different from that of IPv4**
- **Need a standard operational procedure/protocol/whatever**
- **Requirements, possible operational decisions**
 - Prefix/user management within ISP
 - Prefix assignment
- **A major distinction:**

Possible operational decisions (1)

- **Lists options we have, we do not need to pick one yet**
 - depends on situations, up to ISPs to pick
- **Usage pattern**
 - Static client: PC in home - static address assignment desired
 - Roaming client: travelling note PC - dynamic address assignment
- **Address space: /48 or /64**
 - NEVER do /128, as it will advocate IPv6-to-IPv6 NAT
- **Address allocation**

Possible operational decisions (2)

□ Routing

- Static - easy to setup, too many chance for typo
- RIPng, BGP - multihome friendly, for leased lines only?

□ Where to assign addresses

- Political/RIR issues
- /64 to ppp link (or, + multilink subnet)
 - draft-thaler-ipngwg-multilink-subnets-00.txt
- /64 to ether behind the router (or virtual ether)
- /48 to ether behind the router

/64 to ppp link

/64 to ether

/48 to behind

Need new protocols/standards for...

□ User/prefix management

- ISP needs a mapping between username and prefix
- Static configuration into routers
- RADIUS attribute
 - draft-aboba-radius-ipv6-07.txt

□ Prefix assignment protocol

- ICMPv6 prefix delegation (/48 or /64 behind user device)
 - raft-haberman-ipngwg-auto-prefix-00.txt
- RA (/64 on dialup link, or + multilink subnet)

/64 to ppp link

/64 to ether

/48 to behind

Scenarios/Issues

- **3 realworld-ish scenarios are included in the draft**
 - ISP side designs
 - Customer side designs/assumptions
- **Omitted from the presentation...**
- **Implementation status?**
 - need IANA number assignment
 - RADIUS - start with vendor specific?
 - prefix assignment - couple of parties have test implementation
 - multilink subnet - i-d exists, but...

Conclusions

□ Requirements document:

- try to clarify options we have
- Pretty different from IPv4 case

□ Analysis of existing protocols, future protocol developments

- Prefix/user management within ISP
- Prefix assignment

□ 3 sample scenarios are given in the draft

□ Things to do?

- which protocol to pick/new protocol definitions
- standard combination of protocols = standard mode of operation

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