

QUESTIONNAIRE ON ISP IPv6 DEPLOYMENT

This questionnaire comes from Sheng Jiang (Huawei) and Brian Carpenter (University of Auckland, research consultant to Huawei). Its purpose is to help in writing a draft for discussion in the IETF. It is addressed to ISPs with **actual experience** of IPv6 deployment, to ISPs with **concrete and active deployment plans**, and also to ISPs with **clear requirements**. The questionnaire is in separate sections:

1. General questions about IP service
2. Questions about requirements for IPv6 service
3. Questions about deployment status and plans for IPv6 service
4. Questions about IPv6 technologies

We are providing the questionnaire in two forms: PDF for easy reading, and plain text for easy editing. Please edit and email back the text file with your answers.

Please answer all sections. You're very welcome to write short explanations as well as the simple answer to each question. We realise there are a lot of questions; if a question doesn't apply to you, please ignore it.

If you offer several different types of service (e.g. corporate customers and domestic customers) you may prefer to answer separately for each case.

It will help us analyse the results if you identify the ISP. We will keep your reply strictly confidential and we will publish only combined results. We will not identify information about individual ISPs in any published results. If you request it, we will not mention you or the ISP in the acknowledgments.

To see the latest version of our draft, please visit
<http://tools.ietf.org/html/draft-carpenter-v6ops-isp-scenarios>

Person replying:

Email:

ISP concerned:

Person may be mentioned in published acknowledgments: **YES/NO**

ISP may be mentioned in published acknowledgments: **YES/NO**

I. General questions about IP service

1. Do you offer origin-only (stub, end-user) IP service, transit IP service, or both?
2. Approximate number of private/small office customers (one IPv4 address)
3. Approximate number of corporate customers (block of IPv4 addresses, not included in Q2)
4. Do you offer IP multicast service?
5. Do any of your customers require multihoming to multiple ISPs?
6. Access technologies used (ADSL, etc.)
7. Do your customers use CPE that you supply?

If yes:

- 7.1. What % of customers?
 - 7.2. Does the CPE that you provide support native IPv6?
8. When do you expect to run out of public IPv4 address space inside your own network?
 - 8.1. Do you run private (RFC1918) addresses and NAT within your network (i.e., a second layer of NAT in the case of customers with their own NAT)?
 - 8.2. What % of your IPv4 space is needed for your own use (not for customers)?
 9. When do you expect to run out of public IPv4 address space for customers?
 - 9.1. Do you offer private (RFC1918) addresses to your customers?

II. Questions about requirements for IPv6 service

10. Are some big customers requesting IPv6?
11. When do you predict 10% and 50% of your customers to require IPv6 service?
12. When do you require IPv6 to be a standard service available to all customers?
13. When do you predict IPv6 traffic to reach 50% of total traffic?

III. Questions about status and plans for IPv6 service

14. Do you currently offer IPv6 as a regular service?

If yes:

- 14.1. What % of your customers currently use IPv6?

If no:

- 14.2. When do you plan to start IPv6 deployment?
 - 14.3. When do you plan to offer IPv6 as a special or beta-test service to customers?
15. When do you plan to offer IPv6 as a regular service to all customers?

IV. Questions about IPv6 technologies

Please answer these questions as they apply to your experience, plan or requirements as the case may be:

16. Which basic IPv6 access method(s) apply:

16.1. dual stack routing backbone?

16.2. separate IPv4 and IPv6 backbones?

16.3. 6to4 relay?

16.4. Teredo server?

16.5. tunnel broker? If so, which one?

16.6. Something else? Please briefly describe your method:

16.7. If possible, please **briefly** explain the main reasons/issues behind your choice.

17. Which types of equipment in your network are **unable** to support IPv6?

17.1. Can they be field-upgraded to support IPv6?

17.2. Is any equipment 100% dedicated to IPv6?

18. Is IPv6 an opportunity to restructure your whole topology?

19. Do you include support for DNS AAAA queries over IPv6?

20. Do you include support for reverse DNS for IPv6 addresses?

21. What length(s) of IPv6 prefix do you have or need from the registry?

22. What length(s) of IPv6 prefix are offered to customers?

22.1. Do any customers share their IPv6 prefix among multiple hosts?

23. Do any of your customers prefer to use PI IPv6 prefixes instead of a prefix from you?

24. How are IPv6 prefixes delegated to CPEs? (Manual, PPPoE, RADIUS, DHCPv6, stateless autoconfiguration/RA, etc...)

25. Are your SMTP, POP3 and IMAP services dual-stack?

26. Are your HTTP services, including caching and webmail, dual-stack?

27. Are any other services dual-stack?

28. Is each of the following dual-stack?

28.1. Firewalls

28.2. Intrusion detection

28.3. Address management software

28.4. Accounting software

28.5. Monitoring software

28.6. Network management tools

29. Do you or will you have IPv6-only customers?

30. Do you have customers who have explicitly refused to consider IPv6?

31. How many years do you expect customers to run any IPv4-only applications?

32. Is IPv6-IPv4 interworking at the IP layer needed?

33. Do you include a NAT-PT IPv6/IPv4 translator?

33.1. If yes, does that include DNS translation?

33.2. If not, do you plan to operate an IPv6/IPv4 translator?

33.3. If not, how do you plan to connect IPv6-only customers to IPv4-only services?

33.4. If you offer IP multicast, will that need to be translated too?

34. Any plans for Mobile IPv6 (or Nemo mobile networks)?

35. What features and tools are missing today for IPv6 deployment and operations?

36. Any other comments about your IPv6 experience or plans? What went well, what was difficult, etc.

Thank you very much for your time.