IPv6Fix: an activity to solve barriers to IPv6 transition

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Background (1)

- Various practical problems as IPv6 has been deployed
  - DNS server / firewall misbehavior
  - Poorly managed IPv6 network
  - Suboptimal protocol specifications
  - => connection set up delay, unexpected communication failure

Background (2)

- Not just a problem for IPv6 users
  - but also for IPv4 users with environment enabling IPv6
- The problems can now be a barrier to IPv6 deployment
  - Some hotels in Japan recommends guests to perform "ipv6 uninstall"
  - Mozilla/Firefox disables IPv6 on MacOS X
- We need to fix these problems right now
  - for further deployment of IPv6

IPv6Fix

- A new activity in the WIDE project
  - fix the problems with practical approaches
  - documentation
    - I-D, API guideline doc, etc
  - collecting specific incidents (ongoing)
    - network measurement
    - analyze implementation behavior
  - negotiating with operators/vendors (a future plan)
    - based on the collected incidents to make progress
    - making "hall of shame"
- IPv6Fix web page
  - http://v6fix.net/

Specific technical problems

- "On-link assumption"
  - unnecessary delay for fall-back
- Suboptimal TCP behavior
  - slow fall-back due to soft error processing
- DNS related issues
  - server misbehavior, suboptimal resolver behavior
- Bad firewall behavior
  - filtering some crucial ICMPv6 (e.g., "too big")

We need your help

- Specific information is welcome
  - good/bad implementations
  - connections with vendors/operators
  - useful workaround for the problems
- Other collaborations
  - e.g. worldwide measurement
- Progress is and will be available at
  - http://v6fix.net/