IPv6 on by Default

draft-ietf-v6ops-v6onbydefault-00.txt
and
draft-ietf-v6ops-onlinkassumption-00.txt

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Introduction

- What happens when an IPv6 enabled dual-stack host is placed in an environment with less than adequate IPv6 connectivity?
- Previous Presentation
    - http://playground.sun.com/ipv6/IPv6ONbyDefault.pdf
- This presentation will focus on outstanding issues and "what's new".

No IPv6 Router Scenario

- Problems with Default Address Selection's destination address ordering
  - on-link assumption could defeat Rule 1
    - Addressed by draft-ietf-v6ops-onlinkassumption-00.txt and rfc2461bis work happening in IPv6 Working Group
  - Rule 2 isn't sufficient in at least one case.
    - Global destinations, site-local IPv4 src, link-local IPv6 src
    - Rule 2.5 is suggested (avoid non link-local dst with link-local src)

Transport Layer Robustness

- rfc1122's requirements for TCP's handling of "soft errors"
  - Soft errors are ICMPv6 Type 1 Codes 0 (No Route To Destination) and 3 (Address Unreachable).
  - Cause connection delays if a better destination could be used.
  - Possible solutions
    - Abort connection attempt in SYN-SENT or SYN-RECVD when receiving a "soft error".
    - Could attempt connections to all (or some?) destinations simultaneously...

AI_ADDRCONFIG

- Only link-local address configured.
- Should getaddrinfo() query for IPv6 addresses when AI_ADDRCONFIG is specified in this case?
- Should this document address this?

Input

- Other issues?

What's new in onlinkassumption

- Draft was born from v6onbydefault to address specific problem and suggest a solution.
- Background
  - Manually configured hosts with different prefixes can communicate on-link using this assumption
- Security vulnerabilities
  - Default router is "killed"
- Suggests removing the assumption from the ND host sending algorithm.

What's next for onlinkassumption

- The draft's suggested ND changes may be included in the rfc2461bis work happening in the IPv6 Working Group.
- If this occurs, should we move this draft along to document the problem with the original rfc2461?