Reporting of Happy Eyeballs Failures

draft-palet-v6ops-he-reporting-00

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HE: ”the bad”

- Happy Eyeballs provides a way for improving user-visible IPv6 vs IPv4 delay
- SO … hides the possible IPv6 connectivity issues to the operator
  - Users don’t “see” troubles, so don’t complain

- GOAL: HE extension to provide reporting
  - Using existing and common protocols
Simplicity

• Syslog (RFC5424) over UDP (RFC5426)
  – Default port (514)
  – IPv6-only

• Syslog collector:
  – Network-Specific-Prefix (NSP)
  – 192.88.99.1 (“older” 6to4 anycast)
    • NSP::192.88.99.1
      – Other collectors (if needed) can use NSP+192.88.99.0/24
Syslog collector discovery

• 96 bits, same “trick” as RFC7050 for the NSP
  – Discovery of the IPv6 Prefix Used for IPv6 Address Synthesis (DNS/NAT64)
• Remaining 32 bits, 192.88.99.0 (RFC7526)
  – NO conflict with 6to4, not in use
  – NO conflict with anything else
  – NO conflict even if anyone is using 6to4, because is using only a unique GUA from the operator prefix
  – Can be restricted to a specific network
HE behaviour

• On failure detection HE MUST:
  – Use syslog to report:
    • Timeout parameters
    • Failed destination address
    • Source prefix

• Details TBD, possibly working with OS vendors
Privacy Considerations

• Vendors and operators already log/collect telemetry, with different degrees of “privacy”
  – Recent discussion about CGN in v6ops
  – Collecting data is not against privacy if not disclosed
    • Allowed for network O&M
• We can make this “soft” by NOT collecting the user address/prefix, just failed destination
Reporting with source
Reporting without source

- Customer 1
- Customer "n"
- ISP
- Transit Providers
- Destination Network
Questions from last meeting

• Incentive to deploy/implement this:
  – Improve IPv6 deployment “quality”

• DoS vulnerability:
  – Same as any syslog

• Lots of details to work out
  – That’s why we will like WG adoption for a more serious consideration and inputs
Open Questions

1. Report using only IPv6?
   - Simpler
   - But reporting will not happen if IPv6 is broken (from the customer LAN to the Operator)
   - If we want dual stack-reporting, send two messages (one with IPv6, one with IPv4, which can be correlated, if one is missing that protocol is broken)? Other suggestions?

2. IANA request for reserving 192.88.99.0/24
Main Changes from -00

• Changed document name, so actually is like v01

• New co-author

• Extended privacy considerations section
Next steps

• Questions ?

• Become a WG item ?

• Inputs ?