

MMUSIC

ICE IPv4/IPv6 Dual Stack Fairness

draft-martinsen-mmusic-ice-dualstack-fairness-02

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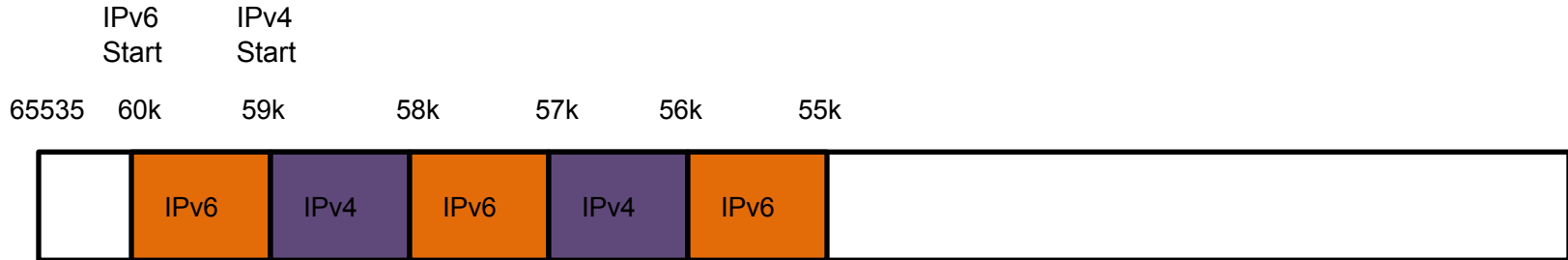
Authors: Tirumaleswar Reddy, Prashanth Patil

Presenter : Pål-Erik Martinsen

Changes

- Restructured document to include algorithm in the main section instead of appendix
- Some clarification regarding scope and internal IPv6 address prioritization was added in -01.
- Added multihomed support fairness in -02

Old Formula



$$\text{local_preference} = S - N * 2 * (C_n / C_{\text{max}})$$

S = Address Type specific start value

N = $\text{abs}(\text{IPv6_Start} - \text{IPv4_Start})$

C_n = Number of candidates of specific type

C_{max} = Number of consecutive candidates of a addr type allowed

Values can be tweaked by the implementation.

Having some ICE metrics on how to measure the effect on an algorithm and specific values might be interesting.

New Formula

$$H(t) | \psi(t) \rangle = i\hbar \frac{d}{dt} | \psi(t) \rangle$$

New Formula (for real..)

$$\text{local_preference} = ((S - N * 2 * (C_n / C_{\text{max}})) * \text{Ri}) + I$$

Ri: Reliable interface. A reliable interface known by the application to provide reliable connectivity should set this value to 1. Interfaces known to provide unreliable connectivity should set this to 0. (Allowed values are 0 and 1)

I: Interface priority. Unreliable interfaces can set this value to get a priority among the unreliable interfaces. Max value is recommended to be N. Reliable interfaces should set this to 0.



New stuff

Keep in mind..

- Formula do not alter type_preference (HOST, RFLX, RELAY)
- Interfaces are either reliable or unreliable. Reliable ones get to assign a value to the IP addresses associated to it.
- Agents set reliable/unreliable at their own discretion
- ICE-TCP also alter local_preferences. Some work must be done to fold that into the formula.

Next steps?

- Keep multihomed support?
- Just focus on dual-stack problem?