

**MMUSIC**

# **ICE Happy Eyeballs**

**draft-reddy-mmusic-ice-happy-eyeballs-07**

**June 2014**

**IETF 90**

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# The Problem

- Current guidelines in RFC5245 (section 4.1.2.2) favor IPv6.
- The number of IPv6 candidates can be large. If IPv6 is broken, it takes a long time to get to the IPv4 connectivity checks and ICE completion.
- Some fairness is needed. Helps deployment of dual stack.

# Draft Update

- Moved algorithm example to appendix.
- Nits and clarifications

# Draft overview

$$\text{priority} = (2^{24}) * (\text{type preference}) + \\ (2^8) * (\text{local preference}) + \\ (2^0) * (256 - \text{component ID})$$


Safe to play with

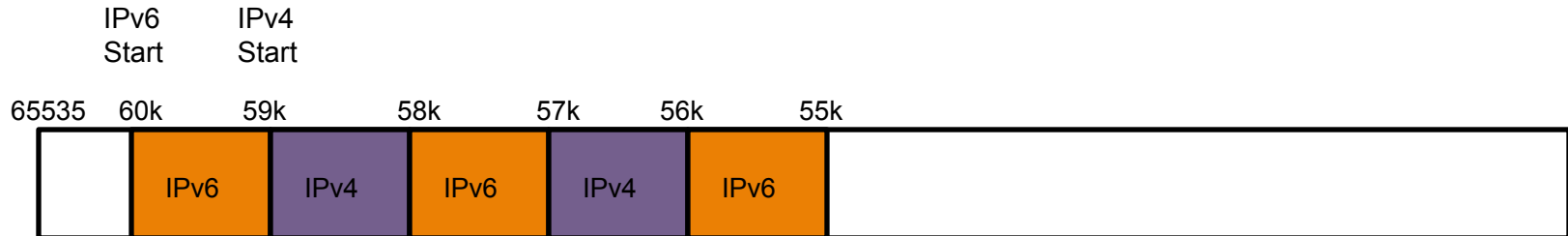
because

$$\text{pair priority} = 2^{32} * \text{MIN}(G,D) + 2 * \text{MAX}(G,D) + (G > D ? 1 : 0)$$

Will fix checklist synchronization  
on local and remote side

Recommends implementations to choose the local preference value in such a way that some fairness between IPv4 and IPv6 candidates is achieved

# Appendix (Example algorithm)



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

S = Address Type specific start value

N =  $\text{abs}(\text{IPv6\_Start} - \text{IPv4\_Start})$

$C_n$  = Number of candidates of specific type

$C_{\text{max}}$  = 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.

# Purpose of the Draft

- Show implementers that some care should be taken when using dual stack IPv4/IPv6 and ICE.
- Spell out what is safe to play with without breaking ICE interop.
- NOT trying to get the optimal algorithm to solve the problem.

# Summary

- A little unclear if this is a real problem when it comes to number of IPv6 addresses an interface can have.
  - Spec does not limit number
  - Implementations? 16, 32, Higher?
- With 4 IPv6 addresses this draft is useful.

# Next Steps?

- WG adoption?
- It was fun, lets move on?