

# Reserving space in the Interface ID

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- This is about *reserving* space for potential future use
- *Allocating* space needs to be a different discussion
  - Some of that is happening on the ipng list already

# Background

- RFC 2373 defines a universal/local bit – U bit
- When U is set the IID is an EUI-64
  - Except that u/l value is inverted
- When U is not set the IID is not globally unique
  - Manually assigned
  - Random numbers - temporary addresses [RFC 3041]
- DHCP might be capable of assigning either

# Observations

- Interface addresses (EUI-64) never have the group (G) bit set
  - Used when sending packets – multicast
  - Thus  $U=1, G=1$  is never used in an IID
- Temporary addresses have 63 random bits
  - Seems more than what is necessary

# Proposal

- Reserve for future use
  - U=1, G=1
  - U=0, G=1
- RFC 2373 would define
  - U=1, G=0 for EUI-64 derived IIDs
  - U=0, G=0 for non-globally unique IIDs
  - Reserve the above two combinations
- The semantics of U=1 remain that the IID is globally unique

# New Issue

- Should IIDs have any semantics?
  - U=1 meaning globally unique has semantics
  - U=1 meaning that IID allocated according to EUI-64 does not have such semantics
- It makes sense to make an explicit choice
- How do we resolve this issue?

# Next steps?

1. Declare that  $U=1$  should not mean globally unique
  - In which case I think the proposal is moot
2.  $U=1$  globally unique property; don't allow more properties
3. Continue down the path of allowing semantics
  - A) Reserve space now; continue discussion about use/allocation on the list
  - B) Defer discussion about reservation until there is consensus about use/allocation on the list