

IEEE Registration Authority

OUI Registry Tiers proposal

An abstract network diagram with glowing blue nodes and lines, set against a dark blue background with a grid pattern. The nodes are connected by lines, forming a complex, interconnected structure that resembles a network or a data flow diagram.

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November 2012

Rationale for change

- RAC “Prime directive”
 - Do not run out of global MAC48 addresses for 100 years
 - ~250 billion EUI48 (of ~70 trillion possible) addresses have been assigned
- Volume
 - A few vendors are volume users
 - >32M MAC (EUI-48) addresses assigned per month
 - Most other vendors would prefer a more options as they use less
 - This would reduce “lost” or “unused” addresses
- Virtualization
 - Usage of global MAC (EUI-48) addresses by software
 - Traditionally RAC limited vendors to only a few per hardware device
 - Reuse of global MAC (EUI-48) addresses per rack / cluster / data center
 - Guidance needed, even though this is not permitted

Current OUI-based Registries

Manufacturer ID	Registry	EUI48 (MAC address)
1 24-bit identifier	OUI	16,777,216
1 36-bit identifier	OUI36	4096
-	IAB	4096

New Proposed OUI-based Registries

Manufacturer ID	Registry	EUI48 (MAC address)
1 24-bit identifier	OUI	16,777,216
1 36-bit identifier	OUI36	4096