

IEEE Registration Authority

Virtualization study



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Current RAC Policy on virtualization

- A "prime directive" of the RAC is to not run out of global MAC48 addresses for 100 years
 - that is driving our study of machine virtualization as it has the potential to increase MAC48 address usage dramatically.
- Only one (or at most a few) global MAC48 addresses can be assigned to a single hardware device
 - This is apparently being violated by existing VM vendors

These and some other RAC policies are not publicly available

Is this a problem?

Ask these questions to ourselves and to vendors in the VM space to understand the requirements:

1. Should a MAC48 be the network identifier for VM, equivalent to a MAC48 on a physical machine?
2. If so, should the MAC48 be from the local or global address space?
3. Should the address be globally unique forever or reusable?
4. Should the RAC enforce this?

Solutions?

- Some have suggested that we need to look at the solutions for the VM requirements (before they have been determined), these include:
 - Just allow assignment of MAC48 to VMs
 - Assign OUI address blocks for VM applications (for either or both of the local and global address space)
 - Lease, instead of sell, an OUI/IAB address block
 - Create a DHCP-like mechanism to allow dynamic assignment of MAC48 addresses
 - Create a new “MAC128” identifier for VMs

Your input is requested