

Detection of duplicated MAC addresses

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Duplication of MAC addresses

- Free from any allocation method
- Focus our “pure” requirement
 - Duplication of MAC addresses is harmful
 - to forwarding system
 - for management, security and...
- 802 should have capable of detecting and preventing duplication of MAC addresses

How to detect and prevent

- Two types of hosts
 - Hosts the administrator manages
 - Easy to manage manually/automatically
 - Hosts the administrator does not own
 - Difficult to force something
 - Need to be checked by administrated hosts
- 802 has various types of networks.
 - Each type has each character.
 - Thus, each type should have each way to do it.

Think about 802 subgroups

- 802.11
 - Has Association framework
 - Opportunity to check and reject STAs
- 802.1X
 - Authentication framework itself
 - Opportunity to check and reject clients
- How about other networks?

Role of 802.1 and 802

- Define coordination among all frameworks for 802 family networks.
 - Guideline for network administrator
 - Automatic data exchange among equipments
 - Automatic data exchange among frameworks
- 802.1 declares that:
802 has the capability of assuring uniqueness of MAC addresses in a network.
 - Note that there are lots of choices of MAC address allocation methods

Conclusion

My recommendations to the 802 group are:

- 802 should have a systematic method to detect and prevent duplication of MAC address.
- Discuss separately:
 - duplication detection and
 - address allocation method
 - And I like random MAC address 😊

Backup

Do you like centralized system?

- Nightmare about LAN Emulation...
- However, 802.1X is a kind of “centralized system”