Requirement for Individual MAC Registration in Bridged LANs

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Bridge learning with dynamic FDB entries

- Host 9999 floods first time on unicast to server 1234
- Server sends non-flooded response to host
- Server 1234 learned along path to host 9999
Host added with MAC same as server

- Perhaps error in coordinating locally assigned MAC
- Perhaps duplicate burned-in MAC
- Conflicting dynamic FDB entries overwrite each other
Can avoid problem with static FDB entries

- Static entry locally installed by operator at each bridge
- Location of MAC 1234 no longer learned
Dynamic FDB entry will not displace static

- Dynamic FDB entry pointing to duplicate MAC
  - will not be created as static entry exists with same address
- Traffic to server is not disrupted
But local provisioning of a static MAC at every switch is a significant operational burden

• And entries must be changed to reflect any changes in topology
Support Individual MAC Address Registration

- Entry is same as learned (in steady state), but static
- Straightforward changes to 802.1ak, Draft 5.1 so that individual address registration not excluded
Static entries resilient across topology change

- Relieves operation burden of re-entering adjusted static entries when topology change occurs
Conclusions

• Local installation of static individual address is function that is useful and supported.
• Use of registration to ‘automate’ an existing bridge-related activity.
• Particularly useful in larger bridged networks (e.g., PBN/PBBN where MAC address coordination may be more difficult).
• Can be supported by relieving restrictions in .1ak
• Please read posted document with a proposed set of changes to MMRP
• Seeking feedback on any concerns