Rising Star Research

VLAN Requirements

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Rising Star Research
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VLAN Requirements

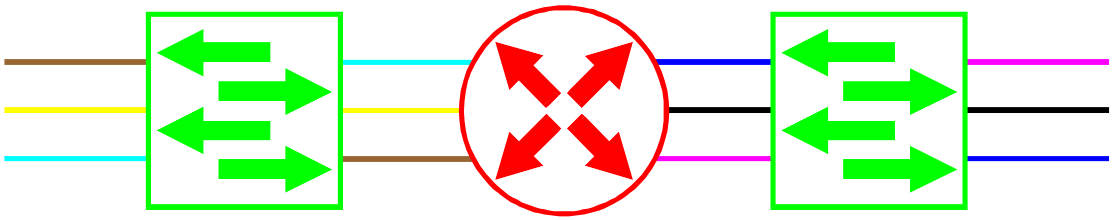
- Supports all 802 LAN technologies
  - 802.3 Ethernet
  - 802.3u 100BASE-T
  - 802.4 Token Bus
  - 802.5 Token Ring
  - 802.6 DQDB
  - 802.9 Isochronous Ethernet
  - 802.11 Wireless LAN
  - 802.12 Demand Priority

VLAN Requirements

- **Supports both Spanning Tree and Source Routed network topologies**
  - Spanning Tree
    - » Single Spanning Tree per VLAN?
    - » Single Spanning Tree covering multiple VLANs?
  - Source Routing
    - » ?
- **VLANs shall be transparent to end systems once "active"**

VLAN Requirements

- Communications between VLANs shall be supported at Layer 3 or higher



VLAN Requirements

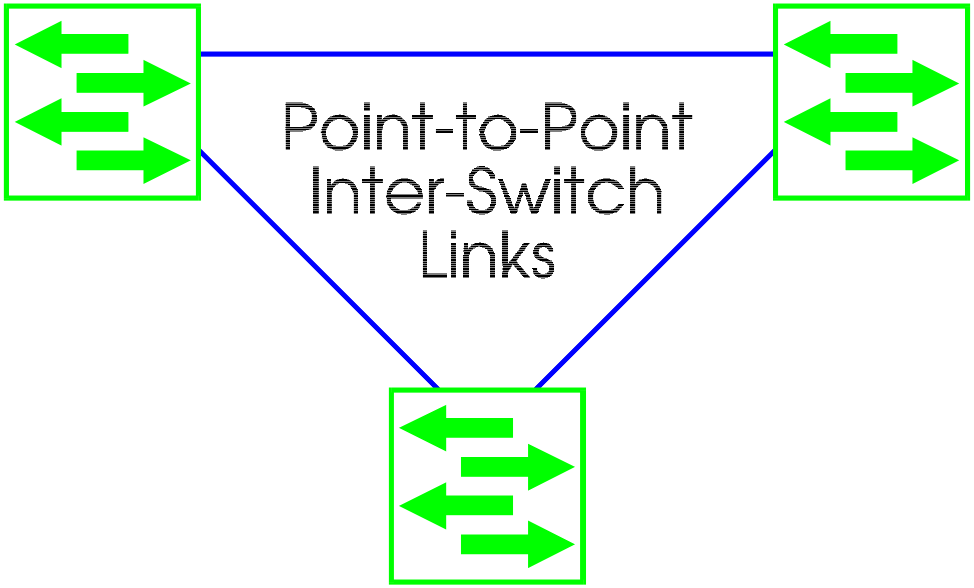
- Provides the “simple” creation of VLANs as a superset to existing adds, moves and changes
  - Drag and drop
  - Learn existing network topologies
  - Default policy tables
  - Default VLAN definition
- Provides “firewalls” between VLANs
  - Minimize / Eliminate leakage
- Performance “similar” to existing Bridged networks
  - Provide proactive traffic / loading management

VLAN Requirements

- Will adapt to changing network topologies without network management intervention
  - Adding bridges to the network
  - Adding/Deleting links between switches
- Allows station mobility
  - Only in MAC-based VLANs
- Provides a standard method of “sharing” VLAN topology information
  - Switch configuration
  - Inter-Switch Links
- End-to-End flow control will be provided

VLAN Requirements

- Inter-Switch links shall support point-to-point, switched, as well as shared LAN connections



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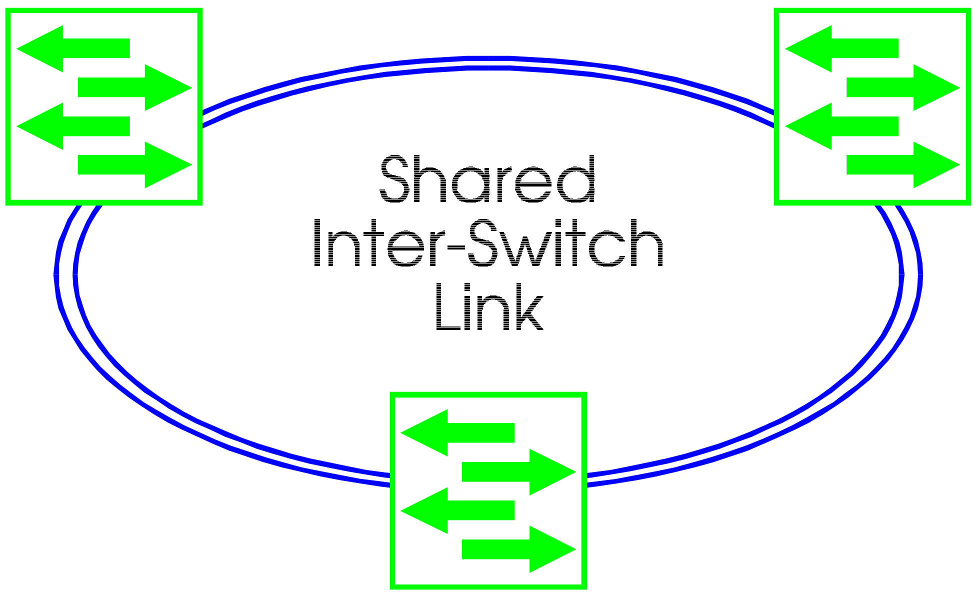
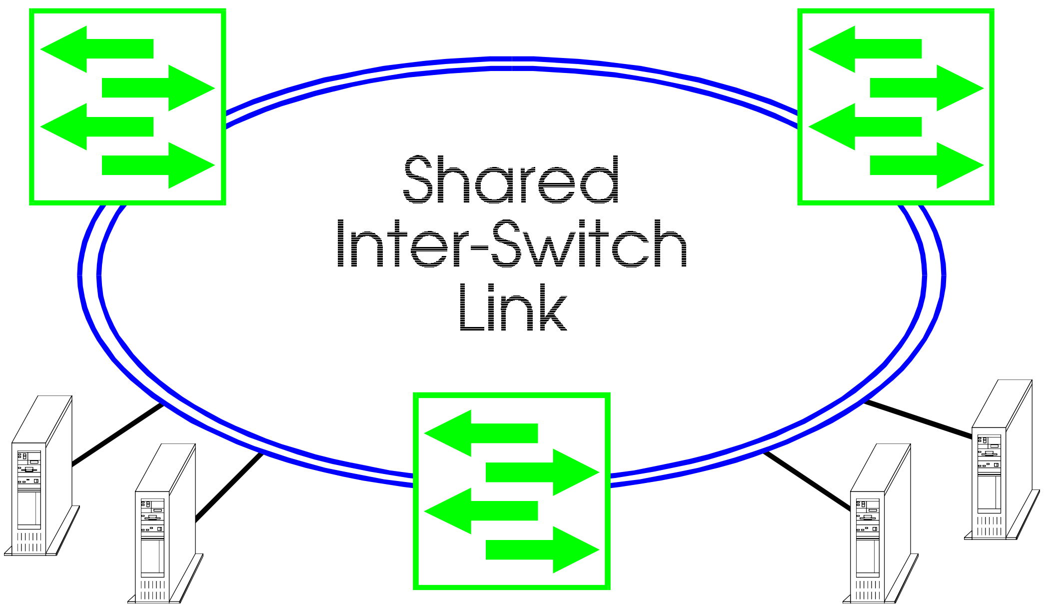


VLAN Requirements

- **Shared LAN IS-IS links shall support multiple end systems**



VLAN Requirements

- Enhanced VLAN services will be “allowed”
  - Protocol grouping
  - Quality of service
  - Application groups
- Will interoperate with existing stations
  - NICs
  - Drivers
- Will interoperate with existing 802.1D bridges
  - Spanning Tree
  - Source Routing
  - Source Routing Transparent

VLAN Requirements

- Shall include defined management objects (join, leave, merge, partition)
  - Creation and deletion of VLANs
  - Addition of ports/stations/IS devices to VLANs
  - Changing ports/stations/IS devices on VLANs
  - Moving ports/stations/IS devices from one VLAN to another
  - Remove ports/stations/IS devices from VLANs
- Network management stations will be able to monitor all VLANs in an 802.1D Bridged LAN
  - Physical view
  - Logical view