

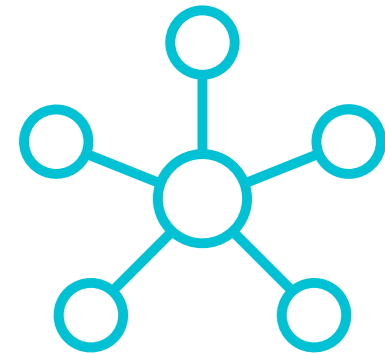
Networking

Ethernet Port Configurations



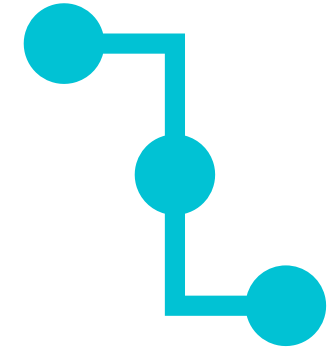
Port Tagging and Aggregation

- Port Tagging
 - Standard – IEEE 802.1Q
 - Ports are tagged so they can pass VLAN traffic between switches
 - Untagged ports have no idea of any VLAN configurations
- Port Aggregation
 - Combining of multiple network connections
 - Two protocols
 - Port Aggregation Protocol (PAgP)
 - Link Aggregation Control Protocol (LACP)



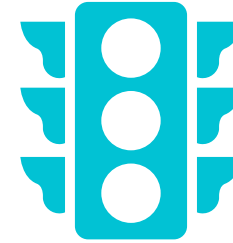
Transferring Data

- Speed
 - Speed at which data can be transferred
 - Over an ethernet link
 - Example Speeds: 10Mbps, 100 Mbps, 1 Gbps, 10 Gbps, etc...
- Duplex
 - Direction that data can be transmitted over ethernet
 - Half-Duplex – Can only travel in one direction
 - Full-Duplex – Can travel in both directions



Flow Control

- Flow Control
 - Manages network traffic
 - Standard – 802.3x
 - Will allow devices to not get overwhelmed
 - Will pause traffic when congested
 - Allows devices to catch up



Port Mirroring and Security

- Port Mirroring
 - Mirrors, or copies, packets
 - The copied packets are sent to a network monitoring tool
 - Helps diagnose errors/problems on a network
- Port Security
 - Helps secure a network
 - Prevents unknown devices from forwarding packets
 - Two filtering methods
 - Dynamic locking
 - Static locking



Jumbo Frames and MDI-X

- Jumbo Frames
 - Ethernet frames that have at least 1500 bytes of payload
 - Larger than a standard frames
- MDI-X
 - Auto-Medium-Dependent Interface Crossover (MDI-X)
 - Detects if a network needs a crossover
 - MDI-X is the crossover interface
 - Does not need a physical crossover cable

