

## Understanding Virtual Chassis Configurations and Link Aggregation

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You can combine physical Ethernet ports belonging to different member switches of a Virtual Chassis configuration to form a logical point-to-point link, known as a *link aggregation group (LAG)* or *bundle*. A LAG provides more bandwidth than a single Ethernet link can provide. Additionally, link aggregation provides network redundancy by load-balancing traffic across all available links. If one of the links fails, the system automatically load-balances traffic across all remaining links.

You can select up to four uplink module ports or SFP network ports on an EX4200-24F switch that have been configured as Virtual Chassis ports (VCPs) to form a LAG. When you set uplink module ports or SFP network ports on Virtual Chassis member switches as uplink VCPs, connect at least two of those uplink VCPs on one member to at least two uplink VCPs on another member, and configure those uplink VCPs to operate at the same link speed, the uplink VCPs automatically form a LAG and each LAG is assigned a positive-integer identifier called a *trunk ID*.

A LAG over uplink VCPs provides higher overall bandwidth for forwarding traffic between the member switches connected by the uplink VCPs, faster management communications, and greater redundancy of operations among the members than would be available without the LAG. All Juniper Networks EX4200 Ethernet Switches have two dedicated VCPs. A LAG over uplink VCPs provides an additional Virtual Chassis link throughput of 20 Gbps for the EX4200-24P, EX4200-24T, EX4200-48P, and EX4200-48T models and additional throughput of 28 Gbps for the EX4200-24F model. Up to eight Virtual Chassis LAGs can be created per member.

See *Setting an Uplink Module Port as a Virtual Chassis Port (CLI Procedure)* for information about configuring uplink module ports and SFP network ports on EX4200-24F switches as uplink VCPs.

To verify that the LAG has been created, view the output of the command `show virtual-chassis vc-port`.



**NOTE:** The interfaces that are included within a bundle or LAG are sometimes referred to as *member interfaces*. Do not confuse this term with *member switches*, which refers to EX4200 switches that are interconnected as a Virtual Chassis. It is possible to create a LAG that is composed of member interfaces that are located in different member switches of a Virtual Chassis.

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- Related Topics**
- Virtual Chassis Overview
  - Understanding Aggregated Ethernet Interfaces and LACP
  - Example: Configuring Aggregated Ethernet High-Speed Uplinks Between a Virtual Chassis Access Switch and a Virtual Chassis Distribution Switch
  - Example: Configuring Aggregated Ethernet High-Speed Uplinks with LACP Between a Virtual Chassis Access Switch and a Virtual Chassis Distribution Switch

- Example: Configuring a Virtual Chassis Interconnected Across Multiple Wiring Closets
- Example: Configuring Link Aggregation Groups Using Uplink Virtual Chassis Ports

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Published: 2009-07-29