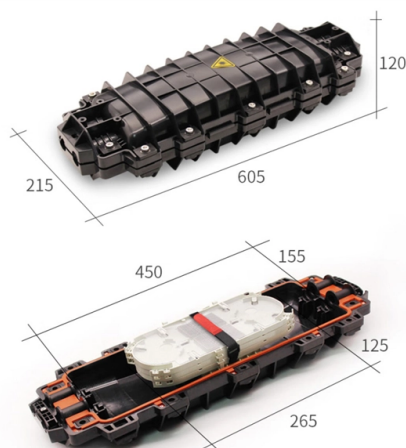


RIVO MULTITRADE OPTICAL SYSTEMS

Does PCDN switch aggregation require two network cards



Overview

Link aggregation is the combining () of multiple network connections in parallel by any of several methods. Link aggregation increases total bandwidth beyond what a single connection could sustain, and provides redundancy where all but one of the physical links may fail without losing connectivity. A link aggregation group (LAG) is the combined collection of physical ports.

Key Takeaways

Yes, PCDN switch aggregation generally requires at least two network cards to form a single logical link for bandwidth aggregation and redundancy. How Switch Aggregation Works

Switch aggregation, also known as link aggregation, NIC teaming, or port trunking, combines multiple physical network interfaces into a single logical connection. This provides two main benefits:

- Increased bandwidth: Traffic is distributed across the member ports, allowing the combined throughput of all NICs to be utilized.



- **Fault tolerance:** If one NIC fails, traffic is automatically rerouted through the remaining active NICs, ensuring uninterrupted connectivity .

Minimum Hardware Requirements

- **Two or more NICs:** At least two physical network cards are required to create an aggregated link. A single NIC cannot provide aggregation benefits because aggregation relies on distributing traffic across multiple interfaces .
- **Switch support:** The connected switch must support link aggregation (LAG) or LACP (Link Aggregation Control Protocol) to properly manage the aggregated ports .
- **Matching configurations:** All NICs in the aggregation group should have the same speed and duplex settings, and the aggregation type (static or LACP) must be configured consistently on both ends .

Practical Notes

- **Logical adapter creation:** The operating system sees the aggregated NICs as a single virtual adapter, which receives the IP configuration. Traffic is then distributed according to the chosen load balancing algorithm .
- **Multiple NICs for higher bandwidth:** While two NICs are the minimum, aggregation can include more NICs (up to 8 in many switches) to further increase bandwidth and redundancy .
- **Single TCP session limitation:** Aggregation increases total throughput but does not necessarily double the speed of a single TCP session; multiple simultaneous connections benefit most . In summary, PCDN switch aggregation cannot function with only one network card. At least two NICs are required to achieve the benefits of combined bandwidth and fault tolerance, and proper switch configuration is essential for successful aggregation .

Article Content

Nic Teaming

Yes, for NIC Teaming to function optimally, all four Ethernet adapters on the Dell i350 4-port card should be selected.

Can I use two ethernet card to increase transfer speed between two ...

As I need to increase this speed, would it be possible to install two 2.5Gb ethernet card in the two PCIe slots of both

Link Aggregation and Ethernet Bonding Feature Overview and ...

Introduction and overview This guide includes two sample configurations for Link Aggregation Control Protocol (LACP), or dynamic

Chassis Aggregation

To connect the two switches to each other, we use regular Ethernet interfaces, and in case a single line card fails, multiple line cards:

Data Center Access Layer Design

Some access layer designs permit a larger number of access layer switches per aggregation module than others. •

Link Aggregation and Ethernet Bonding Feature Overview and ...

A link aggregation can only exist between a pair of neighboring switches, where the switch ports that are aggregated on one switch

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

