

Configuration of Dual-Machine Mode for Aggregation Switch



Overview

Configuring MC-LAG in UniFi Network – Ubiquiti Help Center
Configuring MC-LAG in UniFi Network Multi-Chassis Link Aggregation Group (MC-LAG) enables redundancy.

Key Takeaways

Dual-Machine Mode, or MLAG, allows two aggregation switches to operate as a single logical unit, providing redundancy, load balancing, and full utilization of all links.

Overview of Dual-Machine Mode (MLAG)
Dual-Machine Mode, commonly referred to as Multi-Chassis Link Aggregation (MLAG), enables two switches to appear as a single logical switch to connected devices. This setup allows multiple physical links to be aggregated across both switches, providing:

- Redundancy: If one switch fails, traffic continues through the other switch without downtime .
- Load Balancing: Traffic is distributed across all active links, maximizing bandwidth utilization .
- Full Link Utilization: Unlike traditional Spanning Tree Protocol (STP) setups, MLAG allows all links to carry traffic simultaneously, avoiding 50% bandwidth loss due to blocked ports .

Key Components

- Peer Switches: Two switches configured as MLAG peers.

- Peer Link: A dedicated link between the two switches for exchanging MLAG control information and, optionally, data traffic from devices connected to only one peer .
- MLAG Domain ID: A unique identifier configured on both switches to recognize each other as part of the same MLAG domain .
- MLAG System ID (MSI): A MAC address automatically derived for the MLAG domain, used in STP and LACP PDUs .

Configuration Steps

- Prepare Switches:
 - Ensure both switches support MLAG and have compatible firmware.
- Configure consistent VLANs, STP settings, port speed, duplex, and link types on all ports intended for aggregation .
- Configure the Peer Link:
 - Connect a dedicated interface between the two switches.
 - Assign the peer link IP addresses and enable MLAG control traffic.
- Define MLAG Domain:
 - Set the MLAG domain ID on both switches.
 - Verify that the peer link is operational and the switches recognize each other.
- Configure Aggregated Ports:
 - Create a port channel on each switch including the physical interfaces that will connect to downstream devices.
 - Enable LACP (active or passive) for dynamic negotiation, or use static aggregation if preferred .
 - Ensure the same ports are aggregated on both switches to maintain symmetry.
- Connect Downstream Devices:
 - Connect servers, other switches, or network devices to the MLAG port channels.
 - Devices see the MLAG as a single logical link, allowing traffic to flow across both switches.
- Verify Configuration:
 - Check MLAG status, peer link health, and aggregated port status.
 - Confirm that all links are forwarding traffic and that failover works as expected.

Best Practices

- Sequential Port Assignment: Use sequential ports for aggregation to avoid misconfiguration, especially on UniFi switches .
- Consistent Configuration: All aggregated ports must have identical VLAN, STP, and speed settings .

- **Redundancy Testing:** Simulate a switch or link failure to ensure traffic continues without interruption.
- **Monitoring:** Regularly monitor MLAG health and peer link status to detect issues early. By following these steps, you can configure Dual-Machine Mode on aggregation switches to achieve high availability, load balancing, and efficient bandwidth utilization across your network .

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