

Performance Calculation of Aggregation Switch



AI Overview

Aggregation switch performance is typically measured using switching capacity (backplane bandwidth) and throughput in MPPS, calculated based on port speeds, packet size, and link aggregation.

Key Performance Metrics

1. **Switching Capacity (Backplane Bandwidth):** This represents the maximum data throughput a switch can handle across all ports simultaneously. It is calculated by summing the bandwidth of all ports and considering full-duplex operation. High switching capacity ensures that the switch can handle peak traffic without bottlenecks . 2. **Throughput / Forwarding Capacity (MPPS):** Throughput is measured in Million Packets Per Second (MPPS), indicating how many packets the switch can forward per second. The formula considers the total capacity bandwidth and the packet size on the wire, including the 20-byte physical layer overhead (preamble, SFD, and inter-packet gap). This metric is crucial for evaluating real-world performance, especially with small packets that stress the switch more than large packets . 3. **Link Aggregation Impact:** Aggregation switches often use Link Aggregation Control Protocol (LACP) or static link aggregation to combine multiple physical links into a single logical connection. This increases effective bandwidth, provides redundancy, and improves failover capability. When calculating performance, the aggregated link capacity should be included in the total throughput estimation

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Port Aggregation Port aggregation allows you to group multiple physical ports into one unit. Port aggregation is useful for

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What Is an Aggregation Switch and How to Choose?

Discover the role of aggregation switches. Explore differences between aggregation, access, and core switches, and

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Network Link Aggregation

What is Link Aggregation? Link aggregation is the ability for network switches to combine multiple physical links into one logical link

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What is an Aggregation Switch?

The aggregation switch is located in the middle of the network architecture, which is

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The aggregation switch supports to execute aggregation function (such as SUM, MAX or TOP-K operation) at the

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Aggregation Switches

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High-speed data-plane packet aggregation and disaggregation by P4 ...

Packet aggregation and disaggregation provide many important benefits and have been proposed and performed in

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For more information, pricing, or custom solutions, please contact us:

Website: <https://ntmmgroup.co.za>

Email: sales@ntmmgroup.co.za

Phone: +27 82 471 2596

Address: Unit 7, Optic Park, 24 High-Tech Lane, Century City, Cape Town, 7441, South Africa

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