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WiFi Controller Comparative Performance
Cisco 5520 and 8540, Aruba 7210 and 7240

The WiFi portion of an organization's network is run by one or more wireless controllers, which coordinate wireless APs and act as access portals for WiFi user access, authentication and link encryption into the organization's wired network.

Miercom performed independent, hands-on, comparative testing of performance and features of mid-range and high-end Wireless Controllers from Cisco and Aruba.

What Was Measured

A straightforward test plan was developed that compared the four wireless controllers in three key areas:

➢ The controllers' comparative throughputs, for varying packet sizes, including the IMIX real-world distribution of packet sizes.

➢ The controllers' capacity and rate for client login and authentication

➢ RF spectrum management. Effect on bandwidth using Cisco's Dynamic Bandwidth Selection (DBS).

Key Findings

➢ Cisco's high-end 8540 delivers more than twice the throughput of the high-end Aruba 7240 controller with medium-sized packet sizes and with IMIX real-world mixture of traffic packet sizes.

➢ Cisco's high-end controller can fill most of 40 Gbps bandwidth at all packet sizes.

➢ Cisco's 5520 can fill 85 to 95 percent of its 20-Gbps of network bandwidth; Aruba uses less than 25 percent of its 20-Gbps bandwidth capacity at most packet sizes.

➢ Cisco 5520 can process 764 WiFi client authentications (IEEE 802.1X) per second – more than three times better supported by the predecessor Cisco 5508 controller.

➢ TCP throughput performance is notably better with Cisco than Aruba for all WiFi channel widths – 50 percent better for 20-MHz channels and 116 percent better for 40-MHz channels.

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Cisco 5520 vs Aruba 7210, 20-Gbps Wireless Controllers Throughput
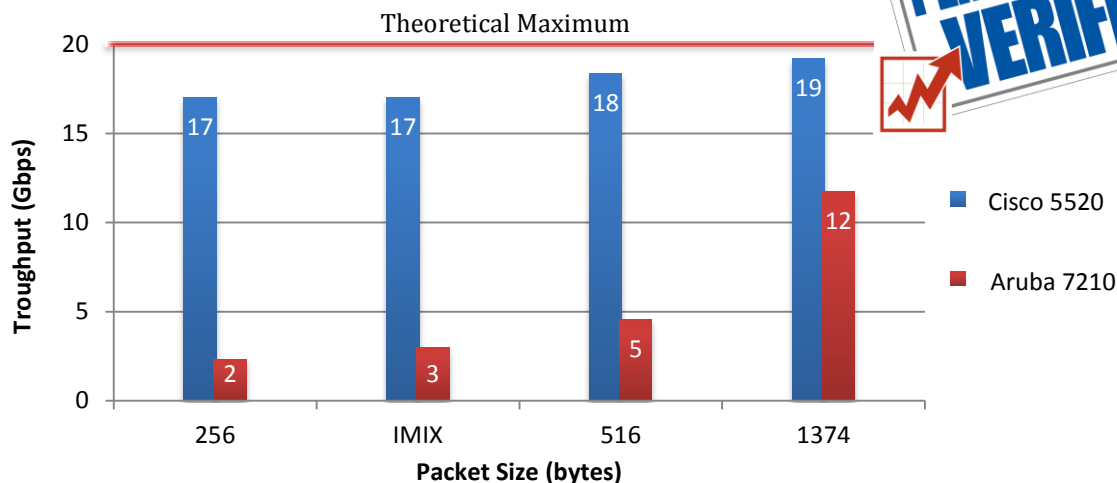
■ Cisco 5520
■ Aruba 7210

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