

How many access points does a switch have

Article Overview

The number of access points a switch can support depends on the switch model, PoE capacity, uplink bandwidth, and network design, with typical best practices recommending 20-40 APs per switch for enterprise environments.

Key Considerations

Switch Model and Ports: The total number of APs is limited by the number of available switch ports. For example, a 24-port switch can theoretically support 24 APs, but some ports may be reserved for other devices or uplinks .

Power over Ethernet (PoE): Most modern APs require PoE, often around 25W per AP. A switch must have sufficient PoE budget to power all connected APs. For instance, connecting 40 APs at 25W each requires a 1,000W PoE budget, which may necessitate multiple power supplies or higher-capacity switches .

Uplink Bandwidth: The switch uplink to the core network must handle the combined traffic from all APs. If uplinks are limited (e.g., 1Gbps), connecting too many APs can create congestion, reducing performance .

Network Reliability: Concentrating all APs on a single switch creates a single point of failure. Best practice is to distribute APs across multiple switches so that if one switch fails, only a portion of the wireless network is affected .

User Density and AP Capacity: Each AP can typically support 50-100 simultaneous users, depending on the model and Wi-Fi standard. High-density environments may require fewer APs per switch to avoid overloading the uplink .

Practical Guidelines

- o Small deployments: 4-8 APs per switch is common in smaller networks or schools .
 - o Medium to large deployments: 20-40 APs per switch is feasible if PoE and uplink capacity are sufficient .
 - o High-density or critical networks: Spread APs across multiple switches and consider higher-capacity uplinks to maintain performance and redundancy .
- In summary, there is no fixed limit; the number of APs per switch should be determined by port availability, PoE budget, uplink capacity, and network reliability requirements, with careful planning to avoid congestion and single points of failure.

Learn how WAPs enhance connectivity in our guide. A wireless access point WAP is a networking device that enables

A network switch is a multiport device that receives data and relays it via device MAC addresses. Learn how a network

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Ethernet was initially a shared-access medium, but the introduction of the MAC bridge began its transformation into its most-common

The most common deployment of access points is a backhaul with some type of UTP

Environment Datto access points Datto switches Answer To answer the question of how many PoE powered devices you can

Switches have many ports, and when data arrives at any port, the destination address is examined first and some

What an Access Switch Does in a Network Its Role at the Network Edge The access switch serves as the physical on

The number of ports and their configurations is determined by the purpose of the switch itself. How Many Ports Does a

In a small school, low on budget, the Ubiquiti Unifi based LAN was designed initially with one core switch and a few

There are several types of access points according to the type of installation (In-wall and Ceiling), supported

With all of today's modern devices, some of the terminology can be quite confusing. Pretty much everyone has heard

There are typically 5 to 24 ports on a network switch, though real high end switches can house more. Internally the

Upon further investigation, the access points that were in place were actually wireless routers and they had the routing

It is the de facto favorite for high-density wireless deployments utilizing multiple access points on the same WiFi

Discover what a network switch is, how it works, its various uses, and the latest prices. Learn the benefits of switches

A network switch forwards data between devices, unlike routers, which forward data between networks. Learn about Ethernet

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