



Cisco Catalyst 3850 Series Fixed GE Access Switch

The Cisco® Catalyst® 3850 Series Switch is the industry's first fixed, stackable GE switch to converge wired and wireless in a single platform, creating an uncompromised user experience in any workspace. The converged system provides a single platform for wired and wireless, network wide visibility for faster troubleshooting, consistent security and quality of service control, maximum resiliency with fast stateful recovery, and scale with distributed wired and wireless data plane. In addition, as a switch, the Cisco Catalyst 3850 is the best stackable switch in the industry.

Cisco Catalyst 3850 Highlights

- Built on Cisco Unified Access Data Plane (UADP) ASIC to be Cisco ONE (Open Network Environment) ready
- Integrated wireless controller functionality
- Native Flexible NetFlow (FnF) on all ports
- Granular, hierarchical bandwidth management
- Cisco TrustSec® capable

Cisco Catalyst 3850 Primary Features

- Integrated wireless controller capability with:
 - Up to 40G of wireless capacity per switch (48 port models)
 - Up to 50 access points (APs) and 2000 wireless clients support on each switching entity (switch or stack)
- 24 and 48 10/100/1000 data and Power over Ethernet Plus (PoE+) models with Energy Efficient Ethernet (EEE)
 - Cisco StackWise®-480 technology provides scalability and resiliency with 480 Gbps of stack throughput
 - Cisco StackPower™ technology provides power stacking among stack members for power redundancy
 - Three optional uplink modules with 4 x Gigabit Ethernet, 2 x 10 Gigabit Ethernet or 4 x 10 Gigabit Ethernet ports
 - Dual redundant, modular power supplies and three modular fans providing redundancy.
 - Full IEEE 802.3at (PoE+) with 30W power on all ports in 1 rack unit (RU) form factor
- Software support for IPv4 and IPv6 routing, Multicast routing, modular quality of service (QoS), Flexible NetFlow (FnF) Version 9, and enhanced security features
- Single Universal IOS image across all license levels, providing an easy upgrade path for Access Points (AP) and software features.

- Enhanced limited lifetime warranty (E-LLW) with next business day (NBD) advance hardware replacement and 90-day access to Cisco Technical Assistance Center (TAC) support

Switch Configurations

The Cisco Catalyst 3850 Series Switches are available in LAN Base, IP Base, and IP Services feature sets. All switches ship with a default AC power supply. A DC power supply can be purchased as an option or spare. The base switch does not include any access point licenses. Figure 1 shows the Cisco Catalyst 3850 Series Switches (front and back). Table 1 compares different switch models.

Figure 1. Cisco Catalyst 3850 Series Switches (Front and Back)



Table 1. Catalyst 3850 Model Comparisons

Models	Total GE Ethernet Ports	Default AC Power Supply/ Available PoE Power	Optional Network Module	StackPower
WS-C3850-24T	24	350W/-	4 x 1GE 2 x 10GE	Yes
WS-C3850-48T	48	350W/-	4 x 1GE 2 x 10GE 4 x 10GE	
WS-C3850-24P	24 PoE+	715W/435W	4 x 1GE 2 x 10GE	
WS-C3850-48P	48 PoE+	715W/435W	4 x 1GE 2 x 10GE	
WS-C3850-48F	48 PoE+	1100W/800W	4 x 10GE	



Performance and Scalability Specifications

Table 2 provides performance and scalability specifications.

Table 2. Performance and Scalability Specifications

Stacking bandwidth	480 Gbps
Forwarding rate 24/48-port	65.47 Mpps/130.95 Mpps
Unicast routes IPv4/IPv6	24K/12K
IGMP groups and multicast routes	8K
MAC addresses	32K
Security/QoS ACEs	3K/2.8K
NetFlow entries 24/48-port	24K/48K
Queues per port	8

StackWise-480 and StackPower

The Cisco Catalyst 3850 provides maximum data and power and wireless resiliency using:

Cisco StackWise-480 Technology

Cisco StackWise-480 technology is built on the highly successful industry-leading Cisco StackWise technology. The StackWise-480 with 480 Gbps of stacking bandwidth uses Cisco IOS® Stateful Switchover (SSO) for providing resiliency within the stack. The stack behaves as a single switching unit that is managed by an active switch elected from one of the member switches. The active switch creates and updates all the switching, routing, and wireless tables. In an event of the active member failure, the standby member assumes the role of the active switch, continuing to keep the stack operational.

Cisco StackPower Technology

The Cisco Catalyst 3850 Series supports Cisco StackPower technology, an innovative power interconnect system that allows the power supplies in a stack to be shared as a common resource among connected switches. Cisco StackPower unifies the individual power supplies installed in the switches and creates a pool of power, directing that power where it is needed.

Cisco Catalyst 3850 Key Advantages

Converged Wired+Wireless

The Cisco Catalyst 3850 is the first fixed stackable platform that converges wired and wireless services on a Cisco IOS XE Software based platform. The CAPWAP tunnels from the access points terminate at the 3850 switch, enabling users to configure and apply software features such as QoS, security, and FnF across wired ports and wireless SSIDs on the same switch at the same time.

Cisco TrustSec

The Cisco Catalyst 3850 is hardware capable of supporting Cisco TrustSec functionality. Cisco TrustSec uses the device and user credentials acquired during authentication for classifying the packets by security groups as they enter the network. The classification is maintained through the network by the security group tag (SGT). The Cisco Catalyst 3850 is also hardware ready for the link layer MACsec encryption.

Application Visibility and Control (AVC)

With the native support for FnF on all the ports, the Cisco Catalyst 3850 can monitor both east-west and north-south wired traffic at the same time. The Cisco Catalyst 3850 switch terminates the wireless CAPWAP tunnels from the access point, providing full visibility into the wireless traffic at the switch. Since the wireless traffic is now visible at the switch, it is possible to identify wireless traffic using FnF and prioritize the traffic using advanced QoS capabilities.

Smart Operations

The Cisco Catalyst 3850 supports Smart Operations. Smart Operations features such as Auto Smartports, Auto QoS, and Smart Install client reduce the deployment time by automating most of the basic configurations.

Foundation for Cisco ONE (Open Network Environment)

The Cisco Catalyst 3850 is built on the Unified Access Data Plane (UADP) ASIC that provides wire-rate hardware performance with software flexibility. The ASIC is programmable and flexible to support future requirements, enabling new software features over the product lifetime. The Cisco Catalyst 3850 will support Cisco ONE with future software releases.

Reduced Total Cost of Ownership

The Cisco Catalyst 3850 reduces the total cost of ownership and provides superior investment protection through:

- Built-in wireless controller functionality
- Support for modular GE or 10 GE uplink
- Support for IP Base and IP Services software options
- Dual redundant power supply and three individual fans to help ensure high availability
- Enhanced limited lifetime warranty (E-LLW) with next business day (NBD) advance hardware replacement and 90-day access to Cisco Technical Assistance Center (TAC) support

For More Information

Take a closer look at www.cisco.com/go/3850.