



# Cisco Nexus 3550-T Programmable Switch Platform

## A flexible low-latency application platform

The Cisco Nexus® 3550-T Programmable Switch Platform is a top-of-rack network switch and software application platform with a unique low-latency design. The Cisco Nexus 3550-T features up to 48 ports of Ethernet connectivity in a single-rack unit form factor. The platform is built around a powerful programmable FPGA and provides a complete firmware development environment for custom application and use cases.



## Benefits

- Next generation application platform built on software-defined hardware that provides the performance characteristics of hardware combined with the agility and programmability of software
- Access to powerful Field-Programmable Gate Array (FPGA) capabilities that can be reprogrammed with the desired network applications and functionalities to solve networking challenges across industry verticals and use cases
- Operate a programmable network switch platform that utilizes a complete firmware development environment to create, deploy, and manage new custom applications, specific intelligence, and functionality
- Create long-term value from custom applications, functionality, enhancements, upgrades, and maintenance updates

## Unlock the full value of your ULL network solutions

Cisco Nexus next-generation ultra-low latency network switch platforms, smart network interface cards (SmartNIC) and Firmware Development Kits (FDK) are specifically designed to address the needs of latency-sensitive applications in data center networking, High-Frequency Trading (HFT), financial services, and service provider networks.

- [Cisco Nexus 3550 Series Switches](#)

Ultra-low latency switch platform, FPGA application programming, multiplexing and precision timestamping to facilitate your mission-critical network applications.

- [Cisco Nexus SmartNIC adapters](#)

Next-generation ultra-low latency FPGA-based programmable SmartNICs and high-resolution timestamping adapters designed to program your network and accelerate application offloads.

- [Cisco Nexus FDK \(Firmware Development Kits\)](#)

Powerful software development framework to add application-specific intelligence and functionality to FPGA-based Nexus 3550 network switches and SmartNIC adapters.

## Hardware architecture

The Cisco Nexus 3550-T Programmable Switch Platform has a fixed form factor that is built around a dynamically reconfigurable FPGA (field programmable gate array) and provides 48 ports that are 25G capable along with an x86 (Intel® Atom® processor, 8 cores up to 1.7 GHz) management CPU. All 48 ports are directly connected to Xilinx Virtex UltraScale Plus VU35P FPGA with a -3 speed grade. The FPGA has 8GB of High Bandwidth Memory (HBM) on board.

## Ease of management

The Cisco Nexus 3550-T Programmable Switch Platform features a console port, a Micro USB port, a 1G RJ45 port, and a 10G SFP+ port, which can be used as management interfaces. The Cisco Nexus 3550-T uses a Command Line Interface (CLI) designed to address the needs of low-latency FPGA configurations.

## Programmability

The Cisco Nexus 3550-T Programmable Switch Platform provides a powerful development framework to add application-specific intelligence to the Cisco Nexus 3550-T using Cisco's Nexus Firmware Development Kit (FDK).

## Switch platform features

The Cisco Nexus 3550-T Programmable Switch Platform supports packet-aware statistics. The Cisco Nexus 3550-T firmware has the capability to monitor for vital packet statistics, including the number of packets/bytes transmitted/received and transmit/receive errors, and deep diagnostics, including light levels, operating temperatures, transceiver capabilities, and more. All these statistics are available at no latency cost on the critical path.

## Supported applications

List below are the supported and upcoming network applications for the Cisco Nexus 3550-T Programmable Switch Platform

- ULL Layer 3 Routing App
- ULL Layer 2 Switching App
- Security
- High Availability\*
- WAN Extension\*
- FastMux\*
- Exchange Gateway App\*
- Data Broker App\*
- Grand Master App\*
- Tap Agg\*
- User custom applications (FDK)

\*Future release

## Learn more

<https://www.cisco.com/go/nexus3550>