

# Cisco Embedded Service Switch



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The Cisco® Embedded Service Switch (ESS) extends switching capabilities to mobile and embedded networks that operate in extreme environments. The flexible, compact form factor of the switch, powered by Cisco IOS® Software, provides highly secure data, voice, and video communications to stationary and mobile network nodes, making it ideal for Internet of Things applications. It solves critical size, weight, and power challenges inherent in mobile environments and gives partners and integrators the ability to fully customize the ruggedized enclosures required for their customers.

The Cisco ESS 2020 is available in a base card-only configuration (8 Fast Ethernet + 2 Gigabit Ethernet) or with an optional expansion card capable of providing 16 additional Fast Ethernet ports. Its board size conforms to the widely accepted PC104 form factor (approximately 4" x 4"). Typical power usage is 10W for all 26 ports.

## Who Needs Cisco ESS?

The Cisco ESS is essential for many vertical industries that have requirements such as:

- High port density in a small form factor
- Portability
- Low power consumption
- Ability to operate in harsh environments

## Oil and Gas

Oil and gas companies need to understand what is happening from some of the most remote, harshest environments in the world. For example, the ESS 2020 can send data from remote oil rigs in North America for real-time analysis by geologists located at corporate headquarters. The ESS 2020 is designed to withstand the mechanical shock and vibration experienced during the transit of gear to remote drilling or exploration sites over poorly maintained road. This collaboration between remote sites and the office can improve operational efficiency and speed decision making.

## Defense and Aerospace

Military vehicles and airplanes frequently operate in remote areas with rough terrain. The ESS 2020 is easily customized to enable communication from motor vehicles or even between drones flying overhead and vehicles on the ground.

## Transportation

The ESS 2020 can be installed on freight trains, in tractor trailers, or into the trunks of passenger cars to track arrivals, send diagnostic information, or monitor the condition of cargo. It could send location and speed information back to a data center to help avoid accidents or to bypass traffic congestion.

## Mining

Mining companies continually seek to reduce the chance of accidents and maintain uptime in their operations. An ESS 2020 on a mining truck can make sure of proactive maintenance, while one located deep in a mineshaft, subject to high vibrations and extreme temperatures, can help maintain communications to the surface.

These are a few examples of the diverse communications applications that the ESS 2020 can support.

## Why Cisco?

Cisco brings decades of leadership in networking to industrial and mobile environments. The Cisco ESS uses the reliable and extensive Cisco IOS Software, enabling consistent end-to-end solutions from remote environments to headquarters and investment protection.

A rich ecosystem of complementary products, including the Cisco 5915 and 5940 ESRs, facilitates the development of new systems that work transparently with existing network infrastructure. The embedded switch allows for flexible integration into system integrator solutions.