

Cisco Connected Factory – PROFINET

Integrate PROFINET industrial automation into standards-based IP networks

Companies often build industrial automation networks by patching together best-in-class PROFINET products. But imagine deploying PROFINET-certified products in a validated, scalable architecture for ruggedized, real-time Industrial Ethernet networks.

Cisco® Connected Factory – PROFINET is a validated architecture that integrates PROFINET-based automation into standards-based Industrial Ethernet networks. It delivers industrial IT applications over a resilient Cisco Industrial Ethernet architecture tested and validated to support the top Industrial Automation and Control System protocols like PROFINET, Ethernet IP and CC-Link. It is part of the Cisco Connected Factory portfolio of proven end-to-end network architectures, allowing you to gain a 360-degree view of operations and gain real-time network diagnostics and troubleshooting.

Benefits

- **Speed deployment** and lower automation integration costs with standards-based Industrial Ethernet networks.
- **Gain greater operational awareness** by integrating manufacturing and business systems on a single network.
- **Reduce downtime by adding** MRP convergence functionality on select Cisco IE switch models—without additional cost.
- **Create a secure, end-to-end factory** with multiple layers of protection.
- **Improve equipment performance** by achieving real-time visibility into machine operation data.

Management and ring convergence options

You can integrate Cisco Connected Factory – PROFINET Industrial Ethernet switches with your existing PROFINET network. Operators can monitor and manage them and the network’s operability across the globe with your existing Siemens SIMATIC PLCs and the TIA portal integration. Or use Cisco Industrial Network Director to manage more detailed network configurations from a single location.

The Cisco solution also offers integrated and certified Media Redundancy Protocol (MRP) compliance for rapid ring convergence. MRP functionality is included on Cisco Industrial Ethernet (IE) 2000 and 4000 Series Switches. The entire Cisco IE switch family also offers the Cisco Resilient Ethernet Protocol (REP), which offers rapid ring convergence and allows PROFINET control traffic to traverse the REP ring.

Next steps

To learn more about how Cisco can help you deliver industrial IT applications over a resilient Cisco Industrial Ethernet architecture, visit <https://www.cisco.com/go/factoryprofinet>

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Broader integration increases innovation and scale

Because many industrial automation networks are designed as isolated machine cell islands, companies are cautious about which devices are allowed to access them. This isolation leaves manufacturing production systems open to only a limited set of compatible, certified devices. Cisco Connected Factory – PROFINET provides new, flexible plantwide connectivity between things, machines, workflows, databases, processes, and people, which enables you to:

- Achieve optimal machine operation and supply chain workflows for improved efficiencies and cost savings.
- Integrate industrial automation with global employee, partner, and vendor ecosystems to drive innovation and scale.
- Improve resiliency and mitigate risk with PROFINET International (PI)-certified compliance, IEC 62439-2 with 200-millisecond MRP convergence.

The following converged products and technologies are included in the Cisco PROFINET-certified Industrial Ethernet portfolio:

- [Cisco Industrial Ethernet 1000 Series Switches](#)
- [Cisco Industrial Ethernet 2000 Series Switches](#)
- [Cisco Industrial Ethernet 3000 Series Switches](#)
- [Cisco Industrial Ethernet 4000 Series Switches](#)
- [Cisco Industrial Ethernet 5000 Series Switches](#)

Why Cisco?

As a worldwide networking leader, Cisco offers the breadth of infrastructure and strategic partnerships needed to drive business IT and OT convergence to enable faster decision making and improved business models without compromising reliability, security, or network response time.

Only Cisco encompasses all these key components, including:

- One Cisco management tool to manage detailed network configurations from a single location.
- Common, scalable, and secure architecture for ruggedized Industrial Ethernet and enterprise networks.
- Holistic Security Solutions, not just point-products.
- Cisco enterprise-level technology delivered on an industrial platform with scalable, secure, real-time performance.
- Comprehensive services to help plan, build, manage, and support the Connected Factory solution.