

Microchip PoE Powers Wireless Internet Service Providers

Learn about how our PoE technology supplies reliable internet connectivity for WISPs.



Wireless Internet Service Providers (WISPs) Facing Significant Challenges in the Evolving Connectivity Landscape

WISPs are compelled to ensure seamless internet connectivity for businesses and individuals in today's dynamic and competitive connectivity landscape.

As the demand for reliable internet continues to surge, WISPs are exploring means to quickly and seamlessly provide wireless connectivity to their customers. Infrastructure limitations often cause delays and/or issues during installation. This involves gearing up an existing infrastructure that is not optimal for establishing high-end network connectivity. Implementing wireless connectivity in rural/remote areas with lack of supporting infrastructure can be particularly challenging. Installation of wireless infrastructure in outdoor environments with no local power source, hard to reach locations and extreme temperatures further increases complexity of wireless network installation.

As the number of connected devices and bandwidth-intensive applications increases, WISPs frequently struggle with network congestion. Heavy data traffic results in slower speeds and decreases overall network performance, affecting the quality of service for customers. WISPs are often compelled to upgrade existing infrastructures and deliver reliable, high-speed internet services.

Reliability of the wireless network infrastructure is crucial, considering the need to ensure consistent and dependable internet connectivity for customers.

Maintaining extensive wireless network infrastructures can be demanding and expensive for WISPs. They have to install and maintain towers, antennas and other wireless equipment across wide coverage areas.

Relevance of PoE for a WISP

PoE technology enables delivery of both power and data over a single Ethernet cable, facilitating quick and easy installation of a variety of Ethernet-based devices including WLAN Access Points, 5G small cells wireless backhauls and point-to-point radios for wireless networks. The technology has been gaining

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immense popularity over the years and is continuing to gain traction in various industries. For WISPs, PoE proves to be valuable in powering remote wireless equipment and simplifying installation and maintenance.

By eliminating the need for electrical power points near each wireless device, PoE significantly reduces the complexity of installation. PoE can support remote power management, enabling WISPs to monitor and regulate the power supply to the wireless devices from their preferred primary location. With PoE, WISPs can easily relocate and add additional powered devices to the network, enabling them to scale up their network infrastructure conveniently and cost-effectively.

PoE is standardized by the Institute of Electrical and Electronics Engineers (IEEE), specifically the IEEE 802.3af, IEEE 802.3at and IEEE 802.3bt standards, which ensure interoperability between PoE devices from different manufacturers.

When chosen wisely, PoE technology can be a game changer for WISPs, addressing key requirements in terms of quick and seamless services to their customers and cost efficiency and reduced overhead for their business.

Why Microchip PoE is a Definite Win for WISPs

While there are many vendors to choose from in the marketplace, Microchip PoE knocks out competition by being the pioneers in PoE, offering the broadest portfolio of PoE systems that have stood the test of time and delivered value to several WISPs globally.

Microchip was the first to introduce an outdoor PoE switch in the market. We now offer the second generation outdoor PoE switch **PDS-204GCO** that is especially useful for WISPs who need to extend their network coverage in outdoor areas. It is purposefully built to withstand extreme weather conditions, temperature variations and other outdoor challenges. The PDS-204GO delivers excellent resiliency, security and network management capabilities to achieve high network availability and extended reach.

We offer an exhaustive product portfolio, from single ports to 24 ports, 15.4W to 90W, 1 Gbps to 10 Gbps and indoor-, outdoor- and industrial-rated PoE systems. Here's how Microchip PoE solutions can be beneficial to WISPs:

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- Ease of installation and faster time-to-market

Our PoE midspans and switches are plug-and-play sealed units, enabling simplified installation even in the most appropriate, yet hard-to-reach locations where power source is not readily available.

- Products designed specifically for the outdoors

The compact design of our outdoor midspans and switches withstands very high/low temperatures, water, strong winds, dust and corrosion. With built-in surge protection, the products offer advanced protection against events such as lightning or power spikes. We offer IP67/66 outdoor- and IP30 industrial-rated products. The sealed units provide better network reliability and ensure longevity of your IT infrastructure.

- Advanced security features

The internet is vulnerable to hackers. Our outdoor PoE switch, **PDS-204GCO**, takes the next step, adding cybersecurity features for Ethernet networks to protect applications against threats at all network levels.

- Flexibility and scalability

Our multiport midspans can support up to 24 powered devices, making it much more convenient and cost-effective to expand or re-configure an existing infrastructure. Additionally, our multi-Gigabit portfolio allows you to optimally upgrade your network infrastructure to enable multi-Gigabit communication by supporting up to 10 gigabit-per-second data rates.

- Centralized power management

Our products offer remote monitoring and control of powered devices through SNMPv3, a web browser and Command-Line Interface (CLI). This enables optimum reset and regulation of power to wireless devices from your preferred remote location, eliminating the need for onsite visits and troubleshooting while improving energy efficiency and reducing costs.

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- Comply with IEEE industry standards

Not all PoE products available in the market today are compliant with IEEE standards. It is extremely important that the PoE products are IEEE 802.3af/at/bt-compliant to ensure safety and interoperability of PoE devices. IEEE standards establish a common framework that allows PoE devices from different manufacturers to work together seamlessly, giving you more options when choosing wireless solutions from various vendors. All Microchip PoE systems are compliant with IEEE 802.3af/at/bt standards.

How Microchip is Empowering WISPs to Successfully Deploy Internet Services

Sail Internet, a leading provider of fiber-sourced, high-speed internet access to homes and businesses, used Microchip PoE systems to deploy internet services in areas with sub-optimal supporting infrastructures.

The client had an opportunity to provide internet services to residential and business customers in near-urban locations lacking optimal supporting infrastructure. The challenge was to deliver reliable, high-bandwidth internet services while leveraging the prevailing infrastructure.

Sail Internet has successfully deployed internet services using over 1,000 PoE Systems from Microchip. The physical infrastructure remains rugged and is easy to maintain and update, ensuring high service quality for customers. Microchip PoE midspans and switches enabled Sail Internet to implement ubiquitous Wi-Fi coverage for their customers without having to rebuild their existing infrastructure.

PoE Leading the Way Forward

The PoE market is set to grow at a CAGR of 16.20% to reach a valuation of USD \$3.2 billion by 2030 according to a comprehensive research [report](#) published by Market Research Future (MRFR). The increased use of PoE-compatible devices is expected to be a major driver in PoE systems being used widely across industries, fueling the market expansion.