Solutions for Wireless Networks

Microsemi

Power Matters.™

Solutions for Wireless Networks

The Network Challenge

Increased Wireless Data Traffic

The proliferation of Wi-Fi-based devices, together with the growing number of data-intensive mobile applications, has created an astounding demand for powerful wireless Wi-Fi access points, 3G/4G small cells, and wireless backhaul equipment. These require fast and cost-effective installations, as well as secure, reliable power sources.

Fast and Cost-Effective Installation

WLAN access points, small cells, and wireless backhaul equipment are typically installed in hard-to-reach places, like ceilings and building roofs, where AC power is rarely located. In campus environments with multiple buildings and facilities, the installation of these devices must be fast, simple, and cost-effective.

From 1G Ethernet to 10G and the Bottleneck

The rapid adoption of IEEE 802.11ac Wave 1 and especially Wave 2 are shattering the 1 Gbps throughput barrier of 1000BASE-T Ethernet. Enterprises seeking throughput beyond Gigabit Ethernet for client access are bumping up against a real problem: the nominal 1 Gbps limitation of legacy Category 5e/6 cabling in most of the installed infrastructure worldwide today. Retrofitting buildings with the newer Cat 6A cabling needed for 10GBASE-T is an option, but can be prohibitively disruptive and costly. With a cost outlay of $200 to $800 USD per new cable for hundreds of access points, the cost of retrofitting an established campus can easily exceed multiple $100,000s.

Secured Wireless Solution

Secured wireless has become an integral part of our society and any wireless network. New standards and encryption methods are developed daily, and users are seeking additional ways to increase their network security and prevent possible hacking attacks.

Why Choose Microsemi PoE for Wireless Networks?

- Fast and cost-effective upgrade of 1000BASE-T Ethernet infrastructure to support the newest 802.11ac 2.5 Gbps technology using the 2.5G PoE Mux

- Save installation costs by leveraging existing switch and Cat5 cabling infrastructure to carry power over the same cables as data

- Power savings through remote power shutdown during time off periods and secure networks with complete power shutdown at sensitive times

NBASE-T and PoE Solutions

The NBASE-T standard defines 2.5G and 5G speeds over Cat 5e/Cat 6, with the 2.5G speed reaching the same 100 meters using the existing 1000BASE-T switch. Microsemi offers a 2.5G

NBASE-T-compliant mux that connects to an existing 1000BASE-T switch to provide a 2.5G link as well as standard PoE to connect the 802.11 Wave 2 WLAN access point. Microsemi's PoE solutions also include 2.5G and 10G PoE midspans used to upgrade NBASE-T networks without PoE capabilities.
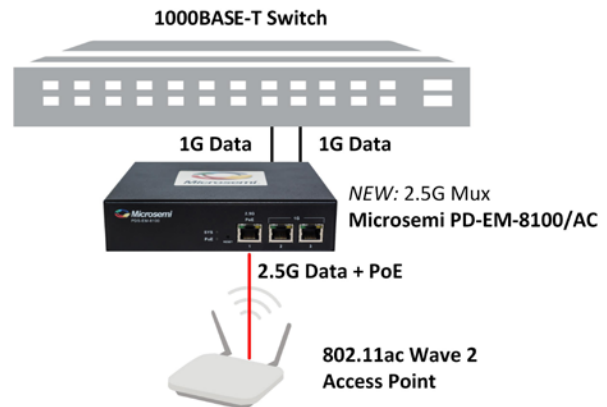

Figure 1: Upgrading existing 1000BASE-T switch to 2.5G and PoE

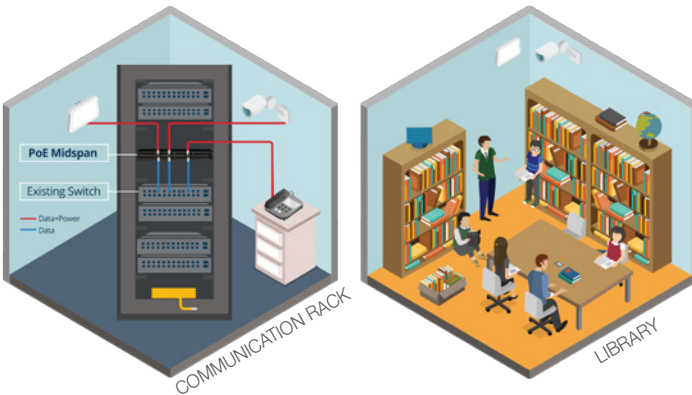### Outdoor Wireless Networks

PoE technology has been implemented in outdoor environments over the last few years. With Microsemi's industry-leading outdoor PoE solutions, customers can leverage PoE's well-known advantages in extreme weather conditions typically associated with microwave point-to-point, small cells, and surveillance camera installations.

Solutions for Wireless Networks

Indoor Wireless Networks

Adding PoE to data infrastructures is made easy with PoE midspans installed in communication rooms in conjunction with Ethernet switches. Microsemi's PoE midspans offer full PoE of up to 95 W per device to allow smooth powering of wireless LAN access points, small cells, and other network devices.

COMMUNICATION RACK

LIBRARY

Where Microsemi PoE Can Help You

Education

Colleges and universities face major challenges extending network access throughout campuses to support the exponential growth of mobile computing associated with "One-to-one (1:1) computing" and BYOD. Education campuses can encompass dozens of buildings, sometimes housed in older facilities where rewiring costs can become prohibitive. Microsemi's PoE Midspans eliminate the need for local AC power sources, enabling fast and simple installation of WLAN access points, together with power savings and enhanced security, driven by forced power shut down during night time and weekends features. Microsemi's advanced NBASE-T products facilitate the deployment of 2.5G IEEE 802.11ac Wave 2 access points in any existing Ethernet network, while offering a simple and cost effective option to upgrade existing 1000Base-T switches to 2.5G. Microsemi's outdoor switch portfolio offers outdoor powering solutions of point-to-point microwave radios in building to building connectivity, as well as surveillance cameras and small cells.

Health Care

Using the proven ability of wireless IT applications to improve treatment at the point of care and to support clinical decisions by providing instant access to medical records, healthcare organizations have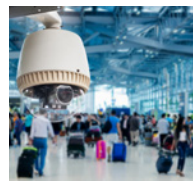 been able to improve responsiveness and treatment accuracy and to save lives as well as millions of dollars in improved effectivity and response time. PoE Midspans power WLAN access points as well as patient monitors, allowing guaranteed device up-time and eliminating AC cabling.

Retail

With some of the lowest net margins of any sector, the retail industry has strong motivation to maximize savings in hardware investments. Today, however, connections between offices and outlets cost a fraction of what leased lines cost, enabling retail store integration into the overall IT infrastructure. This has allowed retailers to take advantage of IT systems to become much more customer-centric by gaining real-time information from stores, employees, supply chains, and customers. PoE midspans power outdoor backhaul and enable point-to-point connectivity between retail buildings and offices.

Transportation

Microsemi's reliable PoE products offer advanced indoor, outdoor, and industrial solutions that enable wireless broadband mobility, station connectivity, IP surveillance, monitoring, and communications for railway stations, airports, metros, and bus stations. For example, mobility provides onboard passenger Wi-Fi associated with IP video cameras that monitor and report activity in multiple settings, such as airports, train stations, bus stops, and maintenance yards, as well as on-board buses, trains, and other transportation. Microsemi's PoE solutions help create a converged network infrastructure that transforms transit systems worldwide.
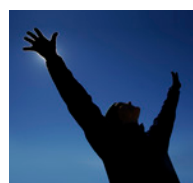
How Will You Power That?

Thinking about how to power a wireless network may sometimes be an afterthought. But how you will power your wireless network is an important conversation that you're likely not having but should: PoE midspans/injectors offer a tangible and simple cost-savings solution, delivering the most reliable, efficient, and configurable PoE for any wireless network today.

Why Partner with Microsemi?

Microsemi Corporation, known for its innovation and highly reliable products, is a leading provider of PoE Systems and IC's, delivering up to 95W over a single Category 5/5E/6/6A/7 cable in both indoor and outdoor environments.

Microsemi Empower Partner Program

Partnerships are at the core of our success. Microsemi offers Empower, a comprehensive channel partner program designed to educate and inspire our partners with industry leading PoE solutions.

Join our Empower partner program at empower@microsemi.com

PoE Selection Guide

Indoor PoE Midspan Injectors

Power per Port	Product	Number of Ports	Data Rate	Remotely Managed	Input Power	Warranty
15.4 W	PD-3501G/AC	1	1G		AC	1 year
15.4 W	PD-3504G/AC	4	1G		AC	1 year
15.4 W	PD-6506G/AC/M, PD-6512G/AC/M, PD-6524G/AC/M/F	6/12/24	1G	Yes	AC	Limited lifetime
30 W	PDS-EM-8100-25/AC	1	2.5G		AC	1 year
30 W	PD-9001-25GR/AC	1	2.5G		AC	1 year
30 W	PD-9001-10GR/AC	1	10G		AC	1 year
30 W	PD-9001GR/AT/AC	1	1G		AC	1 year
30 W	PD-9004G/AC	4	1G		AC	1 year
30 W	PD-9006G/ACDC/M, PD-9012G/ACDC/M, PD-9024G/ACDC/M/F	6/12/24	1G	Yes	AC and DC	Limited lifetime
30 W	PD-5501G/12-24VDC	1	1G		DC	1 year
30 W	PD-5524G/ACDC/M	24	1G	Yes	AC and DC	Limited lifetime
30 W	PD-9001GR/SP/AC*	1	1G		AC	1 year
60 W	PD-9501GR/AC	1	1G		AC	1 year
60 W	PD-9501G/24VDC	1	1G		DC	1 year
60 W	PD-9501G/48VDC	1	1G		DC	1 year
60 W	PD-9506G/ACDC/M, PD-9512G/ACDC/M, PD-9524G/ACDC/M	6/12/24	1G	Yes	AC and DC	Limited lifetime
60 W	PD-9501G/SFP/AC	1	1G		AC	1 year
60 W	PD-9501GR/SP/AC*	1	1G		AC	1 year
95 W	PD-9601G/AC	1	1G		AC	1 year
95 W	PD-9606G/ACDC/M, PD-9612G/ACDC/M	6/12	1G	Yes	AC and DC	Limited lifetime

*Includes integrated surge protection

Outdoor PoE Solutions

Power per Port	Product	Number of Ports	Data Rate	Remotely Managed	Input Power	Warranty
30 W/ 60 W	PDS-104GO/AC/M	5 (1 SFP data input, 4 PoE outputs)	1G	Yes	AC	5 years
30 W	PDS-102GO/AC/M	3 (1 data input, 2 PoE outputs)	1G	Yes	AC	5 years
30 W	PD-9001GO-ET/AC	1	1G		AC	5 years
60 W	PD-9501GO-ET/AC	1	1G		AC	5 years
60 W	PD-9501GO/12-24VDC	1	1G		DC	5 years
60 W	PD-9501GO/48VDC	1	1G		DC	5 years
90 W	PD-9601GO/AC	1	1G		AC	5 years
95 W	PD-OUT/SP11	1port outdoor surge protector	1G			5 years

Ruggedized/Industrial PoE Solutions

Power per Port	Product	Number of Ports	Data Rate	Input Power	Warranty
30 W	PD-9001GI/DC	1	1G	DC	5 years
60 W	PD-9501GI/DC	1	1G	DC	5 years

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WLAN 3.0. 07/17

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