Solution Guide

Deploying Microsemi PoE Products with Aruba
Access Points and Mesh Routers

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Introduction

This document describes the Microsemi products that are interoperable with Aruba wireless LAN and mesh solutions, and is intended to supplement Aruba and Microsemi product documentation. Please contact the Aruba Partner Solution Engineering team at pse@arubanetworks.com should additional information be required.

Solution Components

Aruba Campus WLAN Solution

Secure and reliable mobility is the responsibility of the enterprise network, which must support a wide range of converged clients over wireless, wired, and remote access networks. Laptops and smartphones are capable of simultaneously running voice, data, and now video applications, an operating model that breaks traditional dedicated VLAN and SSID architectures. Delivering the quality of service (QoS), bandwidth, and management tools necessary to accommodate these devices on a grand scale – within a campus environment, to users on the road, and in branch offices – requires a specially tailored system design.

Aruba's unique application and device fingerprinting enable the system to detect the types of traffic flows, and the devices from which they originate. The network can then be dynamically conditioned to deliver QoS - on an application-by-application, device-by-device basis - as needed to ensure highly reliable application delivery. Aruba's integrated policy enforcement firewall isolates applications from one another to essentially create multiple dedicated virtual networks, and then allocates the necessary bandwidth for each user and application.

To ensure reliable application delivery in changing RF environments, Aruba's Adaptive Radio Management (ARM) technology forces client devices to shift away from the noisy 2.4GHz band to the quieter 5GHz band, adjusts radio power levels to blanket coverage areas, load balance by shifting clients between access points, and even allocates airtime based on the capabilities of each client device. The result is a superb user experience without any user involvement.

These services are complemented by security systems that ensure the integrity of the network. Rogue detection, wireless intrusion and prevention, access control, remote site VPN, content security scanning, end-to-end data encryption, and other services protect the network and users at all times.

Aruba's extensive portfolio of campus, branch/teleworker, and mobile solutions simplify operations and secure access to unified communications applications and services - regardless of the user's device, location, or network. This dramatically improves productivity, lowering capital and operational costs while providing a superior uninterrupted user experience.

Microsemi Product Overview

PowerDsine 9500G Midspan family
The PowerDsine EEPoE 9500G family is our highest power, most energy efficient midspan family, delivering up to 72W of power per port using all 4 pairs of cable. PD-9500G enterprise class midspan devices are compliant with IEEE802.3at standard, support Gigabit rates and are available in a single port device, plus 6 and 12 port models.

PowerDsine 9000G Midspan family
The enterprise class PowerDsine 9000G family is specifically designed to power Ethernet end-terminals that require high power, up to 36 watts. PD-9000G midspan devices are compliant with the IEEE802.3at standard, include 6, 12 and 24 port models.

PowerDsine 6500G Midspan family
The PowerDsine 6500G family sets a new standard for enterprise class PoE midspans. The highly secure, remotely managed and safe-to-use PD-6500G series midspans support large installations using multiple 24-port units, and 12- and 6-port models that optimally suit smaller installations.

PowerDsine 3500/3500G Midspan family
The PowerDsine 3500/3500G family is a fully IEEE 802.3af compatible PoE midspan delivering up to 15.4 watts per port. The highly secure and safe-to-use PD-3500/3500G series midspans support large installations using multiple 24-port units, and 12- and 6-port models that optimally suit smaller installations.

PoE Midspans for Outdoor Installations

PowerDsine 9001G0 Midspan
The PowerDsine 9001GO is a single port device that generates up to 30W of remote Power over Ethernet and is IP66 rated for secure outdoor deployment. In addition to PoE midspan functionality, the PD-9001GOprovides surge protection functionality optimal for the installation of outdoor PDs. The 9001GO is an outdoor midspan designed for outdoor devices and is compliant with the IEEE802.3at (PoH type 2) standard.

PowerDsine 9001G-40/SP Midspan
The PowerDsine 9001G-40/SP is a single port device that generates up to 40W of remote Power over Ethernet powering to support current and emerging high power applications. In addition to PoE midspan functionality, the PD-9001G-40/SP provides surge protection functionality optimal for the installation of outdoor PDs. The 9001G-40/SP is an indoor midspan designed for outdoor devices and is compliant with the IEEE802.3at (PoH type 2) standard.

# Peripherals and Support

Redundant Power Supply
PowerDsine's Redundant Power Supply (RPS) enables full power backup for both PD-9000G and PD-9500G Midspan families and is available in either 450W or 1000W.

PowerView Pro
PowerDsine Enterprise Class Midspans have PowerView Pro, a powerful network management tool and Simple Network Management Protocol (SNMP v3) that allows unprecedented remote control to systems administrators.

Microsemi Deployment Scenarios

Power over Ethernet technology enables the installation of Wireless LAN access points in places where electrical outlets do not exist. Price reductions in Wireless LAN devices have made this application significantly more appealing for corporations of all sizes.
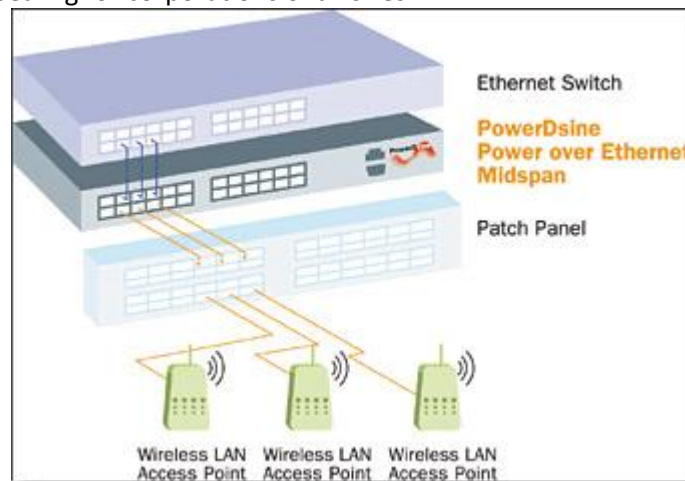
In addition to greater network availability, midspans reduce installation and maintenance costs by eliminating the need for expensive installation of standard power cables. This is particularly true in hard-to-reach places such as ceilings where Wireless LAN access points and Mesh routers are located; it also allows these devices to connect with a centralized UPS for improved device reliability. PowerView Pro web-based network management tool supports remote management and reboot of Ethernet devices.

Plug-and-play midspan installation allows new WLAN and mesh wireless devices to be easily and cost effectively implemented over an existing Ethernet infrastructure and receive power over standard Cat5 and above cabling. This architecture protects customer investment both in Cat5 and above infrastructure and in Ethernet switch equipment.

ArubaEdge Certified Products

PowerDsine 9500G Midspan family

The PowerDsine 9500G midspan family delivers up to 72W of power per port. It is compliant with IEEE802.3at standard, and supports gigabit rates. Available in single port devices, plus 6 and 12 port models.
http://www2.microsemi.com/PowerDsine/Products/Midspan/PD_9500G.asp

PowerDsine 9000G Midspan family

The PowerDsine 9000G family delivers up to 36 watts per port. PD-9000G midspan devices are compliant with the IEEE802.3at standard, and supports gigabit rates. Available in single port devices, plus 6, 12 and 24 port models.
http://www2.microsemi.com/PowerDsine/Products/Midspan/PD_9000G.asp

PowerDsine 9001G0 Midspan

The PowerDsine 9001GO is a single port device that generates up to 30W of remote Power over Ethernet and is IP66 rated for secure outdoor deployment. It is an outdoor midspan designed for outdoor devices and is compliant with the IEEE802.3at (PoH type 2) standard with 10/100/1000baseT data transfer rates.
http://www2.microsemi.com/PowerDsine/Products/Midspan/Outdoor_Installations.asp

PowerDsine 3501G Midspan

The PowerDsine 3501 is a single port device that generates up to 15.4W of remote Power over Ethernet with 10/100/1000baseT data transfer rates. It is compliant with IEEE802.3af standard devices.
http://www2.microsemi.com/PowerDsine/Products/Midspan/PD_3501G.asp