

Wireless turns a greedy eye on PoE Plus

Grinding slow but exceedingly small, the IEEE has, since September 2005, been crafting a standard commonly known as PoE (Power over Ethernet) or, in its most recent official guise, **802.3at**. It is a technology that integrates electrical power into a standard LAN infrastructure: it enables power to be provided to the network device (such as an IP phone or a network camera) using the same cable that is used for network connection. As a result, you do not need power outlets at the camera locations, for example, and makes the provision of 24/7 UPS (Uninterruptible Power Supply) easier.

PoE extends the power directly from the data ports to whatever network devices are connected, using two pairs of conventional Ethernet Category 5 cable. Plus takes PoE to a new level: ostensibly providing sufficient power for WiMax transmitters, pan-tilt-zoom video surveillance cameras, videophones and thin clients. The significance of a workable marriage of PoE and wireless applications is understandably causing a ripple of excitement.

No degradation

While free lunches are largely apocryphal, PoE technology is designed not to impose demonstrable degradation on network data communication performance, nor decrease network reach. The power delivered over the LAN infrastructure is automatically activated when the system identifies a compatible terminal. Incompatible devices are simply blocked, allowing a safe mix of legacy and PoE-ready device on the network.

Today, most manufacturers offer network switches with built-in PoE support. Where an existing network/switch topology is in place, you can get the same functionality by adding a midspan device to the switch, which will add power to the network cable. Likewise, a network camera without built in PoE can still be integrated into a PoE system using an active splitter.

Who needs power points?

A device that can benefit from PoE is a PD or Powered Device. A switch with PoE capabilities is known as PSE (Power Source Equipment). So too, is a midspan device (also called an injector) which taps into an existing Ethernet connection and introduces power where it is not provided by a switch. Early PoE Plus adopters are likely to use midspan devices as they will probably support the 802.3at specification before switches. The standard says all kit must be backwards compatible with the earlier 802.3af PoE standard, but early adopters would do well to get that in writing.

PoE Plus, with its improved maximum power rating of at least 30W, is ripe for evolving applications – particularly in a security-conscious setting - such as motorised network cameras, IP telephony videophones, RFID readers and access control systems, door controllers, point-of-sale and information kiosks and, eventually, laptops or palmtop computers. The new 802.3 standard also enables more dynamic power management, which could save energy and decrease the cost of power supplies. All in all: a chance to implement conventional technologies in a new, streamlined fashion.

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