

AEI Fault Tolerant Utility Embedded PoE Switches

Network Fault Monitoring, Alerts,
and PoE Advance Power Management

Patent Pending (and/or Patented) Technology

Network faults hopefully rarely occur. Unfortunately, they are inevitable. This can result from a hardware failure, a defective installation, or act of nature such as flooding. Even a wireless link can lose network connectivity as a result of RF interference, or tree / plant growth that may eventually obstruct the wireless path. We have even seen instances where rodents chewed through cable to use as nesting material. In short, failures can result from any number of reasons, and these network failures will have a significant negative impact on mission critical applications like security, access control, or telephony.

DEPLOYMENT

The patent pending (or patented) **AEI Fault Tolerant Utility** comes free with the purchase of an AEI-e410C and AEI-e810C PCI-e embedded switches. The utility resides on the Host System, and runs as a background service accessible anytime through the system tray. Subsequently, it utilizes very little memory and system resources.

The utility is configured and managed through an application with a very easy and intuitive Graphical User Interface (GUI). It's the perfect solution for OEMs wishing to incorporate unique fault tolerant and notification features on their proprietary platforms.

PoE Advanced Power Management (discussed later) does required the installation and configuration of a USB CDC Driver, as well as a USB Cable.

Clean Installation: By including an embedded PoE switch in your appliance, OEM's can provide a clean installation without a rat's nest of wires going to PoE injectors / switches, or having to rack mount PoE switches. Furthermore, the elimination of 3rd party hardware makes for a more attractive fully integrated solution.



Reduced Support Costs and Improve Goodwill:

According to several large OEM customers, the #1 cause for technical support is due to faulty installation of PoE injectors. Quite simply, installers (or the end-users themselves) plug the network cables into the wrong end of the injector, and invariably blame a NVR or VoIP appliance for the fault. In addition to extended down time and customer frustration; the service provider must often make a site visit to correct the problem. By embedding the Power Source Equipment (PSE) switch, OEMs can immediately realize reduced support costs, and an improvement in customer goodwill via an ease of installation and maintenance.

Scalability: AEI offers both 4 and 8 port embedded PoE switches. This provides OEMs the ability to offer their clients a proprietary solution that can be scaled to their individual needs. The benefit to customers is a manageable cost structure, and flexible technology infrastructure. OEM benefits include increased customer satisfaction and loyalty; combined with the ability to eliminate 3rd party hardware from their solution. The obvious result is increased sales and profit margin.

Performance: AEI embedded switches are the industry's first to provide a gigabit uplink to the host system via the PCIe card edge connector, thus offering the best performance of any embedded PoE switch. IP Cameras can be used in full motion

(30 fps), with the highest resolution.

AEI FAULT UTILITY

NETWORK CONNECTIVITY MONITORING™

Network Connectivity Monitoring monitors for any network fault such as, cable / connector faults, network equipment faults (switches, routers, NIC's), locked devices, etc.

Users simply input the IP Address range of their network, and the software utility will identify all active nodes. Next, simply identify the MAC address you want monitored, and the utility will periodically check to ensure the device (or network client) has an active network connection. This feature is compatible with PoE devices, non-PoE wired devices, wireless devices, and any network equipment. Moreover, the utility uses the MAC address as the Primary Key, and subsequently supports both static and dynamic DHCP IP Addresses.

PROGRESSIVE FAULT NOTIFICATIONS

In the event a fault is identified by the software, an ALERT message is provided on the Host System via a pop-up window and audible tone. Additionally, the utility can be configured to send an email or SMS text message to one or more recipients alerting them of a network failure so long as an active Internet connection is established.

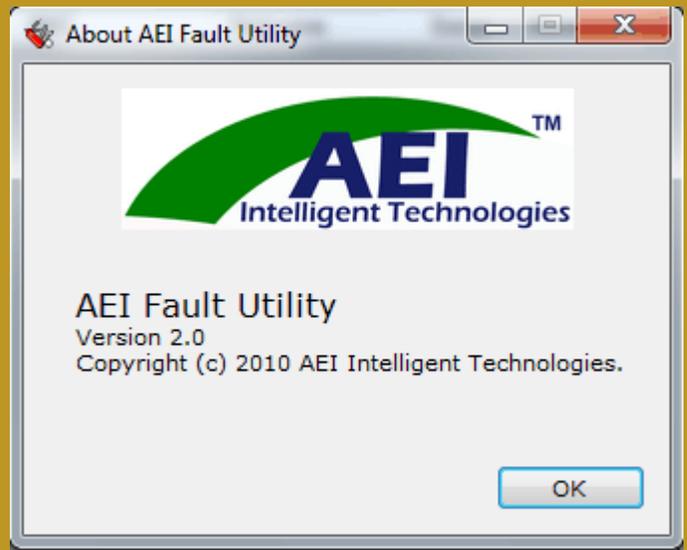
When a network connectivity fault is detected, the utility will wait for a predetermined period of time in order to allow Automatic PoE Fault Correction (optional feature), to reboot PoE devices, and for network connectivity to re-establish. It will then re-check the device to determine if a fault still exists. Depending on the device status, a second email or SMS text message will be sent providing either a "Fault Resolved" or "Fatal Error" alert.

An alert message is also sent when a PoE Reset command is made through the GUI.

PoE ADVANCED POWER MANAGEMENT™

- PoE FAULT CORRECTION™

This patent pending (or patented) feature turns off PoE Power temporarily without requiring a host system reboot. This action effectively reboots PoE devices attached to AEI switch gear, and allows for a much quicker recover time since users no longer need to wait for the host system reboot process.



Additionally, the most common network faults are a result of locked-up devices (PDs, routers, etc.). By rebooting PoE devices this unique and innovative solution attempts to resolve the fault and is the first to proactively provide **Fault Correction** for PoE Devices.

Remote Access and Local Users: By the simple click of a mouse, both local users and authorized remote access users can reboot PoE devices without having to reboot the host system, manually unplug and re-plug in power cables, nor

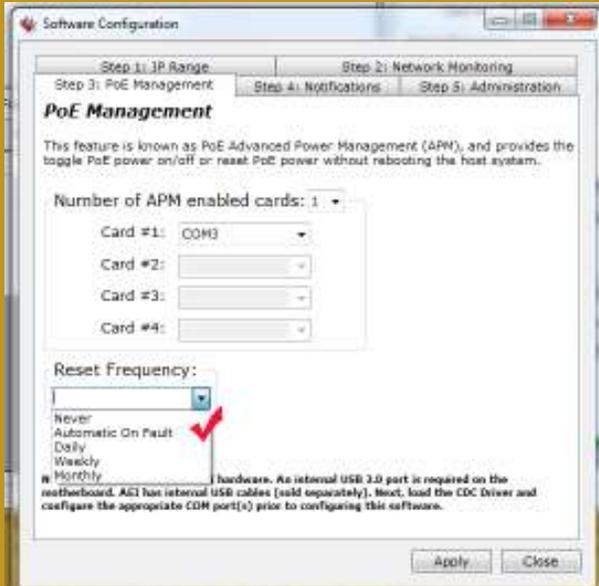


physically interact with any PoE Power Device.

Remote Link Status: As can be seen above, the utility will provide remote and local users the ability to check status of a network links without trying to interpret LED status lights.

Automatic PoE Reset: Re-booting PoE devices cures faults such as hardware lock-ups which occur on virtually all technology that incorporate intelligence and/or process IO. The underlying cause can be memory degrading, internal hardware malfunction, embedded OS or device driver bugs, etc. Fortunately, resetting the device cures these most common of network faults.

The utility can be configured to reset PoE power automatically when a fault is detected. Thus, offering the industry's 1st solution that automatically takes preventative measures to resolve a network fault!



As can be seen above, the utility also can be configured to reboot PoE devices periodically for every 24 hours of continuous operation, weekly, or monthly.

These features provide maximum uptime, and assurance that PoE devices are always available.

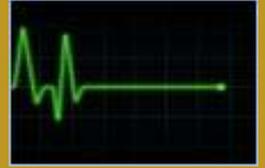
SECURITY

The AEI Fault Tolerant Utility is Username and Password protected ensuring only authorized users have access.



Fault Tolerant Alternatives

Some IP Cameras can store limited amounts of data internally, however, network failures will result in losing all live viewing and the recorded server video.



Attempts to limit exposure to network faults by use of complex Layer 3 switches, and redundant networks increase costs and management significantly when compared to AEI embedded solutions. These alternatives do not offer the rugged fault tolerant and correction features available with AEI embedded switch solutions. Moreover, the OEM appliance in a Windows or Linux platform can be easily configured to support router functions. Call AEI and we'd be happy to help you develop the world's most reliable and fault tolerant appliance!

SYSTEM REQUIREMENTS

◆ Operating Systems Supported:

Windows XP, Windows 7.

- Earlier Windows versions may also be supported.

Linux — CALL AEI

◆ Hardware Support / Must have the following hardware installed in your host system:

AEI-e410C-PoE or AEI-e810C-PoE

◆ PoE Advanced Power Management

1. Must install / configure USB CDC Driver
2. Must use an internal USB Cable:
(p/n: AEI-CUSB0002)
3. Contact AEI for hardware compatibility

OEM PRIVATE LABELING

Large volume OEM's interested in incorporating your own logo in the software utility are asked to contact AEI directly.



AEI Intelligent Technologies

PO Box 890955
Temecula, CA 92589-0955 (USA)

Tel. (951) 699 8740

sales@aei-it.com

www.aei-it.com

Simplifying IT