



SCADAfuse
Industrial Controller Protection



PROTECTION OF EARTHQUAKE EARLY WARNING SYSTEM

Overview

SCADAfuse is an inline network security appliance for the protection of industrial assets such as PLCs and network-connected machines and other devices. It first learns what workstations or other systems are permitted to speak to the protected assets, then identifies typical protocol usage between those nodes, and finally allows the operator to choose how deviations from those learned patterns are handled. A typical customer will filter or block errant messages which are not already identified as known and acceptable, and will configure the SCADAfuse to deliver its alerts to an HMI console for immediate operator visibility.

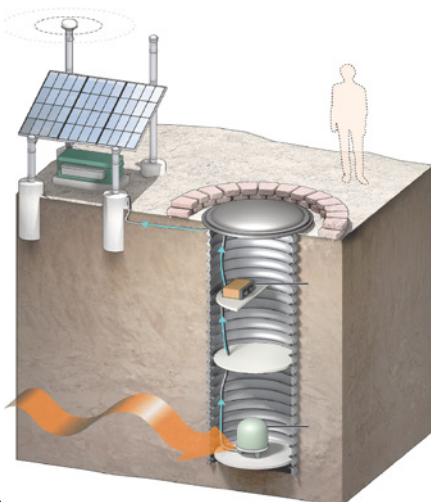
The following use case illustrates situations in which SCADAfuses brought immediate benefits to the industrial networks in which they were installed.

SCADAfuse Use Case: Earthquake Early Warning System

Customer Situation:

The customer operates a public road safety system in an urban area with a mixture of elevated roadways, bridges, and tunnels. The municipality operates a private network of earthquake early warning systems (EEWS) which are designed to operate traffic control devices in the event of seismic signals in excess of certain thresholds. Thus bridges and tunnels are cleared of traffic to minimize risk of casualties.

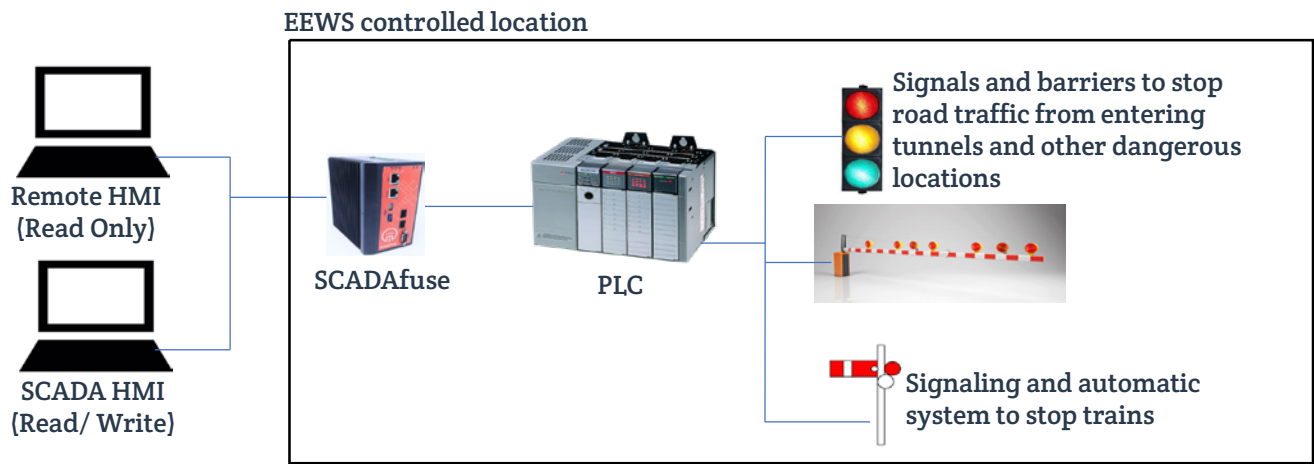
The traffic control devices, comprising warning lights and movable barriers, are operated by PLCs at the entry points to the protected tunnels and bridges.



Customer Challenges:

- The customer faced a public safety risk in the event that traffic control systems were misused or processed unauthorized trigger signals, and wanted to add additional security controls to prevent such risks.
- The customer wanted an independent reporting mechanism in place for PLC status relative to any signals sent to those PLCs from anywhere within their trusted network, by using a 'reporting-by-exception' approach.

Solution:




The customer selected SCADAfuse as part of an overall network upgrade and redesign. Bayshore was asked to engage with the local engineering companies responsible for the EEWS and PLC programming and perform coordinated solution design and implementation. The passive nature of the SCADAfuse network interfaces allowed them to be added easily to the existing switch ports without requiring re-addressing of other known servers and PLCs on the network.

During the initial learning phase, signal timing and induced latency observations were made to validate that normal, permitted instructions pass through SCADAfuse with no significant latency added. The defined IP addresses for servers and PLCs do not change so the policy configurations for SCADAfuse were very simple and easily implemented in less than one hour.

Finally, the instructions sent from the application server to the PLC were confirmed to be supported by SCADAfuse and the public safety system was able to continue to operate to design specifications. The SCADAfuse supports being switched into a monitor-only mode for testing and maintenance, and also has a native network bypass in hardware in the event of a device failure. These features were tested and verified to work as described by the customer.



 info@bayshorenetworks.com

 Bayshore Networks, Inc.
4625 Creekstone Dr, #100
Durham, NC 27703



SCADAfuse
Industrial Controller Protection