



# Secure Site-to-Site Ethernet Communications for Chemical Plant Control Networks

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## INTRODUCTION

This application note demonstrates how the SEL-3620 Ethernet Security Gateway significantly reduces the installation time to protect site-to-site Ethernet communications links from unauthorized access.



Figure 1 Industrial network communications requires environmentally tough solutions

## PROBLEM

Setting up and securing process control system Ethernet networks is a daunting task because of the size and complexity of chemical plants. Creating and operating a security gateway containing an Internet Protocol Security (IPsec) tunnel, firewall, and other security features (such as syslog protocols) is an often frustrating and time-consuming activity.



Figure 2 The SEL-3620

## SEL SOLUTION

The SEL-3620 web interface reduces the time and steps to set up a secure IPsec virtual private network (VPN), firewall, and syslog event reporter. The SEL-3620 secures all Ethernet communication between your private networks and interoperates with existing business IT and control systems over an IPsec VPN. The SEL-3620 protects your private network from malicious traffic with an integrated firewall and strong authentication access control.

“The SEL-3620, an OPSAID compliant device, can provide a synergistic solution that benefits specific needs in securing our critical infrastructure including smart grid communications. This is a good example of the Department of Energy, a National Laboratory, and private company working together to provide useful solutions to critical needs in a timely fashion.”

Hank Kenchington  
Deputy Assistant Secretary  
U.S. Department of Energy  
Office of Electricity Delivery and Energy Reliability



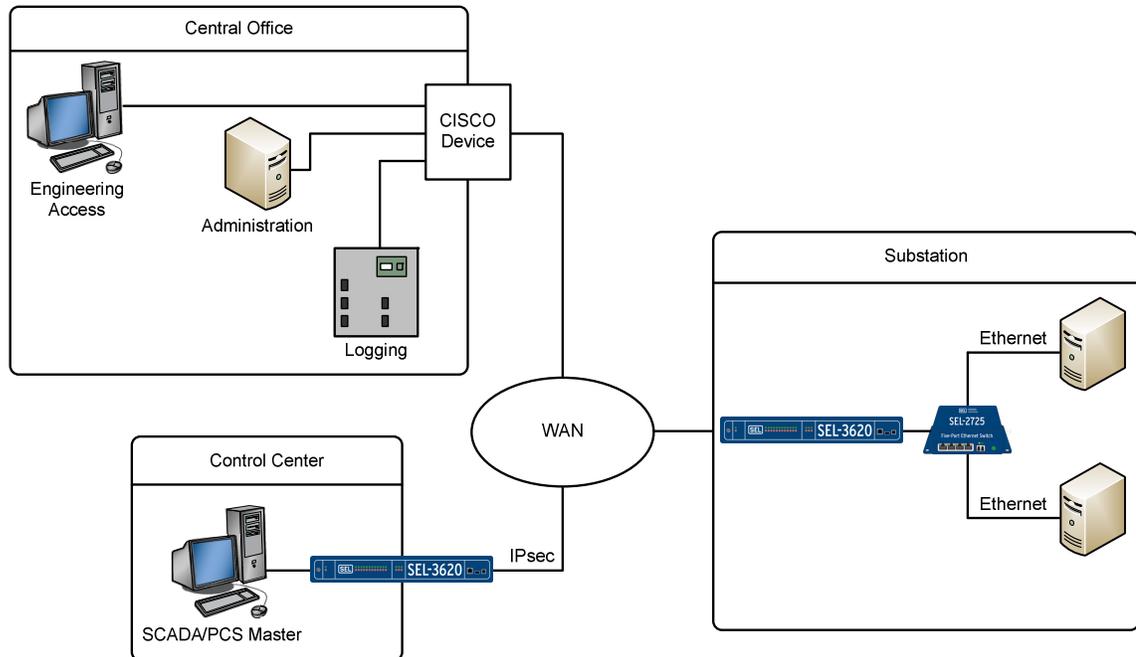


Figure 3 The SEL-3620 secures VPN traffic with IPsec

## Satisfy Security Requirements

Apply the SEL-3620 to satisfy your business requirements to secure routable protocols or data crossing a chemical plant's Electronic Security Perimeter (ESP). The SEL-3620 provides up to 16 VPN network connections on 3 Ethernet ports.

## Protective Firewall

The SEL-3620 includes a protective stateful firewall to secure your private network from malicious traffic with a configurable egress and ingress firewall.

## Record and Log Events

The SEL-3620 reports security events using the syslog protocol for easy reporting and tracking. An IRIG-B clock synchronizes the internal clock to precisely time tag events. The SEL-3620 records up to 60,000 logs in nonvolatile memory and can send log records to multiple destinations.

## CONCLUSION

The SEL-3620 is a convenient security gateway capable of protecting a chemical plant's control network and is interoperable with other VPN devices, including CISCO routers, and OPSAID (Open PCS [Process Control System] Security Architecture for Interoperable Design)-compliant devices.