Secure Network Connectivity and Operational Efficiency: Bridging the Gap

Increasing connectivity and automation for production, pipeline, and processing systems is improving operational efficiency for oil and gas companies, but it is also expanding the attack surface. The diversity of networks and devices on drilling rigs and in remote installations increases vulnerability to cyber threats. Operations teams need to connect and secure mission-critical systems to protect the business from increasingly sophisticated attacks while minimizing operational complexity and cost, but security expertise and resources are often limited.

Tempered Networks provides a set of advanced yet easy-to-use tools to secure distributed process assets, isolated process control networks (PCNs), and remote upstream operations. It gives oil and gas companies a simpler approach to securing critical infrastructure, bridging the gap between IT security requirements and the need to maintain operational control and efficiency.

Segment and cloak process control and SCADA networks

With the Tempered Networks solution, organizations can segment and isolate connectivity to and between upstream production facilities and midstream processing plants, following the ISA-99 (IEC 62443) zone and conduits model. Unlike traditional firewalls, the solution goes beyond simple inspection to add confidentiality, integrity, and availability protection to the data as it traverses the PCN. The Tempered Networks solution provides a private overlay network and cloaks all devices within it, leaving no external configuration footprint. The solution leverages existing infrastructure to connect facilities without exposing device communications and without the brittleness of complex configurations.

Securely connect and monitor remote, distributed equipment

By introducing an independent layer of connectivity, security, and trust management, the Tempered Networks solution enables remote device management—even across a third party's network infrastructure. Organizations can easily connect and monitor upstream production equipment with centralized SCADA and Historian systems. The solution is transport- and topology-agnostic, supporting any mix of cellular, WiFi, wired Ethernet, or satellite communications networks.

Benefits

- **Extends the network**: IT or operations teams can easily and securely extend networks to remote locations using wired, WiFi, cellular, SatCom, and public cloud networks

- **Centralizes governance**: Facilitates administration and departmental provisioning of private overlay networks

- **Integrates with legacy and modern infrastructure**: Private overlay networks can be easily integrated with any existing IT security and network infrastructure

- **Cloaks critical assets**: Isolates and encrypts communications to cloak ICS and SCADA devices

- **Increases operational integrity and availability**: Facilitates monitoring and predictive maintenance to maximize uptime

- **Enables secure remote access**: Highly constrained remote access can be easily granted and revoked without impacting the underlying network

- **Easy to deploy and maintain**: Intuitive management user interface does not require advanced IT security expertise

Easily manage third-party access

Providing network access to vendors and contractors can introduce an additional security vulnerability. With the Tempered Networks solution, third-party access can be granted and revoked in just minutes, without modifying the shared network. Access can be constrained to a single, isolated device or a group of devices and for a specific period of time. The solution can also be configured to require user authentication.

Tempered Networks
Product Family

Military-Grade Security

- Secure channels bound to unique RSA 2048-bit cryptographic identities
- Per-peer explicit trust relationships validated up the certificate chain with SHA-256 signatures
- Secure channels protected with Diffie-Hellman exchange, AES-256 encryption, SHA-1 message authentication
- Stateful packet inspection (SPI)
- Denial of service (DoS) mitigation
- Full lifecycle identity management, including instant blacklisting and revocation
- Microsegmentation based on device whitelisting

The Tempered Networks Solution for Oil and Gas Companies
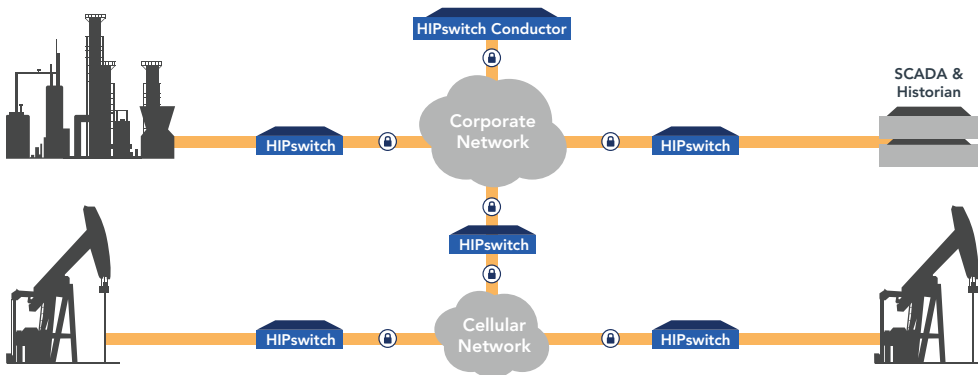
The solution provides a secure overlay network among HIPswitch™ appliances that secures connections for SCADA and process control systems and remote devices. The HIPswitch Conductor™ orchestration engine coordinates configuration, security policies, trust relationships, monitoring and analytics.

Take control of your critical infrastructure with Tempered Networks' proven solution for keeping industrial, commercial, and public sector systems and assets secure and resilient.

To learn more, email sales@temperednetworks.com, call 206.452.5500, or visit temperednetworks.

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