



TINY LOCAL AREA NETWORK ENCRYPTOR (TINYLANE)

The TinyLANE (TL) is a versatile, scalable, and customizable network encryptor utilizing military grade encryption (AES256) to secure computing endpoint communications.

The TinyLANE Operating System (TLOS) can be deployed on Peak Security hardware ranging from plug computers for single host to 1U rack mount servers to secure whole network segments and can be scaled as network throughput requires. In addition to being

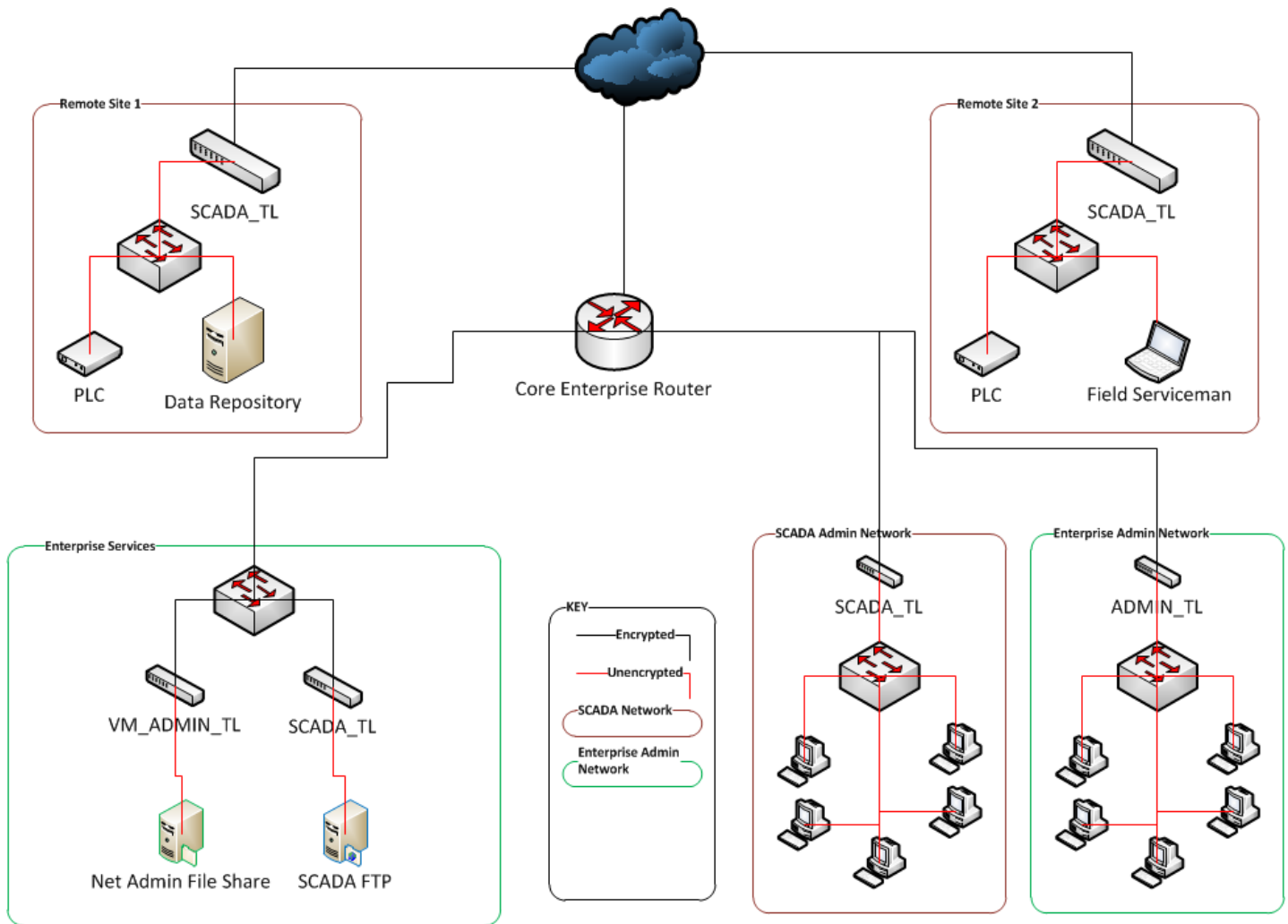
deployed to physical hardware, the TLOS can be deployed to an ESXi cluster to act as a secure communications router for your VM hosts.

The TL has a built in firewall and routing engine with policies that can be controlled through individual units, via SSH or Web (HTTPS). In addition, the TL endpoints can be controlled through the TinyLANE Enterprise Management Suite for enterprise level granularity and reporting.

ARCHITECTURE FEATURE	BENEFIT
Expandable Core Operating System	TLOS uses a minimalist Linux core kernel that can be expanded with features as network administrators require.
Modular Operating Platform	<p>TLOS is deployable across multiple hardware platforms including x86, 64, and ARM.</p> <p>TLOS is extremely small (under 20Mb) allowing for deployment to embedded devices.</p> <p>TLOS can be deployed as a virtual machine to secure VM cluster network communication.</p>
High Speed Interfaces	Due to the scalable nature of TLOS, the TinyLANE can operate at near line speed on most hardware platforms.**
Multi-Target Encryption System	<p>The TinyLANE uses a custom AES256 encryption engine to help ensure communications confidentiality.</p> <p>The TinyLANE is capable of targeting multiple networks with different encryption keys allowing for segmentation and compromise resiliency.</p>

ARCHITECTURE FEATURE	BENEFIT
Optional Enterprise Management	The TinyLANE endpoint devices can act as peer-to-peer encryption devices or as part of an integrated enterprise TinyLANE encryption network by utilizing the TinyLANE Enterprise Manager (TLEM).
TinyLANE Enterprise Management Suite (TLEM)	<p>The TLEM is designed to act as the centralized TL endpoint enrollment and management center.</p> <p>The TLEM is designed to provide status updates and manage network encryption between TL endpoints.</p> <p>The TLEM can act as an encrypted network tap, by forcing all TL endpoint traffic through the TLEM for offloading to IDS.</p>
TinyLANE Encryptor Versatility	The TinyLANE is capable of protecting and encrypting traffic from a single endpoint or multiple endpoints when the same network.
Granular Security Controls	The TinyLANE is capable of protecting different endpoints with different security policies by utilizing the built in IP Tables based firewall.
Mobile Workforce	The TinyLANE Mobile is currently under development for mobile employees to give enterprise administrators a known trusted platform with which to enforce security policy.

**10/100/1000/10g. Dependent on hardware platform.



TINYLANE USE CASE - UTILITY COMPANY

This is a general use case for the TinyLANE, as deployed in a utility company. Remote Site 1 and 2 are connected to the Internet through MPLS or leased lines. Inside the boundary of the Remote Sites communications are unprotected as shown by the red lines. As soon as traffic passes through the switch the TinyLANE encrypts all outbound communications via the AES256 encryptor which creates a unique encrypted session between endpoints for that communications stream.

The TinyLANE is running in Shield Mode in this example. The TinyLANE will only permit communications to known TinyLANE endpoints, allowing strict control over traffic routing when in this mode.

The SCADA Admin Network, Remote Sites, and the SCADA FTP in Enterprise Services all are utilizing the same pre-shared initial keying material which allows them to communicate as if on the same physical network. The TinyLANE is transparent to endpoint communications and accepts all protocols for encryption.

Within the same enterprise network the Enterprise Admins are communicating to the Net Admin File Share within Enterprise Services on a ESXi cluster. Only the Enterprise Admins can communicate to this host as their ADMIN_TL and the VM_ADMIN_TL are using the same keying material and the VM_ADMIN_TL Firewall will only permit communications from their subnet.

All of the endpoint TinyLANEs can be controlled and managed through the TinyLANE Enterprise Management (TLEM) Suite. In the event of a key compromise the TLEM can be used to force the endpoint TinyLANEs to switch to a new key segment and isolate communications with the compromised endpoint. The TLEM can then be used to monitor and control traffic passing through of the compromised endpoint.