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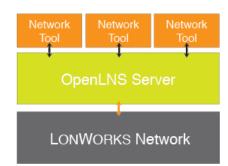
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OpenLNS Server

A software platform for developing and deploying applications that design, install, operate, and maintain open LonWorks® networks

The OpenLNS Server is a platform for creating open control systems. The platform supports multiple applications and service providers, and supplies the essential network services required for installing, operating, and maintaining LonWorks based control systems.

The OpenLNS Server is the foundation for the most capable, popular tools for designing, installing, maintaining, and monitoring LonWorks systems. The OpenLNS Server, OpenLNS Commissioning Tool, and OpenLNS SDK are the three primary components of OpenLNS.

OpenLNS CT Features

Proven

- Echelon's OpenLNS and LNS® products share a common core platform, which has been used in more than 90,000 systems to commission more than 5 million devices.
- Echelon's OpenLNS and LNS are supported by hundreds of third-party applications.

Open Standards Support

- Compatible with all ISO/IEC 14908-1 Control Network Protocol compliant devices with no commissioning fees or credits.
- ISO/IEC 14908-2 Free Topology Twisted Pair (FT).
- ISO/IEC 14908-3 Power Line (PL).
- ISO/IEC 14908-4 Control Network IP Tunneling Protocol (IP-852).
- ANSI/CEA-709.1 and ANSI/CEA 709.1-B-2002 Control Network Protocol.
- ANSI/CEA-709.2 Power Line (PL).
- ANSI/CEA-709.3 Free Topology Twisted Pair (FT).
- ANSI/CEA-852 Control Network IP Tunneling Protocol (IP-852).

Multi-Application and Multi-User

- Provides an open client/server network operating system supporting multiple simultaneous client computers running multiple applications from multiple vendors.

- Supports a wide variety of LonWorks applications including network management applications, operator interface applications and drivers, and network diagnostic tools.

- Supports both OpenLNS plug-ins and LNS plug-ins so that device manufacturers can create device specific plug ins for their devices that work with any OpenLNS network management tool, including the OpenLNS Commissioning Tool.

- Available OpenLNS and LNS plug ins are listed at www.echelon.com/plugins.

- Application and plug-in developers can redistribute the OpenLNS Server with their applications—choosing to either resell OpenLNS Sever Activation Keys or have their customers purchase Activation Keys.

- Free OpenLNS Server Trial Activation Keys are available so that application and plug-in developers can freely distribute trial software.

Free Download

- A free trial edition is available for download from www.echelon.com/openlns. The free trial may be redistributed with OpenLNS applications and plug ins.

- The trial edition is limited to two networks with a maximum of five devices each, runs for a maximum of 60 minutes at a time, and expires 60 days after trial activation.

- The trial edition can be converted to a full-featured OpenLNS Server Standard Edition with the purchase and installation of an OpenLNS Server Standard Edition Activation Key.

Network Database

- Maintains all device and network configuration information in a high performance database.

- Supports off-line design and configuration so that networks can be designed before physical hardware is available.

- Provides high-speed access to network configuration data to speed network application performance.

- Includes database backup and restore capability

- Provides hot back-up of open OpenLNS databases without shutting down OpenLNS applications for enterprise-grade 24/7 operation.

Network Configuration Services

- Provides services to define and configure devices, connections, routers, and channels, as well as subsystems containing devices and routers.

- Supports networks with up to 32,385 devices on up to 1000 channels, with each device supporting up to 4096 network variables.

- Provides sophisticated binding services for creating connections that allow devices to communicate, while optimizing use of critical network resources.

- Supports advanced LonMark features such as functional blocks, configuration properties, resource files, network variable aliases, dynamic network variables, dynamic functional blocks, and changeable network variable types.

- Supports multi-channel networks with any combination of LonWorks routers and LonWorks/IP-852 routers.

- Provides services to migrate networks that were installed with other tools, or networks for which the database is no longer available, with support for recovery of a network from an existing, installed network.

Network Commissioning Services

- Provides services to commission devices.

- Identify devices to be commissioned by pressing a service pin, setting a Neuron ID, winking a device, or using automatic discovery.

- Includes the Echelon IP-852 Configuration Server that can be used to configure up to 256 IP-852 devices and routers per network, with support for devices behind multiple IP routers that perform network address translation.

Network Operation

- Provides services to read and write network variables and configuration properties.

- Receives event driven updates from bound network variables.

- Automatically converts network variable and configuration property values on devices to and from the most appropriate locale specific formatted strings to simplify user interaction.

- Supports overrides for string formatting so that formatting can be based on standard resource files for standard network variable types and configuration property types, or manufacturer-specific resource files for user-defined network variable and configuration property types.

- Includes an implementation of the ISO/IEC 14908-1 Control Network Protocol stack for Microsoft Windows that provides a 10x monitoring performance improvement over any tool using a traditional implementation of the 14908-1 protocol.

- Remote clients automatically cache device and network variable addressing in monitor sets to optimize performance and minimize network traffic.

- Provides fault-tolerant, instant-on monitoring with distributed, cached monitor sets.

Network Maintenance

- Provides services to test and control device state, and to override, enable, test, or disable individual functional blocks on a device.

- Provides services to replace devices, restoring the replaced device configuration, network variable connections, and message tag connections to the new device.

- Provides services to upgrade Neuron hosted device applications and Neuron firmware, restoring the replaced application configuration, network variable connections, and message tag connections to the new application.
- Supports automatic upgrade when a device or device application is replaced with a new device or device application that shares common functional blocks, network variables, and configuration properties.

Network Interfaces

- Integrated OpenLDV 4.0 driver provides compatibility with all OpenLDV 4.0-compatible network interfaces and remote network interfaces.
- Protects ISO/IEC 14908-1 authentication keys sent through remote network interfaces with RC4 encryption.

Multi-User and Multi-Network

- Supports multiple users modifying devices in the network at the same time.
- Supports remote access via LonWorks or IP networks.
- Supports multiple networks so that a single tool can be used to install many networks.
- Reduces installation time for large networks with support for merging independent networks into a single, integrated system.

Free Updates and Upgrades

- One year of maintenance is included with every OpenLNS Server—during the first year all updates and upgrades to the OpenLNS Server can be downloaded and installed for free.
- Annual maintenance can be renewed any time prior to the end of the first pre-paid maintenance period and again prior to the end of each paid maintenance period—annual maintenance cannot be renewed after expiration of the

last pre-paid or paid maintenance period; once renewed, all updates and upgrades can be downloaded and installed for an additional year.

SPECIFICATIONS

PC Requirements

Microsoft® Windows 7 (64-bit and 32 bit), Windows Server 2008 R2 (64 bit), Windows Server 2008 with SP2 (32-bit), Windows Vista with SP1 (32 bit), or Windows XP with SP3 (32 bit).

Minimum Hardware

500 MHz processor, 512 MB RAM, 2 GB available disk space, 1024 MB page file, DVD-ROM drive, 1024 x 768 or higher-resolution display with at least 256 colors, mouse or compatible pointing device, and OpenLNS or IP network interface.

Recommended Configuration

Minimum 2 GHz processor, 2 GB RAM, and 2048 MB page file.

Compatible OpenLNS Network Interfaces

The OpenLNS Server is compatible with IP-852 and all OpenLDV 4.0 compatible network interfaces. OpenLDV 4.0 drivers are included for the i.LON 100, i.LON 600, and SmartServer remote network interfaces (RNIs); and for PCC 10, PCLTA-20, PCLTA-21, U10, and U20 local network interfaces. The OpenLDV 4.0 driver is compatible with the Echelon SLTA-10 Serial LonTalk Adapter, but requires separate installation of an SLTA driver. The PCC 10, PLCLTA-20, PCLTA-21, and SLTA-10 drivers are only compatible with 32-bit versions of Windows; all other included drivers are compatible with all supported versions of 64-bit and 32-bit Windows.

Compatible IP Network Interfaces

Any PC network interface card or dial-up connection with a network driver compatible with Windows TCP/IP networking; drivers included for an IP 852 interface.

Maximum Network Variable Limits

4096 maximum NVs per LonWorks device.

Maximum Open Network Limits

Up to 100 network databases can be open simultaneously in independent mode for monitoring and control.

Up to 50 network databases can be open simultaneously for full OpenLNS services including management, monitoring, and control.

Maximum Limits per Network

The following maximum limits apply per network defined in the OpenLNS Server.

Active OpenLNS Client Applications: 10.

Application Device Types: 32,385. Channels: 1000.

Devices: 32,385 (2 addresses required per router and network service device). Domains: 1 per network.

Network variable selectors: 12,288 bound selectors (ISO/IEC 14908-1 protocol limit)—the OpenLNS Server reuses network variable selectors and therefore the number of network variable connections is not limited by this protocol limit.

Routers: 1000.

Maximum Limits per OpenLNS Server and Client

Active data points: 8000 with intelligent point sharing if multiple applications are monitoring the same point; this limit does not apply to permanent monitor point monitoring.

Address table entries: 32,768.

Alias table entries: 1024.

Permanent monitor points: 65,535; monitoring a local host network variable does not consume a persistent monitor point.

Permanent monitor sets: 8000; each monitor set may be used by any application.

Simultaneous outgoing transactions: 250 (when using a Layer 2 network interface or an IP-852 interface); 15 (when using a SmartServer or i.LON 600); 1 (all other interfaces).

Simultaneous incoming transactions: 250 (when using a Layer 2 network interface or an IP-852 interface); 16 (all other interfaces).

Documentation

OpenLNS Programmer's Reference

Ordering Information

OpenLNS Server Standard Edition Activation Key

38200-400

OpenLNS Server Standard Edition One-Year Maintenance Key 93820

For more information about this product call Echelon at +1 408 938 5200 or go online at www.echelon.com.