

## Features

- Interfaces HMI and visualization applications installed with LNS tools
- Reads and writes network variables, configuration properties, and application messages
- Supports LonMark® functional blocks
- Supports LonWorks IP-852 (ISO/IEC 14908-4) channels for high-bandwidth workstation connectivity.
- Supports over 3000 updates per second with high-performance LNS 3 runtime.
- Remote access via LNS or NetDDE
- Supports multiple clients and networks on the same PC or multiple PCs
- Provides easy client set-up with a point browser and DDE copy/paste link support
- Use with hundreds of programs that support the Microsoft DDE protocol
- Supports Wonderware SuiteLink and FastDDE protocol

## Description

The LNS DDE Server is a software package that allows any DDE or SuiteLink-compatible Microsoft Windows® application to monitor and control LonWorks® networks—without programming. Typical applications for the LNS DDE Server include interfaces with HMI applications, data logging and trending applications, and graphical process displays.

LNS is the open, standard operating system for LonWorks networks. Based on a powerful client/server architecture, LNS permits multiple installers or maintenance personnel to simultaneously access and modify a common database. By linking LNS and Microsoft's DDE protocol, DDE-compatible Windows applications can interact with LonWorks devices using any of the following methods:

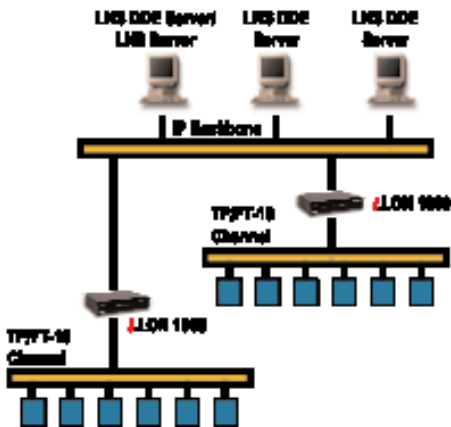
- Read, monitor, and modify the value of any network variable
- Supervise and change configuration properties
- Receive and send application messages
- Test, enable, disable, and override LonMark® functional blocks
- Test, wink, and control devices

The LNS DDE Server connects LonWorks networks to operator interfaces for control systems in buildings, factories, processing plants, semiconductor fabs, and other commercial and industrial applications. The software is compatible with Wonderware InTouch®, Intellution Fix®, USDATA Factory Link®, and National Instruments Lab View and BridgeView® in addition to hundreds of other DDE applications. The LNS DDE Server also supports Wonderware's SuiteLink and FastDDE protocol for improved performance with InTouch.

Once a network has been commissioned with an LNS-compatible installation tool such as the Echelon LonMaker™ Integration Tool, the LNS DDE Server automatically accesses the LNS database created by the installation tool.

No separate configuration step is required to use the LNS DDE Server—LNS ensures that all of the required information is already available in the LNS database.

## High Performance



The LNS DDE Server can be used on a PC that is connected to an IP backbone, that is in turn connected to many channels via IP-852 routers such as the i.LON SmartServer with IP-852 routing. This provides the highest performance for monitoring and control applications.

The IP-852 routers aggregate traffic from their channels, providing efficient utilization of the IP backbone channel, and maximizing the number of packets per second

that can be processed by the LNS DDE Server PC.

The LNS 3 runtime, included with the LNS DDE Server, implements much of the ISO/IEC 14908-1 protocol when used with an IP interface or an LNS Fast Network Interface such as the i.LON, U10, PCC-10, PCLTA-20, or PCLTA-10. As a result, the performance of the network interface is accelerated by the PC-based protocol implementation. When used on an IP channel, the performance is limited solely by the processing power of the PC. The LNS DDE Server running on a 3GHz Pentium 4 is capable of receiving over 3000 network updates per second.

## Large and Small System Support

LNS supports multiple clients and multiple applications, both requirements of large systems. Multiple PCs running the LNS DDE Server may simultaneously access the same network, allowing several HMIs and maintenance tools to run at the same time. This feature is useful in high-rise buildings and large plants where there may be multiple operator stations and maintenance personnel.

For those systems where a single application, such as an HMI, must interact with multiple networks, the LNS DDE Server can interact with multiple LonWorks networks simultaneously.

To simplify network cabling, PCs can be connected to the LonWorks network or to a LAN. LNS remote services allow multiple PCs to operate on the LonWorks network and access a shared LNS Server. The NetDDE protocol allows PCs connected to a LAN to access a shared LNS DDE Server.

## Comprehensive LonMark Support

The LNS DDE Server can control functional blocks, allowing client applications to override, enable, or disable individual functional blocks on a device. Network variables can be accessed either by their device name or by their member name within a functional block. LonMark configuration properties can be accessed as easily as network variables, even if the configuration properties

are stored in the device's memory and not exposed as network variables.

## Easy Access to Every Point

A point browser permits navigation through the networks, subsystems, devices, functional blocks, network variables, and configuration properties that are defined in an LNS Server. The availability of the point browser makes it easy to set up client applications that support Microsoft's paste link protocol.

Client applications have complete control over the formatting of each point since standard LonMark resource files are supported. Both standard user-defined types and formats are supported, and standard resource files are included.

## Getting Started

To get started with the LNS DDE Server, download a free, fully functional copy or request a free CD from [www.echelon.com/lonmaker](http://www.echelon.com/lonmaker). Upon initial installation, the LNS DDE Server will enter a demonstration mode that will cause it to stop functioning after every hour of use. To use the LNS DDE Server on an unlimited basis on a PC, use the LNS DDE Server software to generate an order for a Model 37200 LNS DDE Server Application Key. This key allows the use of the LNS DDE Server on an unlimited basis on the PC that generated the order. While waiting for the key, a temporary key is automatically generated that will allow use of the LNS DDE Server on a trial basis for 30 days. Once the permanent key has been received and installed, the key may be transferred to a different PC. Wonderware InTouch and Excel examples are included to help get you started quickly.

The Model 37200-20 LNS DDE Server OEM Edition includes the DDE Server CD, User's Guide, and a pre-paid application key. A key is still ordered with the software, but one free key is ordered for the OEM Edition. This simplifies the maintenance of LNS DDE Servers in inventory for OEMs and other users.

## Specifications

Function	Description
PC requirements	Microsoft Windows XP or Windows 2000 <i>Minimum hardware:</i> Pentium 200; 128MB RAM; CD-ROM drive; mouse or other pointing device; 20MB available hard drive space; LNS or IP network interface; <i>Recommended hardware:</i> Minimum with Windows XP, Pentium III 500, and 256MB RAM minimum
Database requirements	Network database created with LNS network installation tool such as the LonMaker Integration Tool
LNS Compatibility	LNS 3 client and server runtime included.
Compatible LNS network interfaces and routers	i.LON 1000 Internet Server, i.LON SmartServer, i.LON 100 Internet Server, i.LON 10 Ethernet Adapter, U10 and U20 USB Network Interface, PCLTA-20 PCI Card, PCLTA-10 ISA Card PCC-10 PC Card, PCNSI ISA Card, and SLTA-10 Serial LonTalk Adapter
Network variables	4,096 maximum per host-based device; 254 maximum per Neuron® Chip- or Echelon Smart Transceiver-hosted device
Open networks	64
DDE client applications	8 maximum for each LNS network interface
Active LNS DDE Servers per network	254 maximum
Network variable updates per second	3000 maximum <sup>1</sup>

The following maximum limits apply per network accessed by the LNS DDE Server:

Function	Description
Application devices	32,385 maximum <sup>2</sup>
Address table entries	32,768 Maximum
Application device types	32,385 maximum
Channels	1,000 maximum
Domains	1 maximum
Network variable selectors	12,288 maximum (may be shared)
Routers	1,000 maximum
Simultaneous outgoing transactions	1,000 maximum
Simultaneous incoming transactions	1,000 maximum

### Notes:

- Actual performance depends on a number of factors. The test system for the published maximum consisted of the following: Windows XP, 3GHz Pentium 4, 256MB RAM, PC on IP backbone with LonWorks devices on 8 TP/XF-1250 channels, connected via 8 i.LON 1000 Internet Servers on the backbone channel. All updates used network variables bound to the PC.
- The total number of application devices may be limited by the topology of a system, including the channel and network variable selector usage.