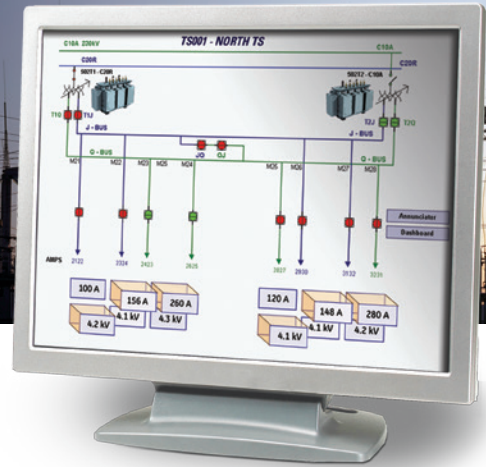


# EnerVista™ Integrator



## Comprehensive Communication Engine for Rapid Integration

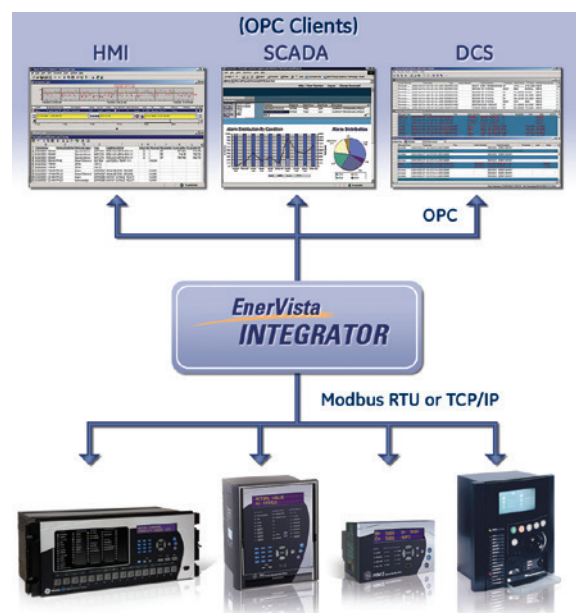
EnerVista™ Integrator enables seamless integration with GE Multilin™ devices for new or existing automation systems through tested, pre-configured memory maps. EnerVista Integrator reduces the setup and commissioning efforts required to obtain device, event and waveform data by over 90% for integration with an HMI, SCADA or DCS system.

### Key Benefits

- Reduces the effort and cost to integrate GE Multilin devices into new or existing HMI, SCADA or DCS systems
- Provides comprehensive, accurate and high quality, device, event and waveform data from devices
- Archives and centralizes fault data from relays and meters for fault analysis
- Supports integration of third-party (non-GE) Modbus devices into OPC compliant monitoring systems

### Key Features

- Easy device setup through device communications
- Rapid retrieval of device, event and waveform data from GE Multilin devices for communication to OPC clients
- Comprehensive, factory tested memory maps for GE Multilin devices
- Scalable communication options for high device or point counts - up to 1000 Devices or up to 65000 points respectively
- Reliable aggregation of event records from multiple GE Multilin devices into a single system wide Sequence-of-Event (SOE) record



*EnerVista Integrator will efficiently link the information from GE Multilin and non-GE devices to monitoring, control and data collection systems*



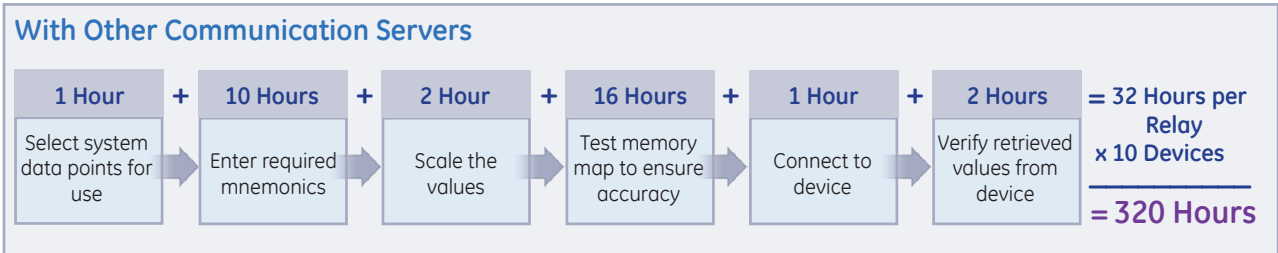
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## Powerful Pre-Configured OPC Server

EnerVista Integrator is designed to provide seamless integration of GE Multilin devices into any new or existing monitoring or control system. With tested, pre-configured memory maps for GE Multilin devices, EnerVista Integrator eliminates significant effort required for programming all of the mnemonics associated with HMI, SCADA and DCS system integration, significantly reducing the commissioning time and cost.

### Pre-Configured Memory Maps and Intelligence

EnerVista Integrator's pre-configured and verified memory maps for most GE Multilin Devices, reduces commissioning effort by over 90% compared with traditional configuration methods:



### Communication Based Device Setup

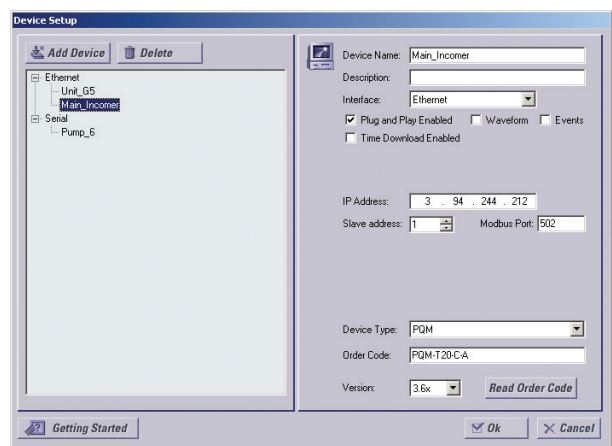
Configuring GE Multilin devices in EnerVista Integrator is achieved through establishing communication with the device.

- Supports user-friendly, intuitive configuration of devices similar to EnerVista Viewpoint Monitoring and EnerVista Setup software
- Provides configuration settings for both serial or Ethernet communications
- Tests communications to ensure accurate device configuration

### Third-Party Devices

EnerVista Integrator supports third-party (non-GE) devices that utilize Modbus RTU or Modbus TCP/IP, providing a simple way to incorporate all devices into a monitoring and control system.

- Supports addition of Modbus RTU or Modbus TCP/IP third-party devices
- Provides direct configuration of Modbus mnemonics
- Results in reduced integration time for multiple installations of EnerVista Integrator by importing and exporting mnemonics files



User-friendly, intuitive setup similar to EnerVista ViewPoint Monitoring/Setup software to connect devices via OPC

## Automatic Event and Waveform Retrieval

Automated archiving of event and waveform data from GE Multilin devices ensures that there is always comprehensive data available for diagnosing power system events.

### Event Logging

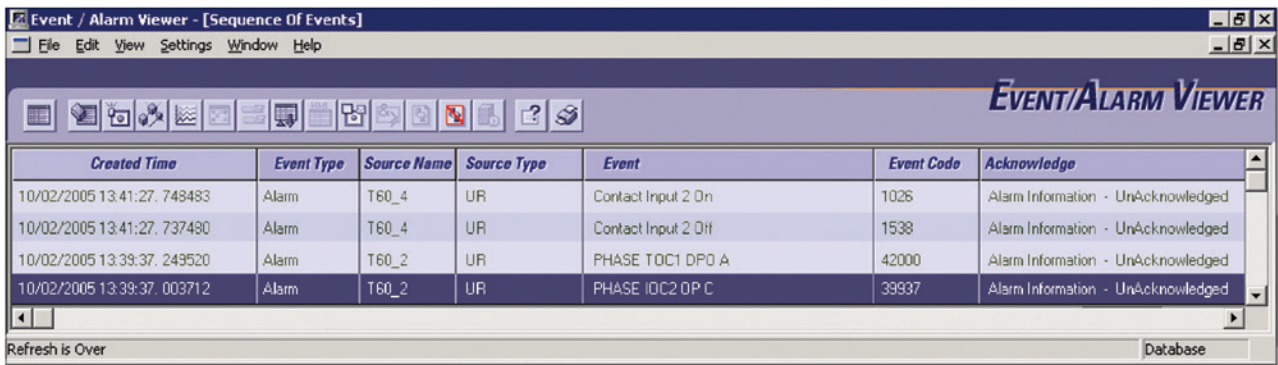
The event records from GE Multilin devices can be automatically downloaded from each device and stored in a system wide sequence of events record. EnerVista Integrator will continually poll each GE Multilin device to see if any new events have been added to that device's event record. Once a new event has been detected, the event record will be downloaded from the device to the system wide sequence of events record.

### Event Viewing

The Event Viewer centrally stores and displays information about preset and configured systems events. Each event in the record contains the following information:

- Event Time
- Event Type
- Source Name
- Source Type
- Event Cause

This data can be sorted by any of the fields indicated above.



Create a comprehensive, centralized, system wide sequence of event records for analysis of power system faults.

## Waveform Archiving

The waveform (oscillography) files from GE Multilin devices can be automatically downloaded from each device and stored in a central data repository using Integrator. Similar to Event Logging, EnerVista Integrator will continually poll each GE Multilin device to see if any new waveform files have been created. Once a new waveform has been detected by EnerVista Integrator, the file will be downloaded from the device to the centralized data repository.

### Waveform Viewing

View and analyze waveform fault data that has been recorded from a power system device in a time-based, phasor quantity or tabular view.

This Waveform View utility provides functionality to:

- Convert waveforms that were stored in Comma Separated Value (.CSV) format to COMTRADE compatible files (e.g. SR Family, PQM)
- Merge and overlay waveforms that were recorded from multiple devices
- Identify the harmonic content in the monitored parameters



View and analyze waveform fault data retrieved from devices.

## Technical Specifications

### System Requirements - EnerVista Integrator

COMPONENT	REQUIREMENT
Supported Operating Systems	<ul style="list-style-type: none"> <li>Windows 7 -64 bit</li> <li>Windows Server 2008 - 64 bit</li> </ul>
Supported Databases	<ul style="list-style-type: none"> <li>SQL Server 2012 - 64 bit</li> <li>SQL Server 2012 Express - 64 bit</li> </ul>
Computer and Processor	Recommended workstation: <ul style="list-style-type: none"> <li>Intel® Core™ 2 Duo CPU or higher</li> <li>CD-ROM drive</li> <li>Mouse (minimum two buttons)</li> <li>Keyboard</li> <li>Speakers (to support audible alarms)</li> </ul>
Memory	2 GB of RAM (minimum)
Hard Disk	500 MB of free hard disk space for installation (additional space required for project configuration)
Display	17" monitor, minimum resolution 1280 x 1024, minimum 16-bit color
Connectivity	Ethernet (10BASE-T)
Other	N/A

### Supported Devices

DEVICE FAMILY	DEVICE	FIRMWARE
ATS	MX150	5.4x, 6.0x
	MX250	5.4x, 6.0x
	MX350	1.2x
UPS	UPS, UPS LP, UPS SG	1.0
Trip Units/Switchgear	Spectra MicroVersa Trip	5.1x
	Enhanced MicroVersa Trip C	4.1x
	Enhanced MicroVersa Trip D	4.1x
	GTU (EntelliGuard TU Trip Unit)	7.0x
	ELVS (Entellisys)	4.5x
	MET	12.02.02
Meters/Switches	PQM	3.3x to 3.6x
	PQMII	1.0x to 2.2x
	EPM1000	3.8x
	EPM2000	1.0x
	EPM2200	1.0x
	EPM4000	3.8x
	EPM5000P	2.4x
	EPM5200P	2.4x
	EPM5300P	2.4x
	EPM5350P	2.4x
	EPM6000	1.0x
	EPM 6000T	1.0x
	EPM 6010	1.0x
	EPM 6100	1.0x
	EPM 7000	1.0x
	EPM 7000T	1.0x
	EPM 7100	1.0x
	EPM 9900	1.0x
	EPM9450Q	2.1x
	EPM9650Q	2.1x
EPM9800	6.1x	
ML2400	3.0x	
Distribution Feeder	350	1.2x to 1.5x
	F35	2.6x to 7.2x
	F60	2.6x to 7.2x
	F650	1.6x to 5.4x
	MIF 2	4.0
	735/737	1.5x
	750/760	3.6x to 7.4x
	850 Feeder	1.0x
	G30	4.4x to 7.2x
	G60	2.6x to 7.2x

DEVICE FAMILY	DEVICE	FIRMWARE
Generator	489	1.3x to 4.03x
	D30	3.0x to 7.2x
	D60	2.6x to 7.2x
	D90Plus	1.8x
Line Current Differential Protection	L30	5.6x to 7.2x
	L60	2.6x to 7.2x
	L90	2.6x to 7.2x
Transformer	745	2.4x to 5.2x
	T35	2.6x to 7.2x
	T60	2.6x to 7.2x
	345	1.3x to 1.5x
Motor	239	2.3x to 2.7x
	269+	6.0x
	339	1.3x to 1.5x
	369	1.6x to 3.6x
	469	2.5x to 5.2x
	MM200	1.0x to 1.2x
	MM300	1.2x to 1.5x
	MMII	4.0x to 5.2x
	MMIII	1.0x to 1.2x
	RRTD	1.4x, 1.5x
SPM	2.0x, 2.1x	
	M60	2.6x to 7.2x
Network	N60	3.4x to 7.2x
Bus	B30	2.6x to 7.2x
	B90	4.8x to 7.2x
Specialized	C30	2.6x to 7.2x
	C60	2.6x to 7.2x
	C90Plus	1.6x to 1.8x
Misc.	MRPO	1.0
	FIRETRACER	1.0
	VERSAMAX	1.0

## EnerVista Integrator Software Selection Guide

### EnerVista Integrator Licenses

EVINT	*	License Option
0100		100 Devices/5000 Points License OPC Server with Event and Waveform Server
0300		300 Devices/30000 Points License OPC Server with Event and Waveform Server
0500		500 Devices/65000 Points License OPC Server with Event and Waveform Server
1000		1000 Devices/20000 Points License OPC Server with Event and Waveform Server

### EnerVista Integrator Device/Point Count License Upgrades

EVINT-UPG	*	Upgrade option
1-3		Upgrade from 100 Devices/5000 Points to 300 Devices/30000 Points
1-5		Upgrade from 100 Devices/5000 Points to 500 Devices/65000 Points
1-10		Upgrade from 100 Devices/5000 Points to 1000 Devices/20000 Points
3-5		Upgrade from 300 Devices/30000 Points to 500 Devices/65000 Points
3-10		Upgrade from 300 Devices/30000 Points to 1000 Devices/20000 Points
5-10		Upgrade from 500 Devices/65000 Points to 1000 Devices/20000 Points

## North America/Worldwide

650 Markland St.  
Markham, ON  
Canada L6C 0M1  
Toll Free (NA Only): 1-800-547-8629  
Tel: 905-927-7070  
Fax: 905-927-5098  
gedigitalenergy@ge.com

## Europe/Middle East/Africa

Avenida Pinoa 10-48170  
Zamudio (Vizcaya), Spain  
Tel: +34 94 485 88 00  
Fax: +34 94 485 88 45  
email: gemultilin.euro@ge.com

## Asia

Floor 22-24, No 900 Yishan Rd.  
Scientific Building C  
Shanghai, 200233, China  
Tel: +86-21-2401-3208  
Fax: +86-21-5423-5080

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