

Network Manager Suite

Powerful IP-based alarm reporting for Senstar sensors

Description – Senstar's perimeter intrusion detection systems (PIDS) including OmniTrax®, XField®, ultraWave™ and FlexPS™ have an integrated sensor networking capability that provides a two-way communication channel between sensors and the control room. The Network Manager software provides a common interface through which third party head-end security management systems (SMS) perform communication to the sensors.

Application – The Network Manager (NM) is a Windows®-based software package that can reside on the same PC as the SMS (Security Management System) or on a dedicated PC. The physical connection of the NM to the networked sensors is through media converter hardware that is installed in the security system control room environment and connects to the networked outdoor sensors.



Features

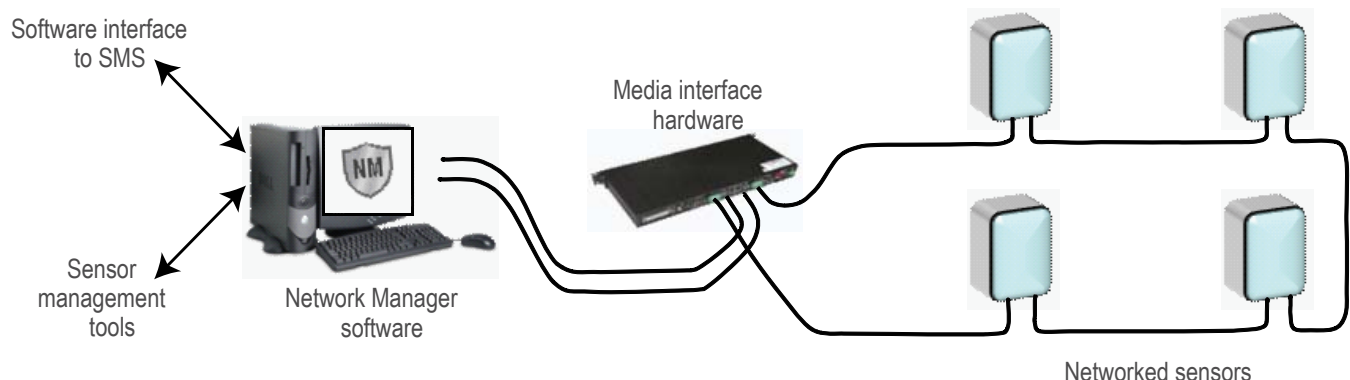
- Common software interface to SMS for all Senstar networked sensors - including OmniTrax, XField, Intelli-FLEX™, IntelliFIBER™, FPS, FlexPS, MPS-4100, ultraWave™
- Supports remote connection to Senstar's standard sensor configuration software tool, the UCM (Universal Configuration Module)
- Sensor management tools - Plot tool, Status tool, Event Log tool - provide installer / maintainer with centralized system monitoring and configuration capabilities
- Optional redundant configuration for critical applications
- Software Development Kit (SDK) with complete API documentation, test software and network manager simulator

Features (con't)

- Optional Alarm Integration Module (AIM) software
 - Converts network-collected alarms to relay outputs for control room use
 - Provides single-map alarm display
 - Easy configuration with fully visual drag-and-drop setup access
- Microsoft Windows® compatible

Benefits

- Integrated sensor network reduces system installation and maintenance costs
- Allows for centralized sensor configuration and troubleshooting
- Enables control of auxiliary perimeter security equipment
- Software integration with Senstar's Network Manager covers all Senstar networked sensors
- AIM provides easily configured relay-based integration



Basic sensor network elements

Network Manager Suite

Powerful IP-based alarm reporting for Senstar sensors

Sensor networking

Senstar's sensors communicate alarm, status and configuration information to and from a centralized control location using an integrated networking capability. For Senstar's latest generation sensors including OmniTrax, XField, FlexPS and μ ltraWave, the primary network type is Senstar's Silver Network. Silver Network uses a loop topology with separate Transmit (Tx) and Receive (Rx) point-to-point links between each sensor or other connected Silver Network compatible equipment. The Silver Network is designed to be polled from both ends of the communications loop, thus providing redundant data paths to the field equipment. Point-to-point links can be EIA-422, single-mode or multi-mode fiber or in the case of OmniTrax, over the sensor cables themselves. The data signal is regenerated at each node in the loop to ensure signal integrity and reliable data transmission around long perimeters. The Silver Network includes error detection with automatic retries to provide a reliable and high integrity communications path.

The Silver Network allows a wealth of information to be communicated including:

- Sensor intrusion alarm status
- Sensor operational status including alarm location, device tamper status and diagnostic alarms (internal trouble conditions)
- Sensor configuration data such as thresholds, gain settings, zone lengths, etc.
- Alarm and supervision status of auxiliary dry-contact input
- Control messages to set the state of auxiliary relay output
- Sensor response data to support calibration and troubleshooting activities
- Sensor firmware updates (FlexPS and μ ltraWave)
- Sensor event log - sensors maintain an internal event log that can be accessed via Silver Network
- Other sensor diagnostic information such as operating temperature, input voltage, battery voltage and power consumption
- Commands to initiate sensor self-test (device dependent)

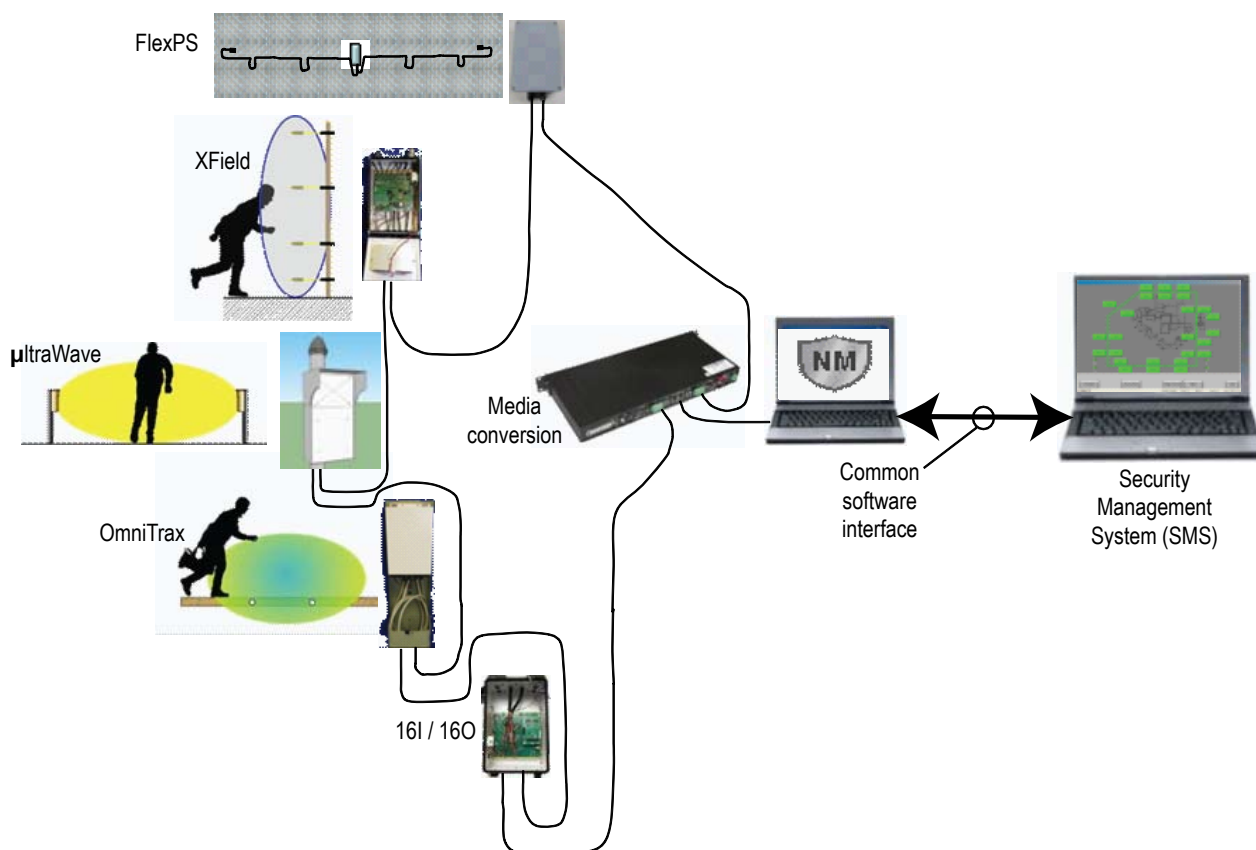
Network Manager software

The Network Manager software initiates and controls all communications over the sensor network and provides the interface for sensor alarm reporting and system management. The Network Manager includes the following:

- Public Applications Programming Interface (API) through which SMS software receives alarm and other operational status information from networked sensors
- Proprietary API that Senstar's UCM software uses to enable configuration and calibration to be done over the sensor network
- Network Manager system management tools: Plot tool, Event Log tool and Status tool

The Network Manager can scale to include multiple separate sensor networks and sensor networks of different types.

Up to 10 instances of any combination of the Network Manager versions (Silver, Crossfire, Sennet, MX) can be run on one PC.



Silver Network multi-sensor compatibility

Network Manager API

The Network Manager API gives the head-end / SMS access to all sensor data including:

- Intrusion alarm status
- Tamper status
- Communications status
- Diagnostic alarm status
- Dry contact input status
- Control of relay outputs

In addition, the SMS can initiate a sensor self-test through the Network Manager API.

Communications between the Network Manager and the SMS is accomplished via TCP/IP on a client-server basis. In normal operation, status changes are sent unsolicited to the SMS application (the client). The Network Manager API also includes query commands so that when required, the SMS can request complete operational status of the networked sensors. API-compatible versions of the Network Manager exist for the various Senstar sensor networks – Silver Network, Crossfire, Sennet and MX.

Providing architectural flexibility, the Network Manager and SMS can be co-hosted on the same computer or run on separate computers that communicate through fixed IP addresses. To protect access to its data, the Network Manager only responds to requests from IP addresses that are specified at set-up time – two IP addresses can be specified. To accommodate installations with a large number of sensors and / or multiple types of sensor networks, up to 10 Network Managers can run on one PC.

Network Manager redundancy

To support the requirement for high system availability, the Network Manager can run in a redundant configuration whereby two Network Manager instances run on two separate computers. One Network Manager is active, the other in standby and a heart-beat protocol operates between the two so that the standby Network Manager takes over in the event the active Network Manager fails.

Network Manager Software Development Kit (SDK)

Senstar provides a complete SDK to enable 3rd party SMS providers to integrate the Network Manager into their SMS. The SDK consists of:

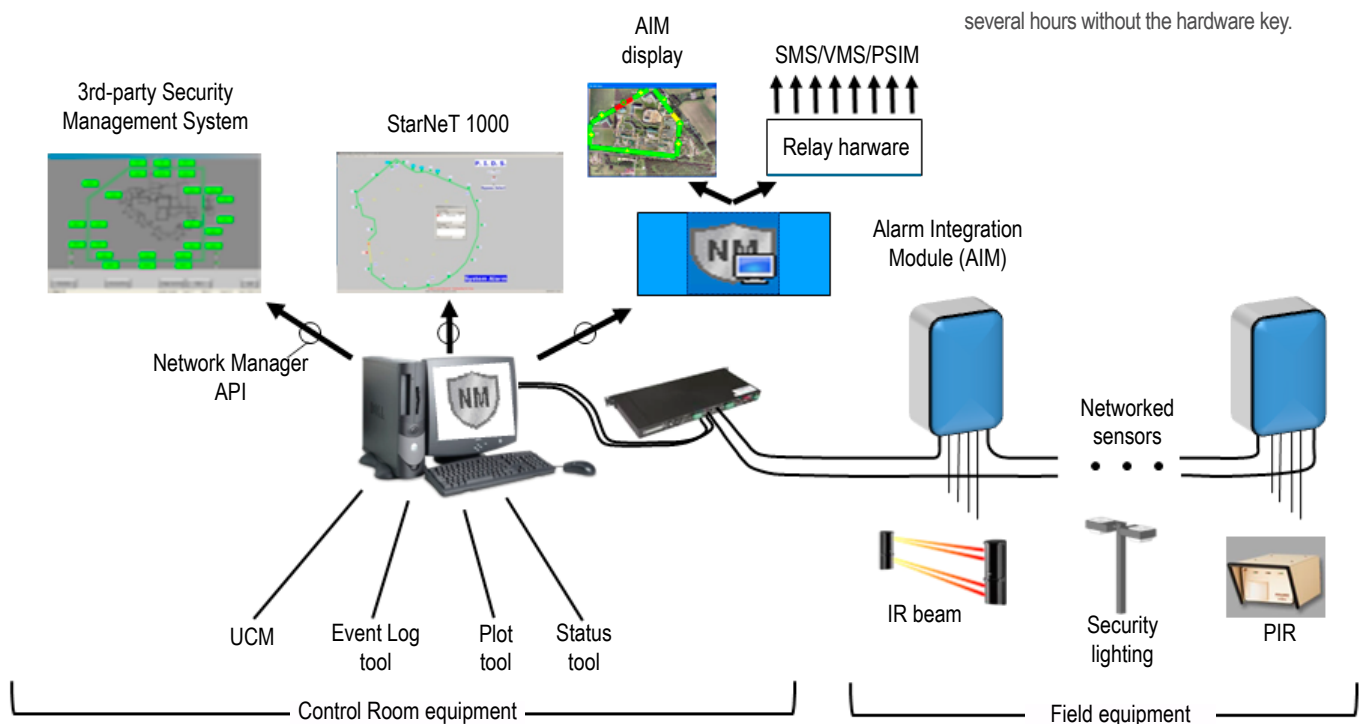
- Full documentation on the Network Manager API
- Sample code that interfaces to the Network Manager API, written in C++ for Microsoft Foundation Classes (MFC) framework
- A Network Manager simulator that simulates the behavior of a Network Manager connected to any array of sensors

Alarm Integration Module (AIM)

AIM provides two important capabilities:

- Dry contacts interface - provides an easily-configured means to convert alarm data collected by Senstar Network Managers into relay outputs for interfacing to a 3rd-party SMS via relays
- Alarm display - a single-map alarm display system for customers with simple security environments or as a secondary/"fall-back" display for the PIDS subsystem within a more complex environment

AIM is an optional element of the Network Manager Suite and requires a separately purchased license and hardware key for normal operation. For demonstration and trial purposes AIM software will run several hours without the hardware key.



Network Manager Utilities

Technical Specifications

Network Manager sensor management tools

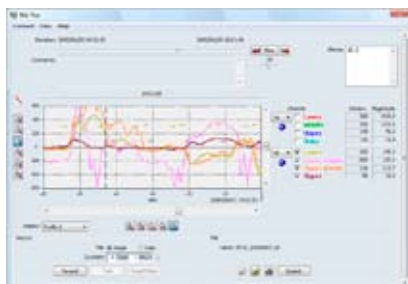
The Sensor Management tools provide the sensor installer/maintainer with the ability to monitor and configure the operation of all networked sensors from one centralized location. All tools connect to the Network Manager via IP so they can be used on a PC that is separate from the one running the Network Manager – a time saver when access to the computer running the Network Manager is restricted or inconvenient.

Sensor Management tools include:

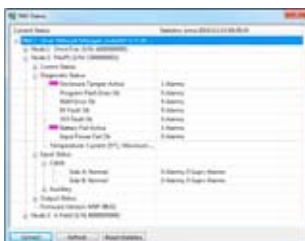
- Universal Configuration Module (UCM) - provides configuration and calibration for all Senstar sensors.



- Plot tool - records the response of all sensors of the selected type (OmniTrax, FlexPS, etc.), displays up to 8 channels of recorded or live data of the selected type.



- Status tool - shows complete running status of all sensors on the network



- Event Log tool - Provides remote access to the Network Manager log files / information on daily events



Network interface hardware

The primary network interface hardware for the Silver Network is the Silver Network Interface Unit (SNIU). The SNIU is a 19 inch rack-mount unit and connects to the Silver Network to provide standard computer interfaces for connection to the PC running the Network Manager.

Silver Network interfaces provided:

- Two each EIA-422 and fiber optic connections (either multi-mode or single-mode), one connection for each end of the sensor network loop
- Integrated lightning protection provided on EIA-422 lines

PC interfaces provided:

- Two each EIA-422, USB and Ethernet: the same connection type must be used for each side of the Silver Network loop

The SNIU includes a pass-through with fail-over mode that supports redundant operations in conjunction with the redundancy features of the Network Manager.

Sensor network communications cards

Sensor communication on the Silver Network is enabled through the addition of a communications card to the sensor processor. The following Silver Network communication cards are available:

- Generation 1 cards are compatible with OmniTrax, XField and the 16I/16O input / output transponder
- Generation 2 cards are compatible with FlexPS and ultraWave

Contact Senstar regarding network interface hardware for other sensor network types - Crossfire, Sennet and MX.

PART	NETWORK MANAGER SOFTWARE
00FG0200	Network Manager Suite on CD for Windows XP Pro and Windows 7. Includes Silver, Sennet, Crossfire and MX Network Managers that run as standard Windows applications. Includes Status, Event Log and Plot tools and Simulator. Includes AIM software (requires separately purchased hardware key)
00FG0220	Silver Network Manager service version on CD for Windows XP Pro and Windows 7. Runs as a Windows service. Includes Status, Event Log and Plot tools and Simulator. Includes AIM software (requires separately purchased hardware key)
00SW0230	USB security key (dongle) for Alarm Integration Module (AIM) software

PART	SILVER NETWORK INTERFACE UNIT (SNIU)
00EM0200	Silver Network Interface Unit (SNIU), RS-422 and multi-mode fiber-optic Silver Network connections
00EM0201-002	Silver Network Interface Unit (SNIU), RS-422 and single-mode fiber-optic Silver Network connections

PART	GEN 1 COMMUNICATION CARDS
00BA0301	Gen 1 Silver Network comm card providing multi-mode fiber optic connections
00BA0302	Gen 1 Silver Network comm card providing EIA-422 connections
00BA0303-002	Gen 1 Silver Network comm card providing single-mode fiber optic connections
00BA0304	Gen 1 Silver Network comm card providing one multi-mode fiber optic and one EIA-422 connection
00BA0305-002	Gen 1 Silver Network comm card providing one single-mode fiber optic and one EIA-422 connection

PART	GEN 2 COMMUNICATION CARDS
00BA1901	Gen 2 Silver Network comm card providing multi-mode fiber optic connections
00BA1802	Gen 2 Silver Network comm card providing EIA-422 connections
00BA2101	Gen 2 Silver Network comm card providing single-mode fiber optic connections
00BA1902	Gen 2 Silver Network comm card providing one multi-mode fiber optic and one EIA-422 connection
00BA2102	Gen 2 Silver Network comm card providing one single-mode fiber optic and one EIA-422 connection

PART	SILVER NETWORK REPEATERS
00EM0301	Silver Network repeater module - multi-mode fiber optic to multi-mode fiber optic
00EM0302	Silver Network repeater module - EIA-422 to EIA-422
00EM0303	Silver Network repeater module - multi-mode fiber optic to EIA-422

Specifications are subject to change without prior notice.



ISO 9001:2008
CSB Registered Certificate 95711
Canadian manufacturing facility
Version: DA5-J4/C-IN-R2-E-09/11

Copyright ©2011. All rights reserved. Features and specifications are subject to change without notice. OmniTrax and XField are registered trademarks of Senstar Corporation. Senstar, the Senstar logo, FlexPS, ultraWave, Intelli-FLEX and IntelliFIBER are trademarks of Senstar Corporation. Windows is a registered trademark of Microsoft Corporation.

Senstar is represented by dealers in over 80 countries.

www.senstar.com