



# TAC Vista Server

TAC Vista is an advanced Building IT™ system. TAC Vista monitors, controls and supervises systems for lighting, heating, ventilation, climate control and access/security in all types of premises and buildings.

The TAC Vista system runs as a stand-alone system or as a multi-computer system combining local and/or remote networks. The system can be used for both on-site operation/supervision or remote operation/supervision.

A TAC Vista system includes the following software:

- TAC Vista Server – for computers communicating with devices at the site and with other servers in the TAC Vista network.
- TAC Vista Workstation – for workstation computers used by operators or engineers for programming, configuration and day-to-day operation.
- TAC Vista Webstation – for day-to-day operation and displaying reports, diagrams and trend charts and so on.
- TAC Vista ScreenMate – for room/zone control.

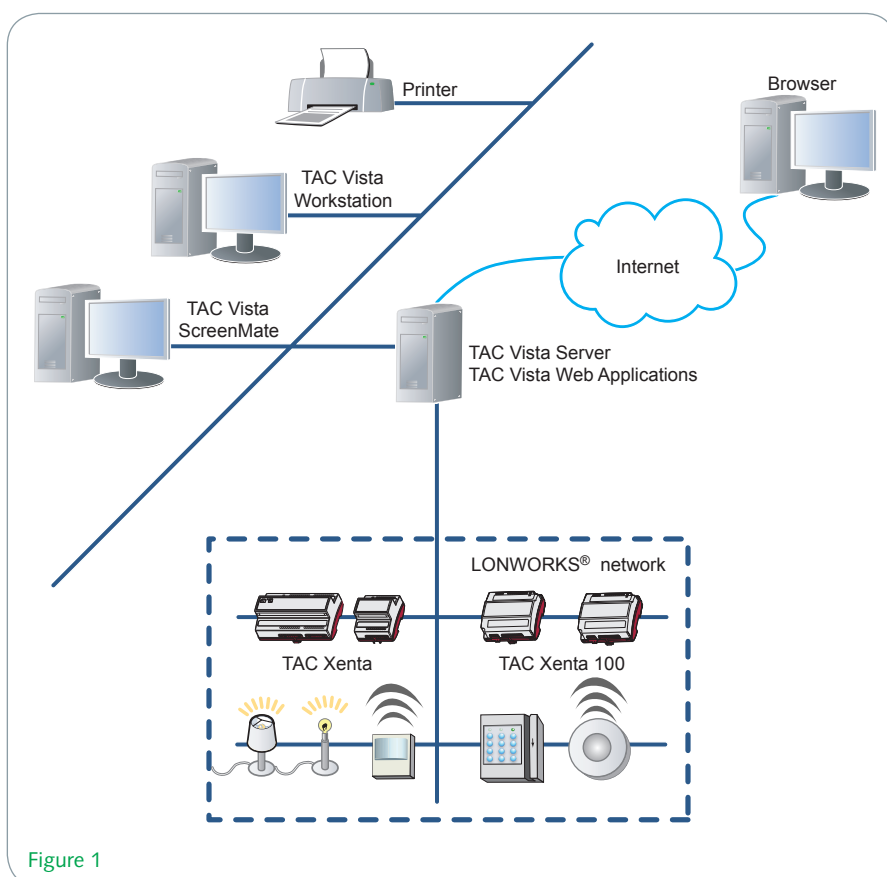


Figure 1

## TAC VISTA SERVER

TAC Vista Server runs as an ordinary Microsoft Windows program or as a service in Microsoft Windows.

A TAC Vista Server license includes these functions and modules:

- Network communication for computers in a TAC Vista system
- Database management
- Alarm handling
- Security/authority verification
- Time control
- Time synchronization
- Time scheduling
- Backup
- Trend logging
- Central IPCL runtime
- Event logging
- LonWorks communication
- Xenta Server communication
- DDE client communication
- TAC I-talk Collector
- Diagnostics and performance data (The Performance Monitor in Microsoft Windows)

These modules are optional:

- System 7 Communication
- OPC Client Communication
- OPC Server Interface
- Pelco DigitalSENTRY Video Communication

These modules are described in separate data sheets.

**TECHNICAL DATA – TAC VISTA SERVER**

**Ambient Temperature**

Operation . . . . . 16 °C to 32 °C (60.8 °F to 89.6 °F)  
Humidity . . . . . 8–80 % RH non-condensing

**Operating System**

32-bit version of:  
. . . . . Microsoft Windows 7 Professional/Ultimate\*  
. . . . . Microsoft Windows Vista Business/Enterprise/Ultimate\*  
. . . . . Microsoft Windows XP Professional (Service Pack 2–3)\*  
. . . . . Microsoft Windows Server 2008 Standard/Enterprise  
. . . . . Microsoft Windows Server 2003 R2 SP2  
\*) for TAC Vista Servers with a maximum of 10 simultaneous connections.

**SQL Requirements**

. . . . . Microsoft SQL Server 2008 32-bit  
. . . . . Microsoft SQL Server 2000 SP4  
. . . . . Microsoft SQL Server 2005 SP2  
. . . . . (Express, Workgroup, Standard or Enterprise Edition)

**Hardware Requirements**

PC . . . . . Intel Pentium or compatible  
Minimum . . . . . 2 GHz 32-bit (x86)  
Recommended primary memory . . . . . 3 GB  
Minimum primary memory . . . . . 1 GB

**General Requirements**

Graphics . . . . . Super VGA, 1024x768  
Monitor size . . . . . 17" or larger  
Printers . . . . . Any printer supported by Microsoft Windows  
CD ROM . . . . . Yes  
Mouse . . . . . Any mouse supported by Microsoft Windows

**Part Numbers**

Server . . . . . 000882501  
Server – Upgrade . . . . . 000883501  
Server – 1 year subscription . . . . . 000884500  
OPC Client . . . . . 000882511  
OPC Client – Upgrade . . . . . 000883511  
OPC Client – 1 year subscription . . . . . 000884510  
System 7 . . . . . 000882521  
System 7 – Upgrade . . . . . 000883521  
System 7 – 1 year subscription . . . . . 000884520  
LNS Server . . . . . 000882531  
LNS Server – Upgrade . . . . . 000883531  
LNS Server – 1 year subscription . . . . . 000884530

## NETWORKS AND DATABASE

### TAC Vista In Networks

A network TAC Vista system is a peer-to-peer network in which all computers (operator units) are equal and communication is established on demand.

The operator units run TAC Vista Server and/or TAC Vista Workstation applications.

Operator units using only the TAC Vista Workstation application can log in on any remote server, provided it has been granted access to that server.

A maximum of 300 connections may be used between the computers in a TAC Vista system.

The required maximum of 300 connections does not limit the number of computers (operator units). The limiting factor is the number of operator units that can view the databases in other operator units.

#### Example 1

A TAC Vista system containing seventeen computers in which all of the computers can view each other's databases. Each node needs a maximum of 16 connections, which yields  $(17 \times 16) = 272$  connections.

#### Example 2

A TAC Vista system with two computers at a central location and no connected field equipment.

One of the central computers is the master node and must have connections with all other computers in the TAC Vista system.

80 computers control field equipment, but they do not need to communicate with each other.

This requires  $(2 \times 81 + 80) = 242$  connections.

However, it is not possible to exceed the limit by adding another central computer, since that would mean that the number of connections would be

$(2 \times 82 + 80 + 80) = 324$ .

The topology of the network may be that of a bus network, star-shaped network or ring network. Communication may be handled in accordance with protocols supported by Microsoft Windows (such as Ethernet).

Communication between computers in a TAC Vista system is handled via the TCP/IP network protocol.

TAC Vista supports the following types of networks:

- Local networks, LAN (Local Area Network). The computers of an installation are connected to a local network.
- Remote networks, WAN (Wide Area Network). A remote network includes computers in two or more local networks (LAN).
- Remote networks using communication via ISDN (Integrated Services Digital Network), providing short connection times and high communication speeds. By using ISDN routers, several local networks may be connected to a remote network.

### Local Network (LAN)

In a local network, each computer requires a network interface card and the network protocol TCP/IP to be installed and configured.

The authority and security system in TAC Vista has been customized for use in conjunction with the security system in Microsoft Windows.

The TAC Vista system may be run on a Novell network, but the functionality will be limited and the security level will be lower.

TAC Vista Server may be adapted to work with networks using firewalls, for protection from unauthorized access to the network.

### Remote Network (WAN) with ISDN

In order to create a remote network for TAC Vista using ISDN communication, both an ISDN account and an ISDN router are required for each local network of computers to be included.

The ISDN routers are programmed to communicate with each other and connect the local networks to a remote network. The computers and the ISDN routers should have fixed IP addresses assigned in the local networks.

### The TAC Vista Database In Networks

The distributed database of the TAC Vista system is stored on the servers of the TAC Vista system.

The data from the devices in the site is stored on the computer (server) connected to the devices. However, the data can be reached from all the computers on the network of the TAC Vista system, including remote Workstations.

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## TECHNICAL DATA – NETWORK AND DATABASE

### Server-to-Server Network

Communication protocol . . . . . TCP / IP

### Database

ID designation . . . . . 40 characters/level

. . . . . (1,024 characters in total, including delimiters)

Delimiters . . . . . – (dash) , (comma) ; (semicolon)

Number of objects in the database

Number of devices . . . . . 65,000

Number of objects per device . . . . . 32,000

## ALARM HANDLING

TAC Vista offers extensive and easy-to-use alarm handling, including both system events and operator responses.

A change of state can also initiate a message for the operator. Alarms can be generated from binary or analog signals.

The operator defines alarm objects that are linked to signals in the system. Binary signals trip alarms when a change of state occurs. Analog signal values are compared to the high and low limits, and an alarm will be tripped if the value exceeds or falls below the limits.

When alarms are defined, the following applications may be chained to an alarm:

- Graphics
- Reports and diagrams
- Trend charts
- Notepad files

### Alarm Distribution

In order to customize the system for different conditions (for example day or night supervision), TAC Vista supports software from other suppliers. Such software may be used for forwarding alarms to other system devices, including pagers, faxes, GSM telephones, printers and electronic mail.

The complete list of alarms can be printed for further reference.

### Alarm Texts and Attributes

The operator can define a unique alarm text for each alarm, explaining the situation in plain language, what has tripped the alarm and what actions should be taken. It is also possible to define an alarm text for a reset alarm.

Attributes including color changes and buzzer signals can be defined for the alarms.

Acoustic (sound) and optical (visual) sum alarms may be specified according to their priorities. Acoustic sum alarms are tripped each time an alarm is tripped within given priorities. Optical sum alarms are active as long as there is an unacknowledged alarm within the given priorities.

The alarm statistics function can be put to good use for planned maintenance, for example.

### Disabling Alarms

The alarm control also contains a function to disable the alarms. This function is useful when the installation is being repaired, for example, and the maintenance work is expected to trip one or more alarms. Disabled alarms are presented in a separate alarm overview. Alarms may also be disabled by using variables.

### Other Alarm Functions

Priority levels are available for use when alarms are sorted according to urgency.

A time delay can prevent false alarms caused by temporarily high loads or maximum values.

It is possible to control the display of alarms so that the users/groups may view only the alarms that apply to their tasks/fields of responsibility.

The operator may acknowledge any alarm using the mouse or a function key. When an alarm has been acknowledged, the alarm row will change color in the alarm overview on the monitor.

For each alarm object, the operator can

receive statistical information in the form of the time of the most recently tripped alarm and the number of alarms since the last reset.

TAC Vista collects the alarms in an alarm queue. The alarm queue sorts the alarms internally according to whether they have been acknowledged, reset or left unattended; or according to the given priority or time.

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## TECHNICAL DATA – ALARM HANDLING

Number of priority levels for alarms . . . . .	1000
. . . . 0–999 or 0, A–I and 10–999 (0 = information message)	
Alarm text . . . . .	max. 128 characters
Alarm printer . . . . .	Any printer supported by Microsoft Windows
Alarm overview . . . . .	No. of displayed alarms depends on window size

## SECURITY AND AUTHORITY

Security and Authority in TAC Vista may be divided into two parts:

- Security – Authentication of the user through login, when the user enters a user name and a password.
- Authority on the object level – Authority for units/objects in the database of the TAC Vista system.

### Users/Groups

The security and authority system of TAC Vista enables the building of pre-planned and easy-to-use groups of system managers, operators and service personnel.

TAC Vista supports two types of users/groups:

- TAC Vista users and user groups. The following default user profiles are available: USER, FIELD, MANAGER and SYSTEM.
- Users and groups in Microsoft Windows Domain networks. The corresponding users/groups must be created by the system manager in the form of Windows accounts in the TAC Vista system.

### Security Levels

TAC Vista has two levels of security:

- Low level security – In low level security, the user is verified in TAC Vista Server. Low level security is primarily intended for TAC Vista systems not using a Microsoft Windows NT/2003 network, e.g. a Novell network. But it can also be used on a Windows network that does not require that Windows verifies users.
- High level security – In high level security the user is verified by Windows. High level security is intended for TAC Vista systems using a Microsoft Windows NT network.

### Logging In/Password

In order to have access to the system, a user must enter his/her personal user name and password.

- Low level security – Login as a TAC Vista user. The password is authenticated by the TAC Vista Server and stored with encryption.
- High level security – Login as a user in a Microsoft Windows NT network. The login is authenticated by a domain controller in the Microsoft Windows NT network.

### Authority On the Object Level

Authorities for units/objects in the TAC Vista system database work in the same way as the authorities for directories/files in the NTFS file system of Microsoft Windows NT.

The system administrator is able to specify which users/groups are to have access to the directory/file for each directory/file in NTFS, as well as what rights the user/group has to deal with the directory/file.

The settings are stored in an Access Control List (ACL) for each directory/file.

Similarly, there is an ACL for each unit/object in the TAC Vista system database.

The user authority level and the ACL settings for the units/objects determine which units/objects a user has access to and what operations he/she is permitted to perform on the units/objects.

### Access Types

In the ACL of a unit/object, the access and rights are controlled using the following access types:

- No access
- Read (R)
- Read/Write (RW)
- Change (RWXD)
- Full control

### Authority Levels for Users/Groups

Users/groups are assigned one of four possible authority levels by the system administrator:

- User (Read)
- Field (Read/Write)
- Manager (Change)
- System (Full control)

### Other Authority Functions

Signature for object change

It is possible to specify that objects may only be altered after entering a signature and a comment. The signature identifies who made the change and the comment denotes what has been altered. An event in the event log is created, logging the change made.

### Protected Objects

An object can be protected in TAC Vista to prevent the object from either being deleted or having its attributes changed.

**TIME CONTROL, TIME SCHEDULING, TIME SYNCHRONIZATION AND BACKUP**

**Time Control**

TAC Vista contains functions for time control of the installation. These can be used to start and stop different parts of the installation.

Time variables and time charts are used to define the time control of controllers (RPU or TAC Xenta). A time variable in TAC Vista can be tied to one or more time schedules. The time variable is controlled by on and off times in a time schedule.

Using a time event, the operator can define when to start/stop trend logs and periodic printouts.

**Time Variable**

The time variable is a logical variable that can be true or false. It can be forced or controlled by one or more time charts.

**Time Schedules**

TAC Vista has a time object editor to graphically create and edit time schedules.

A time schedule is a time definition used by a time variable. The time schedule defines the on and off times of a time variable. There are two types of time schedules: weekly schedules and alternate schedules.

The weekly schedule specifies the on and off times for each day of the week. The alternate schedule has a higher priority than the weekly schedule and is used for times over and above the normal time schedule. A date interval must be specified for the alternate schedule.

**Holiday Control**

The operator defines which days are holidays. The times and dates are specified for the first and last day of the holiday period.

**I/NET Time Schedules**

The system provides the basic operator capability to modify I/NET time schedules from the TAC Vista Workstation.

**Daylight Saving Time**

The most efficient way to handle daylight saving time in Vista is to use Microsoft Windows time. However, if the operator for some reason does not want to use Microsoft Windows time, the daylight setting may also be manually set in Vista.

**Time, Date, and Day of Week**

It is possible to read and change the time, date and day of the week from the operator station.

**Time Synchronization**

TAC Vista has an advanced function for time synchronization. Synchronization is carried out between the computers and devices, so that all devices use the correct time. TAC Vista also handles systems where the installations are located in several different time zones, with the capability of making any necessary correction for winter and summer time.

**Backup**

Backups of trend logs and events, and of the TAC Vista database are easily done using the Backup function in TAC Vista.

**TECHNICAL DATA – TIME CONTROL**

Number of time definitions . . . See target system documentation

Holiday management . . . . .	Yes
Leap year management . . . . .	Yes
Daylight Saving Time . . . . .	Yes
Date/time format . . . . .	Yes

. . . . . in accordance with the Microsoft Windows settings

**VIDEO SERVER COMMUNICATION**

Video servers from Pelco can be integrated with TAC Vista systems. TCP/IP is used to link the video server and TAC Vista.

Alarms in TAC Vista can initiate recording of video, and alarms generated by the video server can be managed and logged in TAC Vista.

Live and recorded video from video servers linked to TAC Vista Server can be viewed in TAC Vista Workstation.

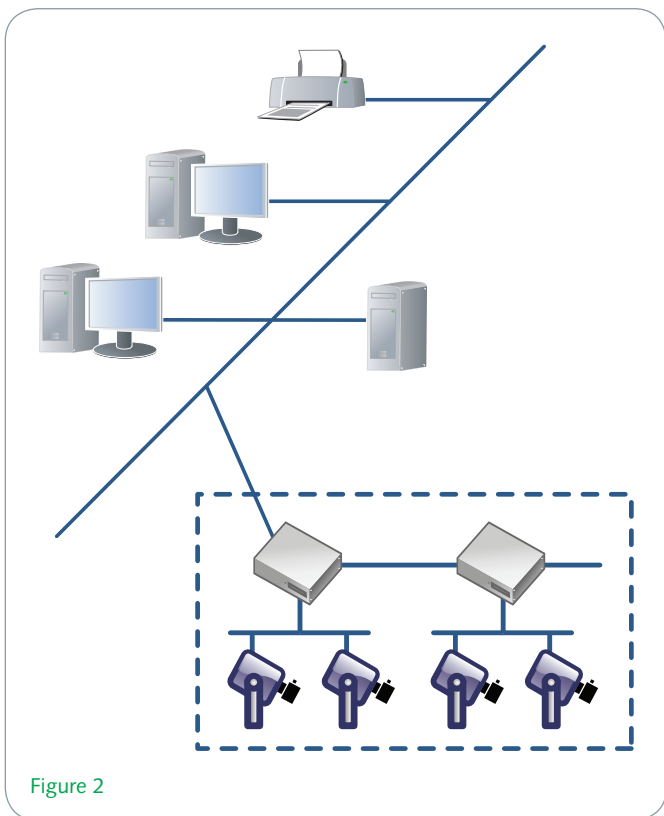


Figure 2

## TREND LOGGING

Trend logging means collecting and storing values during a certain period of specified time in order to process and present them later.

You can log rapid processes over a short period of time, every ten seconds, or slower processes on a daily basis, for instance.

Examples of slower processes include the usage of energy and water as well as degree-days. Rapid processes include the production of domestic hot water, for instance.

Logged values are time-stamped according to the chosen date and time format in Microsoft Windows.

The logged values can be presented in trend charts as well as the TAC Vista Report generator, or in TAC Signature in order to create reports, overviews and diagrams.

### Creating

The points that are logged can be numerical variables (e.g. measured values) or logical variables (e.g. binary input or the time status).

Enter a log point, a controlling event or variable or specify how often the logging is to be done in order to define a trend log.

Collecting the values can be carried out both centrally on the computer (operator unit) and locally in the devices.

Central logging may be done for all types of devices, e.g. TAC Xenta, RPU TAC 67XX, RPU TAC 65XX, RPU TAC 9000, LonWorks devices, Xenta Servers or external devices via OPC or DDE communication.

Local logging may be carried out for:

- Trend logging in TAC Xenta 280, TAC Xenta 300 (hardware version 2 or higher) or in TAC Xenta 401
- Trend logging in RPU TAC 67XX
- Data logging in RPU TAC 65XX or RPU TAC 9000
- Energy logging in RPU TAC 65XX or RPU TAC 9000
- OPC Historical Data Access.

If there is a power outage during logging, the trend logging function will use the most recently logged value as an estimated value when a logged value is missing. Estimated values are labelled in a special way.

### Controlling

The trend log can be activated manually (on/off) or automatically.

During central logging at the operator station, automatic activation may be controlled by the following events: change of state, time event or time event list.

During local logging in RPU TAC 67XX or TAC Xenta, automatic activation may be controlled by a time variable or a logical variable.

During data logging in RPU TAC 65XX or RPU TAC 9000, automatic activation may be controlled by a logical variable.

When logging starts and stops, a message appears in the alarm overview.

### Storage

Logged values may be stored both centrally in the operator unit and locally in the devices.

The storage space is limited by the hard disk space during central logging. It is limited by the storage capacity of the process unit during local logging.

Storage may be circular or non-circular. Using circular logging, the oldest value is overwritten when the log file becomes full.

Using non-circular logging means that logging is terminated when the log file is full. The values are always stored sorted in ascending order, by time.

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## TECHNICAL DATA – TREND LOGGING

Date/time format . . . . . as set in Microsoft Windows

### Logging in the TAC Vista Server PC

Needed space/value . . . . . 85 bytes/stored value, (depending on the SQL database's internal compression) . . . . . 12,000 values per 1 Mbyte disk space

Interval . . . . . 10 seconds to 520 weeks

### Data Logging in RPU TAC 65XX / RPU TAC 9000

Number of trend logs . . . . . 1 to 4

Interval . . . . . 10, 20, 30, 40, 50 seconds, 1 minute or 60 min.

Log space per trend log . . . . . 144 most recent values

### Energy Logging in RPU TAC 65XX / RPU TAC 9000

Number of trend logs . . . . . 1 to 4

### Local Trend Logging in RPU TAC 67XX

Number of trend logs . . . . . 1 to 20

Interval . . . . . 10 seconds to 52 weeks

Total log space . . . . . approx. 4,400 floating point numbers, . . . . . or approx. 4,400 integers, . . . . . or approx. 34,000 binary values

Storage optimization . . . . . Yes

### Local Trend Logging in TAC Xenta

Number of trend logs . . . . . 1 to 50

Interval . . . . . 10 seconds to 530 weeks

Storage optimization . . . . . Yes

#### TAC Xenta 280:

Total log space . . . . . approx. 650 floating point numbers, . . . . . or approx. 1,300 integers, . . . . . or approx. 10,000 binary values

#### TAC Xenta 300:

Total log space . . . . . approx. 4 000 floating point numbers, . . . . . or approx. 8,000 integers, . . . . . or approx. 60,000 binary values

#### TAC Xenta 401:

Total log space . . . . . approx. 7,000 floating point numbers, . . . . . or approx. 15,000 integers, . . . . . or approx. 110,000 binary values

### Local Trend Logging in TAC Xenta Server

Number of trend logs . . . . . 1 to 300

Interval . . . . . min. 10 seconds

Storage optimization . . . . . Yes

Total log space . . . . . approx. 200,000 values

### CENTRAL IPCL

Central IPCL (Interpretive Process Control Language) is used to transfer information between IPCL programs in installations using TAC ZONE II and TAC SYSTEM 7.

Central IPCL offers a central function that facilitates the supervising and transferring of signals and values in the installation.

### SQL DATABASE

TAC Vista Server is delivered with Microsoft SQL Server 2005 Express to store logs and events. SQL Server 2005 Express is installed together with TAC Vista Server and has a maximum capacity of 4 GB.

The SQL database and TAC Vista is normally installed and run on the same computer however it is possible to use an already existing SQL database on another computer. The SQL database can be either a workgroup, standard, or enterprise edition. The communication between Vista and the SQL database is in this case done using IP.

### EVENT LOGGING

#### Event Logging

Event logging is used for the storage of all events occurring in TAC Vista. Logging is performed automatically for all events in TAC Vista.

The type of event that has occurred, its date and time, the current operator unit, the current user, and the object, etc., are all stored.

Event logging makes it possible to track how objects are created/changed/deleted, to track events preceding alarms, logging in and logging out, etc.

Event logging may be stored on a cyclic or non-cyclic basis. There is a function for tripping an alarm in TAC Vista when the log is filled to a certain degree.

#### Logging

Event logging is started automatically by TAC Vista. The following types of events are stored:

- Alarms – Tripped, acknowledged, reset, disabled and blocked
- Object changes – New, changed or deleted objects
- Logging in
- Logging out
- Failed login attempts
- Changes to file objects
- Commands to physical units: Download and Upload
- Configuration command – Import
- Edit trend log value

Logging does not include the TAC Signature program, which has its own event logging.

#### Storage

In TAC Workstation the user sets the preferred storage time using the Event log dialog. A back up can be made using the event object or manually.

### XENTA SERVER COMMUNICATION

TAC Vista Server includes Xenta Server communication for transferring signals and information between TAC Xenta Server devices on a TCP/IP network and the TAC Vista building management system.

Any signals, alarms, time schedules, web pages, graphics, trend logs and event logs configured in the TAC XBuilder project are available in TAC Vista. TAC XBuilder is integrated with TAC Vista.

### TECHNICAL DATA – XENTA SERVER COMMUNICATION

Xenta models. . . TAC Xenta 511/527/555  
 . . . . . TAC Xenta 701/711/721/731  
 . . . . . TAC Xenta 913  
 Xenta Servers per Vista Server . . . . 1000  
 Performance . . . . . 100 events/sec.\*

\*) On Windows XP Professional, Intel Pentium 4 2.8 GHz, 1 GB RAM

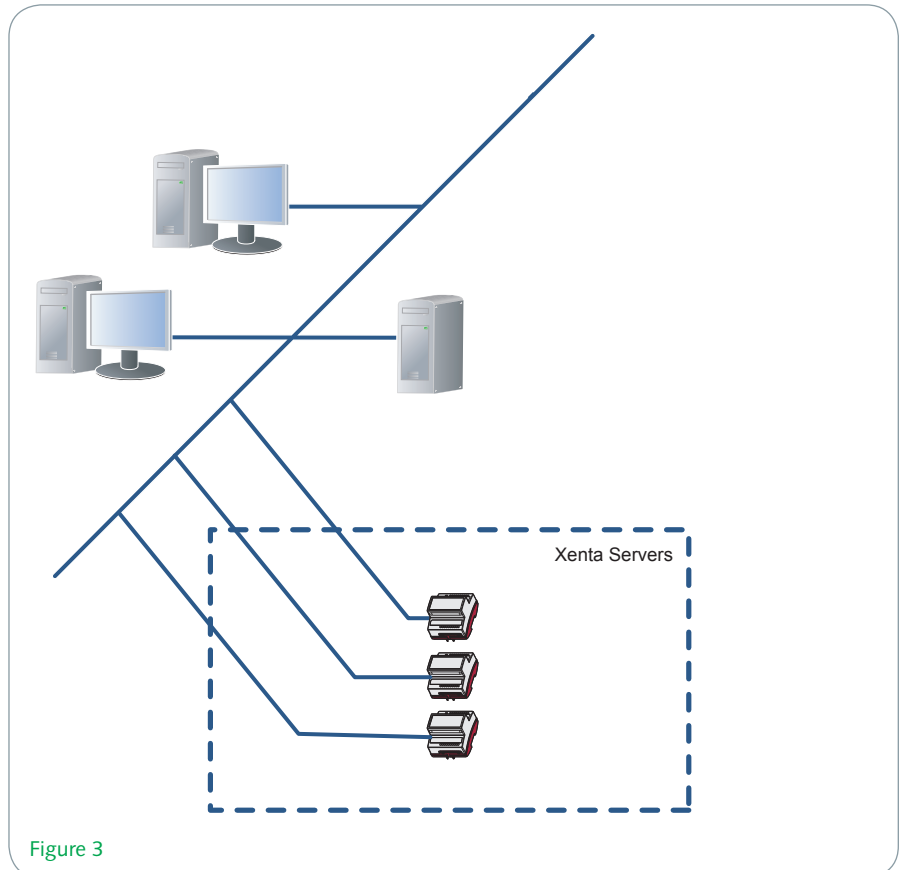


Figure 3

## LONWORKS COMMUNICATION

TAC Vista Server includes LonWorks communication for transferring signals and information between TAC Xenta devices in a LonWorks network and the TAC Vista building management system.

The LonWorks communication for TAC Vista Server also supports communication with all types of devices which comply with the LonWorks standard from Echelon Corporation and communicate via SNVTs. LonWorks is an open networks technology created by the Echelon Corporation, making it possible for devices made by different manufacturers to communicate on the same network.

### Communication

LonWorks conveys all information in the site field devices to and from the computer, for example:

- Alarms
- Values
- Messages
- Time synchronization
- Local trend logging

LonWorks supports direct as well as dial-up communication.

In a direct communication system, TAC Vista is connected to a LonWorks network via a LonTalk Adapter (LTA) or a TAC Xenta Server, which transforms/interprets signals between the computer and the LonWorks network.

### SNVT (Standard Network Variable Type)

LonWorks communication for TAC Vista Server supports the communication of Standard Network Variable Types (SNVTs) between devices in a LonWorks network and TAC Vista.

For TAC Vista to communicate with a device in a LonWorks network, an interface file is needed, that is, an external Interface File (\*.XIF), for each type of device.

The interface file defines the network variables that can be communicated from/to the device and is used in TAC Vista for defining communication with the unit.

The TAC Xenta devices comply with LonMark standards.

- For the TAC Xenta 100 series, \*.XIF files can be ordered from TAC.
- For the TAC Xenta 280, TAC Xenta 300 and the TAC Xenta 400, the \*.XIF file is defined for the application program for each unit, using the programming tool TAC Menta.

For each application program, TAC Menta creates an (\*.XIF) file, containing the variables that are SNVTs.

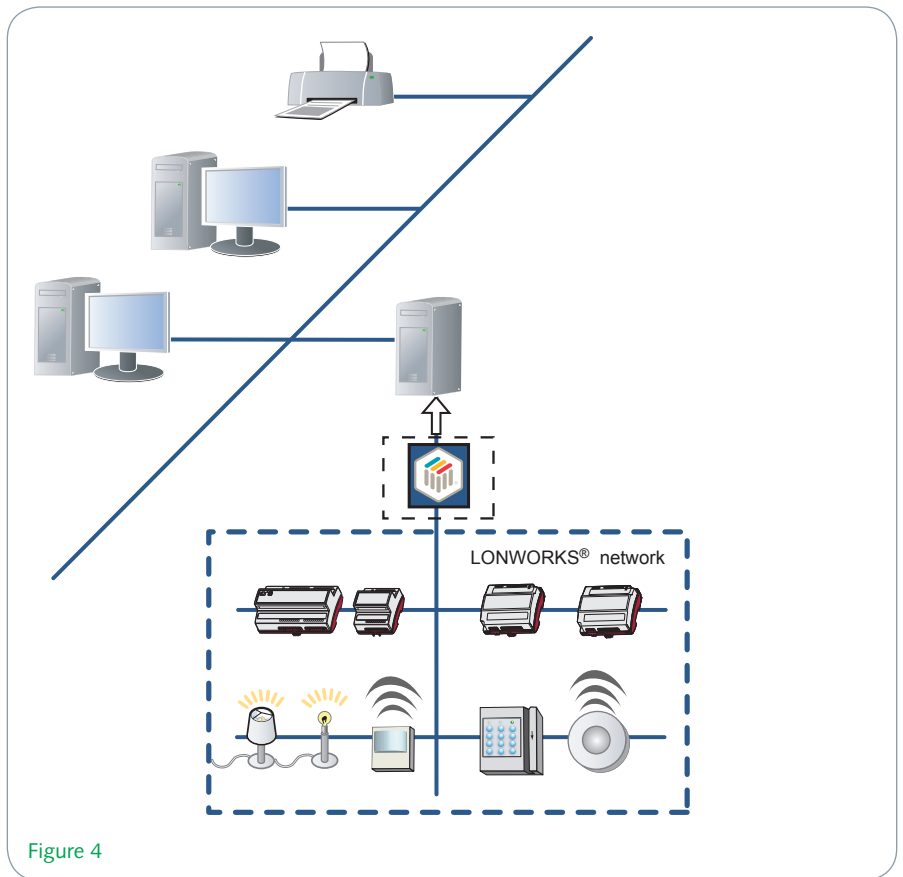


Figure 4

**LONWORKS COMMUNICATION  
(CONTD.)**

Dial-up communication for TAC Xenta devices can be initiated both from the computer and from the TAC Xenta device. The two versions are:

- TAC Xenta LTA network modem providing dial-up communication. Provides the same features as the direct communication module, but at a lower transmission speed.
- TAC Xenta PP network modem providing support for a point-to-point network consisting of one TAC Xenta 300/400 unit.

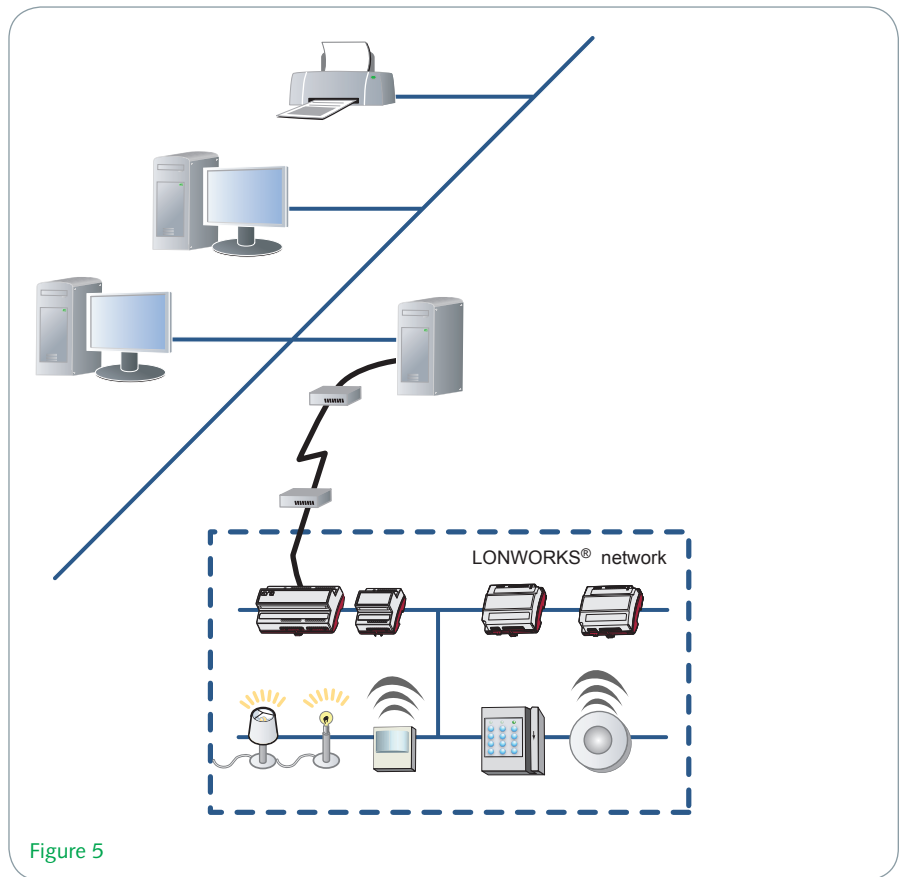


Figure 5

**LONWORKS COMMUNICATION  
(CONTD.)**

The TAC Xenta Server and the TAC Xenta 911 can be used to connect TAC Vista to the LonWorks network.

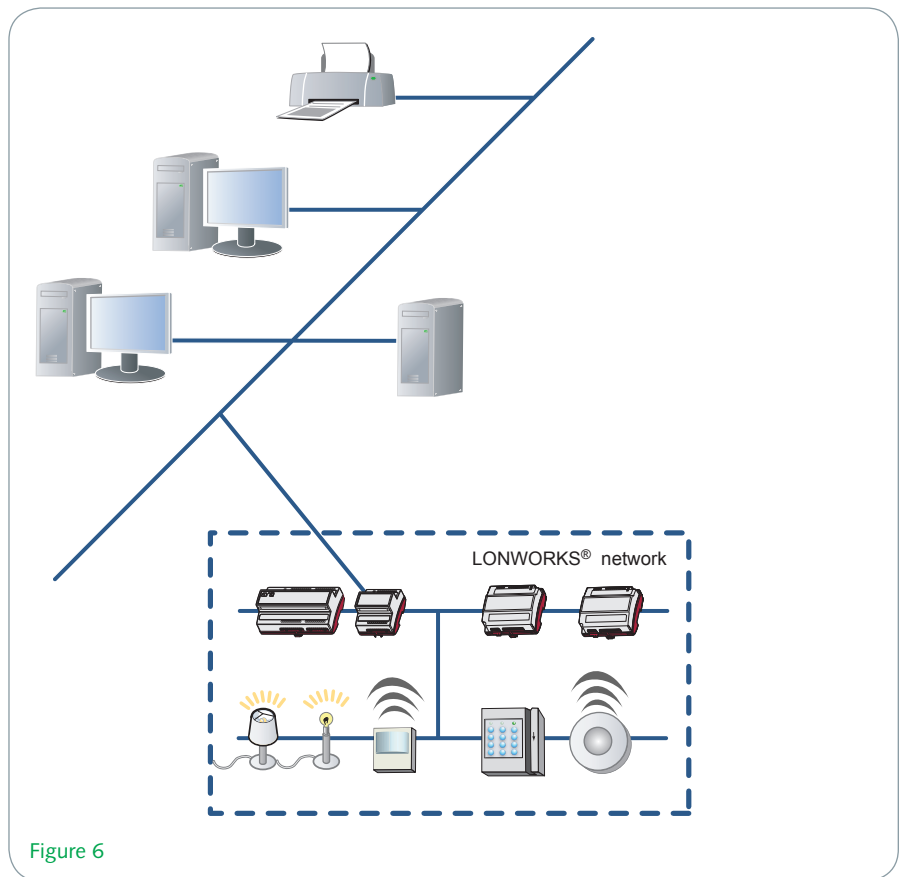


Figure 6

## TECHNICAL DATA – LONWORKS COMMUNICATION

### Computer

Communication port  
 Interface. . . . . RS232  
 Maximum number of COM ports. . . . . 99  
 Communication using several communication ports:  
 The PC must be equipped with multiple serial ports (RS-232).

### LonTalk Adapter

TAC Vista currently supports the following LonTalk Adapters models:

- PCLTA
- PCLTA-10
- PCLTA-20
- PCC-10
- i.LON 1000
- NIC709-PCI
- NIC709-USB
- NIC709-USB100
- NIC709-IP
- NIC852
- TAC Xenta 511
- TAC Xenta 527
- TAC Xenta 555
- TAC Xenta 701
- TAC Xenta 711
- TAC Xenta 72
- TAC Xenta 731
- TAC Xenta 911
- TAC Xenta 913

	FT 10	TP 1250	RS 485	IP 852 Ethernet
NIC709-PCI	X	X	N/A	N/A
NIC709- USB	X	X	N/A	N/A
NIC709-USB100	X	X	N/A	N/A
NIC709-IP	X	X	N/A	N/A
NIC852	N/A	N/A	N/A	X

The PC LonTalk Adapter is an expansion board which can be fitted to the computer occupying one network driver address (for example, PCLTA:<no>, PCCLON<no> or TACLON<no>). The number of LonTalk Adapters that can be connected to a computer is limited by the number of IRQs available in the computer.

### Directly Connected Systems

The two types of systems supporting direct communication are:

1. LonWorks network, without SNVT communication
  - TAC Xenta models . . . . . TAC Xenta 280/300/400
  - LonWorks networks per LonTalk Adapter . . . . . 1
  - TAC Xenta groups per LonWorks network . . . . . 1 to 30
  - TAC Xenta base devices per TAC Xenta group . . . . . 1 to 30
  - Max. 400 TAC Xenta base devices per LonWorks network
2. LonWorks network, with SNVT communication support
  - TAC Xenta models . . . . . TAC Xenta 100/280/300/400
  - LonWorks devices . . . . . All models supporting standard SNVT communication
  - LonWorks network per LonTalk Adapter . . . . . 1
  - LonWorks groups per network . . . . . 1 to 50
  - LonWorks units per LonWorks group . . . . . 1 to 64
  - Devices using SNVT comm. . . . . max. 1,000

Loytec Orion communication stack:

- Prior to version 3.2. . . . . up to 8 MNI
- Version 3.2 and higher . . . . . up to 32 MNI

### Dialup Systems

Three types of systems for dialup communication:

1. TAC Xenta LTA network, without SNVT support
  - TAC Xenta 901 per LonWorks network . . . . . 1
  - Transmission speed, TAC Xenta 901 – LonWorks network . . . . . 9,600 bps
  - TAC Xenta groups per LonWorks network . . . . . 1 to 30
  - TAC Xenta base devices per TAC Xenta group . . . . . 1 to 30
  - Max. 30 TAC Xenta base devices per LonWorks network
2. TAC Xenta LTA-network, with SNVT support
  - Interface file for SNVT communication . . . . . \*.XIF (eXternal Interface File)
  - TAC Xenta models . . . . . TAC Xenta 100/280/300/400
  - LonWorks devices . . . . . LonWorks devices which support SNVT communication
  - LonWorks networks using SNVT communication
  - LonWorks network per LonTalk Adapter . . . . . 1
  - LonWorks groups per network . . . . . 1 to 50
  - LonWorks devices per LonWorks group . . . . . 1 to 64
  - Units using SNVT communication . . . . . max. 120
3. TAC Xenta PP network, without SNVT support
  - TAC Xenta 300/400 per TAC Xenta PP network . . . . . 1
  - Transmission speed. . . . . 9,600 bps

## TECHNICAL DATA – SNVT

SNVT (Standard Network Variable Type) means standard network variables which are communicated to and from units in a LonWorks network.

TAC Vista supports the following Standard Network Variable Types:

SNVT\_address  
SNVT\_alarm  
SNVT\_alarm\_2  
SNVT\_amp  
SNVT\_amp\_f  
SNVT\_amp\_mil  
SNVT\_angle  
SNVT\_angle\_deg  
SNVT\_angle\_f  
SNVT\_angle\_vel  
SNVT\_angle\_vel\_f  
SNVT\_area  
SNVT\_btu\_f  
SNVT\_btu\_kilo  
SNVT\_btu\_mega  
SNVT\_char\_ascii  
SNVT\_chlr\_status  
SNVT\_config\_src  
SNVT\_count  
SNVT\_count\_f  
SNVT\_count\_inc  
SNVT\_count\_inc\_f  
SNVT\_currency  
SNVT\_date\_day  
SNVT\_defr\_mode  
SNVT\_defr\_state  
SNVT\_defr\_term  
SNVT\_density  
SNVT\_density\_f  
SNVT\_dev\_c\_mode  
SNVT\_dev\_fault  
SNVT\_dev\_maint  
SNVT\_dev\_status,  
SNVT\_elapsed\_tm  
SNVT\_elec\_kwh  
SNVT\_elec\_whr  
SNVT\_elec\_whr\_f  
SNVT\_ent\_opmode  
SNVT\_ent\_state  
SNVT\_evap\_state  
SNVT\_fire\_indcte  
SNVT\_fire\_init  
SNVT\_fire\_test  
SNVT\_flow  
SNVT\_flow\_f  
SNVT\_flow\_mil  
SNVT\_flow\_p  
SNVT\_freq\_f  
SNVT\_freq\_hz  
SNVT\_freq\_kilohz  
SNVT\_freq\_milhz

SNVT\_grammage  
SNVT\_grammage\_f  
SNVT\_hvac\_emerg  
SNVT\_hvac\_mode  
SNVT\_hvac\_overid  
SNVT\_hvac\_status  
SNVT\_length  
SNVT\_length\_f  
SNVT\_length\_kilo  
SNVT\_length\_micr  
SNVT\_length\_mil  
SNVT\_lev\_cont  
SNVT\_lev\_cont\_f  
SNVT\_lev\_disc  
SNVT\_lev\_percent  
SNVT\_lux  
SNVT\_magcard  
SNVT\_mass  
SNVT\_mass\_f  
SNVT\_mass\_kilo  
SNVT\_mass\_mega  
SNVT\_mass\_mil  
SNVT\_muldiv  
SNVT\_multiplier  
SNVT\_obj\_request  
SNVT\_obj\_status  
SNVT\_occupancy  
SNVT\_override  
SNVT\_ph  
SNVT\_ph\_f  
SNVT\_power  
SNVT\_power\_f  
SNVT\_power\_kilo  
SNVT\_ppm  
SNVT\_ppm\_f  
SNVT\_preset  
SNVT\_press  
SNVT\_press\_f  
SNVT\_press\_p  
SNVT\_pwr\_fact  
SNVT\_pwr\_fact\_f  
SNVT\_reg\_val  
SNVT\_reg\_val\_ts  
SNVT\_res  
SNVT\_res\_f  
SNVT\_res\_kilo  
SNVT\_rpm  
SNVT\_scene  
SNVT\_scene\_cfg  
SNVT\_setting  
SNVT\_smo\_obscur  
SNVT\_sound\_db  
SNVT\_sound\_db\_f  
SNVT\_speed  
SNVT\_speed\_f  
SNVT\_speed\_mil  
SNVT\_state  
SNVT\_state\_64  
SNVT\_str\_asc  
SNVT\_str\_int

SNVT\_switch  
SNVT\_telcom  
SNVT\_temp  
SNVT\_temp\_f  
SNVT\_temp\_p  
SNVT\_temp\_ror  
SNVT\_temp\_setpt  
SNVT\_therm\_mode  
SNVT\_time\_f  
SNVT\_time\_hour  
SNVT\_time\_min  
SNVT\_time\_sec  
SNVT\_time\_stamp  
SNVT\_tod\_event  
SNVT\_vol  
SNVT\_vol\_f  
SNVT\_vol\_kilo  
SNVT\_vol\_mil  
SNVT\_volt  
SNVT\_volt\_dbmv  
SNVT\_volt\_f  
SNVT\_volt\_kilo  
SNVT\_volt\_mil  
SNVT\_zerospan

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