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GENESIS32

Getting Started

Version 9.1

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1 GENESIS32 ARCHITECTURE

1.1 Introduction

Welcome to ICONICS GENESIS32™, a powerful SCADA (Supervisory Control and Data Acquisition) and HMI (Human-Machine Interface) tool that takes maximum advantage of all key features of Microsoft® Windows® operating systems. GENESIS32 provides the most open, scalable, easy-to-use and extensible solutions for most industrial automation and manufacturing applications. This *Getting Started* manual explains how you can:

- Install the GENESIS32 software.
- Authorize a GENESIS32 software license.
- Navigate the Gen32 Demo.
- Use the GENESIS32 quick start tutorials to create a simple project with graphics, trends, and alarms.
- Access online help and technical support.

Note: This manual is an abbreviated version of the full *GENESIS32 Getting Started* Help documentation, which is available on the GENESIS32 Product DVD in both PDF and help file formats.

1.2 What Is OPC?

OPC is a standards-based approach for connecting data sources (e.g., PLCs, controllers, I/O devices, databases, etc.) with HMI client applications (graphics, trending, alarming, etc.). Originally the acronym stood for OLE for Process Control; but more recently the term has been phased out in favor of Data Access Specification or altered to indicate that OPC stands for “openness”, “productivity”, and “communications.”

OPC enhances the interface between client and server applications by providing a universally supported and well-documented mechanism to communicate data from a data

source to any client application. Included are not only a detailed guide on how to pass the data, but also specific information on other attributes to supplement those data, such as range information, data type, quality flags, and date and time information. **Figure 1.1** shows the OPC Architecture, which was introduced by the OPC Foundation. By following the OPC Architecture, a device needs only one standard driver, which is an OPC-compliant server. All OPC-compliant client applications can then be connected to that device, either locally or over a network. Furthermore, connections can be made to more than one OPC server at the same time.

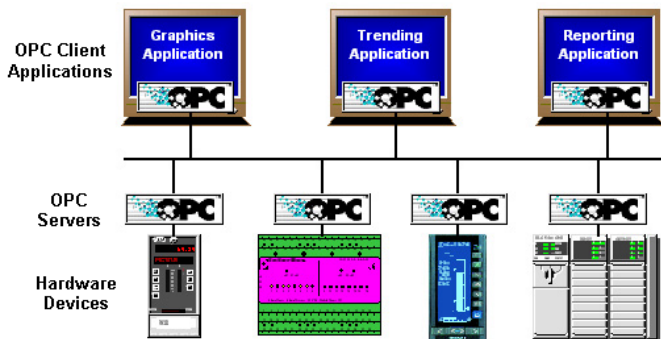


Figure 1.1. OPC-Based Client-Server Architecture

Any OPC client application can connect to any OPC server. In other words, OPC offers true Plug-and-Play capability in the fields of HMI and industrial automation. OPC server types include OPC Data Access (DA), OPC Alarm and Events (AE), and OPC Historical Data Access (HDA).

1.3 What Is GENESIS32?

ICONICS offers the following stand-alone OPC client applications for graphics, data collection and trending, alarming, and scheduling:

- **GraphWorX™32:** OPC visualization and HMI product with extensive Symbol Library
- **TrendWorX™32:** OPC real-time trending and data historian
- **AlarmWorX™32:** OPC alarm summary viewing, logging and reporting
- **ScheduleWorX™32:** Schedule the automatic downloading of OPC values

Each of these client applications is an ActiveX® container featuring Internet/intranet-ready object technology and offering Microsoft's powerful Visual Basic® for Applications (VBA) technology.

GENESIS32 Automation Suite™ is a collection of these software components that provides a complete solution for HMI/SCADA software applications. In addition to the above four main modules, GENESIS32 includes the following applications:

- **ProjectWorX™32:** Management, collaboration and deployment of GENESIS32 projects
- **DataWorX™32:** OPC data bridging, OPC aggregation, OPC tunneling, and OPC redundancy
- **ScriptWorX™:** Centralized periodic and event scripting with multi-threading VBA
- **TraceWorX™32:** XML-based audit trail diagnostics and debugging utility
- **VCRWorX™32:** Graphical and visualization playback of historical alarms and data
- **WebHMI™:** Web-based real-time automation and visualization software
- **AlarmWorX32 Multimedia™:** Multimedia OPC alarm management software
- **Unified Data Manager:** Enables the centralized management of commonly used expressions, value

sets, tag groups, alarm subscriptions, alarm filters, recipes, and event triggers across GENESIS32 products as well as other ICONICS products

- **OPC Servers:** Various OPC servers commonly used with GENESIS32

Many other important tools and utilities are also installed with GENESIS32, including Screen Manager, OPC DataSpy™, GenBroker™, GenTray™, MonitorWorX™, Security Server, Unified Data Browser, Expression Editor, Global Aliasing Configurator, Language Aliasing Configurator, Data Mining Configurator, and SNMP Configurator.

Figure 1.2 illustrates how these components fit together within the OPC automation architecture. For more information about ICONICS products, please visit the ICONICS Web site at www.iconics.com.

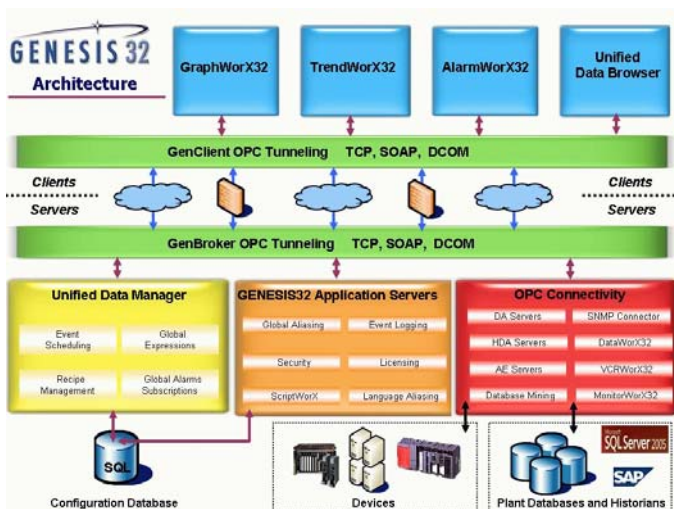


Figure 1.2. GENESIS32 Architecture

GraphWorX32 is a stand-alone OPC client software package for Human Machine Interface, providing a rich set of tools for creating animated graphics. This is where the visualization of the process is created for the operator interface. GraphWorX32 combines drawing, operating procedures, quality reporting, and management directly into your operator displays using your choice of ActiveX Controls and Visual Basic for Applications (VBA) scripting language. For additional information about GraphWorX32, please see the Help documentation for this application.

TrendWorX32 is a stand-alone OPC client software package for collecting real-time data, logging data to a database, trending both real-time and historical data, while providing a powerful set of reporting and analysis tools. TrendWorX32 offers an open solution to applications requiring scalable and distributed real-time performance using the latest OPC HDA specification for creating Plug and Play historical data servers and clients. For additional information about TrendWorX32, please see the Help documentation for this application.

AlarmWorX32 is a stand-alone OPC client software package for distributed enterprise-wide alarm and events. It is a complete alarm management system. You can network enterprise-wide alarm management for detecting, sorting, filtering, viewing, reporting, and acknowledging OPC server alarms and events. For additional information about the AlarmWorX32, please see the Help documentation for this application.

ScheduleWorX32 is a program for scheduling OPC events. It can be used as a stand alone program, or inside other containers such as GraphWorX32. Schedules are based on periods such as weeks, but allow for holidays, priority rankings, exceptions, and more. Schedules and the events they monitor or control are visible within the applications calendar interface.

ScriptWorX is a powerful stand-alone application that allows the creation and management of Visual Basic for Applications (VBA) scripts. ScriptWorX's unique multi-tasking, multi-processor environment allows multiple scripts

to run concurrently. User-defined VBA scripts can perform OPC read-and-write operations to any OPC server, which interfaces to factory floor devices such as PLCs and other OPC-compliant servers. ScriptWorX simultaneously performs calculations, manages databases, and executes any operation available in the VBA language to access reports or perform recipe operations. ScriptWorX32 also offers project-level scripting as part of GENESIS32. For additional information about the ScriptWorX, please see the Help documentation for this application.

GENESIS32 contains numerous applications with multiple components, requiring a well-trained user in order to successfully create, integrate, deploy, and manage projects. Each of these components requires complex setup of many different types of configuration files, databases, and OPC servers, as well as runtime and security settings. To simplify the management and deployment of the broad spectrum of GENESIS32 applications,

ProjectWorX32 integrates all GENESIS32 applications into a single, easy-to-manage format. The ProjectWorX32 user interface is basically a container embedded in the Microsoft Management Console (MMC). The ProjectWorX32 console conveniently consolidates all of your GENESIS32 files in one easily accessible location, enabling you to:

- Organize all GENESIS32 application files into separate projects.
- Create new GENESIS32 application files and OPC server configurations.
- Import application files into projects.
- Start and stop GENESIS32 applications
- Pack project files into a single, compressed file, and unpack project files for easy deployment to multiple computers.
- Activate entire projects into runtime mode.
- Control the layout of windows using the Screen Manager.
- Configure security settings to password-protect projects.
- Back up project files to Microsoft Visual SourceSafe.

- Search for and replace machine names and OPC tags throughout all project files using a global find/replace utility.
- Publish projects to the Web.
- Control and monitor runtime functions for all applications using GenTray.
- Launch GENESIS32 system tools
- Generate comprehensive reports for all files and projects.
- Import and manage third-party applications. (Note: For information about adding third-party applications to ProjectWorX32, please contact info@iconics.com.)

For additional information about ProjectWorX32, please see the Help documentation for this application.

VCRWorX32 is a powerful tool in GENESIS32 that enables the replay and reanimation of graphical, historical and alarm data. Features of VCRWorX replay include:

- Replay of OPC data Reanimation of graphics Re-plotting of trends Replay of alarms.
- See what the operator saw through replay of graphical displays VCRWorX Control Panel with customizable skins/layouts
- Change the replay speed Specify time and date ranges for data replay.
- Search for key events, tags, and expressions
- Customize the layout and appearance using skins

For additional information about VCRWorX32, please see the Help documentation for this application

Data Mining enables visualization of data from various data sources, such as a Microsoft Access database, in a customizable, user-friendly display format that enables users to interact with and manipulate the data. The Data Mining Configurator establishes connections with data sources that can be mined from GENESIS32 applications, such as GraphWorX32, where users can visualize data. Key features of data mining include:

- Brings database access to any OPC client.

- Supports many data sources, including Microsoft Access, Microsoft SQL Server, Microsoft Excel, MSDE, SAP, and Oracle.
- Easy-to use dataset support inc
- Brings database access to any OPC client.
- Supports many data sources, including Microsoft Access, Microsoft SQL Server, Microsoft Excel, MSDE, SAP, and Oracle.
- Easy-to use dataset support includes database table access (single field read or write, column read or write, row read or write, and two-dimensional array read or write) as well as simple SQL commands.
- Data manipulators enable access to database stored procedures and execution of complex SQL commands.
- Database Connection Wizard.
- Database object browser.
- Support for aliasing (one data tag can access multiple database fields).
- Data Mining (grid) ActiveX control.
- Data Mining Configurator.
- Integration of data-mining configuration into Unified Data Browser.

For additional information about Data Mining, please see the Help documentation for this application.

Screen Manager is a utility for managing the layout of the displays used for the operator interface. The Screen Manager supports configuration not only for a single computer monitor, but also for a multiple-monitor system, allowing definitions of various layouts to fill the screen(s). The Screen Manger not only supports the GENESIS32 application documents, but third-party documents as well (e.g., placement of a CAD drawing or a Microsoft Word document). For additional information about the Screen Manager, please see the Help documentation for this application.

OPC DataSpy is a utility for connecting to OPC servers, serving as a test application and also as a convenient tool for viewing OPC information. It can test OPC Data Access-

compliance, as well as OPC Alarm and Events compliance. The analysis tools provided aid in quickly trouble-shooting third-party drivers. For additional information about OPC DataSpy, please see the Help documentation for this application

GenBroker DCOM is the method of communication for GENESIS32. There are, however, certain disadvantages to using DCOM. To overcome DCOM timeout problems, for example, it was necessary to eliminate Windows callbacks and reduce the number of different function calls over Windows DCOM communications. DCOM's major disadvantages are:

- Its complex settings often make its configuration ineffective when the client is remote.
- It does not work well across NT domains
- Its connection over slow and unreliable networks (e.g., the Internet) is practically impossible.
- It is not easy to configure to pass through firewalls

In response to these difficulties, ICONICS has enhanced GENESIS32 with **GenBroker**, a proven, high-speed communications utility. Employing a network of applications, GenBroker uses TCP/IP and SOAP/XML channels to achieve real-time and secure communications between Web browser clients and WebHMI servers. Everything except the method of communication remains the same as before. For additional information about GenBroker, please see the Help documentation for this application.

Security Server manages access rights to users and groups of users within the GENESIS32 suite of applications. A configuration tool permits creating custom groups and assigning individuals to those groups (users can be assigned to more than one group). Various product features can then be restricted, based on who is logged into the computer during **Runtime**.

Configures such items as:

- Basic, advanced, and NT-integrated security modes.
- Alarm access restrictions
- File access restrictions
- OPC point/tag write permissions

- Time logon permitted
- Login station control User-defined security Password and user/group account management (maximum age, length, etc).
- Account lockout.
- Auto logout after timeout for high-level users.
- Access to development mode
- Task switching Windows access.
- Online configuration

Several individual features and functions offered by the various client applications within GENESIS32. For example, it restricts user access to printing, reports, zooming, menu commands, screen switching, trend view manipulations, alarm acknowledgment, and much more.

For additional information about the Security Server, please see the Help documentation for this application.

WebHMI provides OPC and visualization information from any ICONICS GENESIS32 OPC-based product to any computer running Microsoft Internet Explorer. Based completely on Microsoft DNA architecture, WebHMI uses ActiveX and DCOM technology to provide Web-based visualization. Integrate your HMI application with traditional Web browsers to perform remote and low-cost monitoring of key manufacturing information. WebHMI not only allows the viewing of display information but also provides for security, data entry, and real-time interaction with your application. WebHMI allows you to view over the Internet or intranet traditional operator real-time displays with animation, live data trends, reports and alarms. For additional information about WebHMI, please see the Help documentation for this application.

DataWorX32 is a 32-bit, multithreaded, OPC-compliant client and server application providing multiple functionality. DataWorX32 is a component of the GENESIS32 product family, and it serves as a project-level data system for GENESIS32 applications. Acting as a bridge between various OPC servers, DataWorX32 provides different OPC data channels. Once multiple I/O channels are established between PCs, DataWorX32 will switch between a primary

PC (node) and a backup PC on the network. Should the primary PC be disabled, DataWorX32 will automatically (should the options be specified) default to the backup PC and vice versa. Another feature of DataWorX32 is the use of global variables that are accessible from multiple clients. DataWorX32 is offered in two license versions

DataWorX32 Standard Edition with OPC Tunneling

DataWorX32 Professional Edition with Redundancy for mission-critical applications

DataWorX32 Standard Edition offered as a stand-alone installation on the GENESIS32 Options CD, features:

- OPC Tunneling.

This connects any remote OPC server to a client in a robust and secure manner, allowing for OPC server real-time data to be redirected to more than one location

The easy-to-use graphical configuration interface allows for a centralized place to manage all remote connections. redirected to more than one location.

Offered in the **DataWorX32 Professional Edition** is the new DataWorX32 full-featured redundancy, which provides high availability similar to features found in large Distributed Control Systems. DataWorX32 Redundancy is the only product to support the three most important OPC standards, increasing the reliability and availability of OPC data by allowing multiple OPC servers to be configured into redundant pairs. These redundant OPC server pairs seamlessly appear as a single OPC server to any OPC client application. This feature can be added to an existing OPC server/client application, without any reconfiguration of those applications, keeping your processes going without any down time. **DataWorX32 Professional Edition** is installed as part of the full GENESIS32 Automation Suite installation.

For additional information about DataWorX32, please see the Help documentation for this application.

AlarmWorX32 Multimedia is an option of AlarmWorX32 that provides OPC-compliant multimedia technology for remote alarm notification. Various multimedia "agents" are provided, including:

- **Telephony Agents:** The **Call-out Agent** calls a defined number and gives a message with options to respond. The **Call-in Agent** enables callers to dial in by phone to get alarm information and browse for OPC Data Access tags. The **PA Agent** uses a public address (PA) system device to announce alarms and events over a loudspeaker.
- **Pager Agent:** Delivers alarms not only to numeric pagers, but also to alphanumeric and even two-way pagers. Use the templates provided out-of-the-box, or configure your own message formats to send the information you need to the handy remote devices. Supports not only the TAP paging protocol standard, but also the newer SMS paging services for universal worldwide support.
- **Video Agent:** Plays a prerecorded video or a video captured at the moment of the alarm, allowing you to use a video device to send a video or a snapshot to a computer providing alarm information
- **E-mail Agent:** Allows you to receive and acknowledge alarms using standard e-mail messages. You can configure e-mail attachments, send screen snapshots, data files, or other files. You can also send a reply back to the alarm system and acknowledge alarms via e-mail. Includes simple MAPI support (supports non-Microsoft e-mail clients), support for Microsoft Outlook, and support for SMTP (for outgoing mail only), which could eliminate the need for an e-mail client.
- **Skype** is an Internet telephony software that offers telephone calling and text messaging over the Internet. The Skype Agent delivers instant text messages to any Skype account. If you do not have a Skype account, you can sign up for a free account at www.skype.com

- **Marquee Agents:** The **Software Marquee Agent** sends alarm and event messages to a marquee that scrolls across the screen of a PC, either local or on the network. The **Hardware Marquee Agent** sends alarm and event messages to external scrolling marquees, and includes support for multiple (LAN-based) devices.
- **Sound / Text-to-Speech Agent:** Plays prerecorded sounds and/or speech from text locally or remotely over a network. The sound message is specified in the sound template, where you can select a sound (.wav) file from the Sound Library or enter a text message to be converted to speech. Alarms are generated and spoken through speakers connected to a sound card.
- **Fax Agent:** Sends alarm notifications using a fax machine. The template determines the actual message that gets faxed to the number specified, and includes an optional cover page design that can be used for all faxed messages.
- **Popup Agent:** Launches an application of your choice (e.g. Internet Explorer) to provide alarm messages and allows you to open and execute a file on a computer. For example, you can configure a Popup Agent to open Microsoft Internet Explorer and display alarm information within your Web browser so that an HTML Web page appears on your screen whenever a critical problem occurs.
- **Task Tray Agent:** Delivers a pop-up message to the Windows taskbar notification area, allowing instant alarm notification no matter what the operator is doing.
- **Custom Agent:** Enables you to create your own Multimedia agent. You can create a customized executable file by specifying parameters that the Multimedia Server will use to call the Custom Agent's interface.

For additional information about AlarmWorX32 Multimedia, please see the Help documentation for this application.

Symbol Library. GraphWorX32 supports the use of smart symbols in displays. Smart symbols contain data-

point connections. If you load a smart symbol into your display in animation mode, the symbol begins displaying data immediately based on that data-point connection. GraphWorX32 uses two different modes for the Symbol Library:

- Standard stand-alone Symbol Library
- Dockable symbol toolbar

For additional information about the Symbol Library, please see the Help documentation for this application

Unified Data Manager enables the centralized management of commonly used expressions, value sets, tag groups, alarm subscriptions, alarm filters, recipes, and event triggers across GENESIS32 products as well as other ICONICS products. From an easy-to-use interface you can create libraries of reusable expressions, value sets, recipes and other functions. The Unified Data manager provides time-saving, on-the-fly selections and modifications of commonly used functions, saving integration and applications development time.

The **Unified Data Manager** provides a convenient, single Configurator interface that enables you to set up the following different types of data sources:

- Expressions
- Groups
- Value sets
- Recipes
- Event triggers
- Alarm subscriptions
- Alarm filters

Once you have configured your data tags, they can be accessed from many applications via the Unified Data Browser. For additional information about the Unified Data Manager, please see the Help documentation for this application.

SNMP Configurator. Today's factory automation systems must integrate information from different infrastructures reliably and in real-time. To assist with integration, GENESIS32 enables users to integrate OPC,

SNMP (Simple Network Management Protocol), and databases with real-time data mining. ICONICS' native SNMP network management and analysis capability was specifically developed for the industrial controls marketplace to seamlessly integrate monitoring and analysis of a wide variety of managed and unmanaged Ethernet devices into all ICONICS products.

For additional information about the SNMP Configurator, please see the Help documentation for this application.

Recipe Management System The ICONICS Recipe Management System consists of the following components:

The Front End

- Tree Explorer ActiveX: Allows you to browse for and visualize recipes within GraphWorX32.
- Recipe ActiveX: Allows you to visualize and edit recipe item values within GraphWorX32.

Recipe Pick Action: Enables you to create buttons in your GraphWorX32 display that allow you to apply changes made to recipe items via the Tree Explorer ActiveX and the Recipe ActiveX. Changes that you make to the recipe values can be applied to the Recipe Server, the active recipe configuration, and the connected OPC server.

The Back End

- Unified Data Manager: Use the Unified Data Manager configurator to create and activate your recipe configuration.
- OPC Servers: Recipe parameter values are associated with OPC tags, which enable the connected OPC servers to communicate with the Recipe Server and to relay recipe values to the PLC device in the end-user application.
- Recipe Server: Communicates and relays recipe data between the Unified Data Manager configuration database, the Tree Explorer ActiveX, the Recipe ActiveX, and the OPC server to which the recipes are connected.

For more information about the ICONICS Recipe Management System, please see the GraphWorX32 help documentation.

2 INSTALLATION AND REQUIREMENTS

2.1 System Requirements

GENESIS32 has the following system requirements.

Supported Operating Systems

- Windows Vista x32 or x64
- Windows Server 2003 x64
- Windows Server 2003 R2
- Windows Server 2003 SP2
- Windows Server 2003 SP1
- Windows Server 2003
- Windows XP Professional x64
- Windows XP Professional SP2
- Windows XP Professional SP1
- Windows 2000 SP4
- Windows 2000 Server SP4

Minimum Requirements

- 1.0 GHz Processor (CPU)
- 512 MB Physical Memory (RAM)
- 2.0 GB Hard Disk space available
- DVD optical drive

- SVGA Video Card; 256 or more colors for best results
- A mouse or other compatible pointing device
- Microsoft-compatible keyboard
- Microsoft Internet Explorer 6.0 or higher

Optional Hardware

- Ethernet adapter (for remote PC connections or Ethernet I/O)
- 3.5-inch floppy drive (for license transfer)
- Parallel printer port (for hardware license)
- USB port (for hardware license or license transfer)
- Serial COM ports or other adapters (for data I/O)

Recommended Requirements

Requirements described above are based on typical applications. Depending on your specific application, the minimum requirements may vary. In order to recommend specific system requirements, we must break the systems up into three categories based on tag count and running applications. In all systems we recommend that the virtual memory allotment be two times the amount of physical memory (RAM) on the system. For the systems below, we are assuming that the OPC server(s) are installed locally on the system and that the following ICONICS components are all running and using the tag count specified per classification: AlarmWorX32 Server, AlarmWorX32 Logger, TrendWorX32 Logger, and GraphWorX32 with AlarmWorX32 Viewer and TrendWorX32 Viewer.

Smaller Systems – 500 or fewer tags

- 1.0 GHz Processor (CPU) or more
- 512 MB Physical Memory (RAM)
- 2 GB Hard Disk space available

Medium-Sized Systems – Between 500 and 3000 tags

- 2.0 GHz Processor (CPU) or more
- 1.0 GB Physical Memory (RAM)
- 4 GB Hard Disk space available

Larger Systems – More than 3000 tags

- 3.0 GHz Processor (CPU) or more
- 2.0 GB Physical Memory (RAM)
- 10 GB Hard Disk space available

Requirement Notes

Specific hardware requirements depend on the size and complexity of your ICONICS GENESIS32 implementation. With any application, faster CPU speeds and increased physical memory (RAM) result in better performance.

* Supports dual-core and hyper-threaded systems.

** The actual amount of space required may decrease if help and example files are not installed. Requirements for logging data, alarms and screen storage are above this minimum. Virtual memory requires at least twice the amount of the physical RAM.

2.2 Installing GENESIS32

The following steps detail the GENESIS32 system installation. For complete information with installation screens, please see the *Getting Started* Help documentation on the GENESIS32 product DVD.

Note: If your operating system requires a login name, you must log in with administrator capability before installing GENESIS32 software. To run the GENESIS32 applications, you must be logged into the operating system with an account that is a member of the "Administrators" group or the "Power Users" group.

1. Before installing ICONICS software, be sure that all other applications are closed and/or disabled.
2. Insert the GENESIS32 product DVD into your DVD-ROM drive. If "Autorun" is enabled on your system, the DVD introduction starts automatically. Otherwise, browse to your DVD-ROM drive and run the "RunMe.bat" file.
3. During the installation, the system will look for a prior installation of the ICONICS License Utility. If a previous installation of the License Utility is detected, an update is required. If your PC is currently licensed, a temporary GENESIS32 9.1 license with the current configuration can be immediately granted for a 30-day temporary period. All current options and licensing information will be retained for 30 days.
4. Click on the **GENESIS32** link in the Product Installation section of the main menu.

If you are using a Vista or Windows Server 2008 system you will be prompted by the User Account Control system to give permission. Click **Continue** to continue.

5. The **GENESIS32** installation starts and displays a **Welcome** screen. Click the **Next** button to continue.
6. The **Customer Information** dialog box appears. Enter your **User Name** and company name; click the **Next** button to continue the installation.
7. On the **Choose Destination** screen either accept the default location or browse to and specify an alternate location for the installation files; then click **Next**.
8. The **Setup Type** dialog box appears. Select the type of setup (i.e. typical, compact, or custom) you prefer for the software installation. Click **Next** to continue.
9. The **Installation Type** dialog box appears. Here are two additional options available for an installation.
 - **Browser Station Installation.** Use this on a networked PC that ties into another GENESIS32

system. A "Browser Station," which cannot connect to a local OPC server (on the same system), must connect to a remote machine. For a typical installation, this option should NOT be checked. A Browser Station (or GenBrowser) gets its license from a remote node that is licensed for GenBrowser workstations. All data I/O needs to be from remote servers, except DataWorX32 data where the origination point of the data is remote, but the DataWorX32 installation is local.

- **GraphWorX32 Runtime Only.** This option creates an installation whereby GraphWorX32 cannot enter **Configuration** mode. For a typical installation, this should NOT be selected. Click the **Next** button.
10. On the Start Copying Files screen you are offered the option Run ICONICS Application Setup Utility (recommended), which is the default. This utility sets the DCOM permissions of ICONICS applications and services to run under a user specific account. Click **Next** to continue the installation.
 11. If Application Setup Utility runs it will post a dialog box where you can **choose or create a user**. If you click cancel then the AppSetup Utility aborts. Enter your information and click **OK**.
 12. Click the **Finish** button to complete the installation.

Note: Installation automatically installs VBA.

2.3 SupportWorX

ICONICS strives to provide excellence in products and technical support. Having our customers use the latest product versions and updates is an important part of this process. With an ICONICS SupportWorX plan, you will receive the benefits of access to our technical support applications engineers, product updates, application notes, to our knowledge database, and much more. If you are not enrolled in an ICONICS SupportWorX plan, please contact your ICONICS authorized representative for information.

For more information about SupportWorX, go to:

<http://www.ICONICS.com/SupportWorX>.

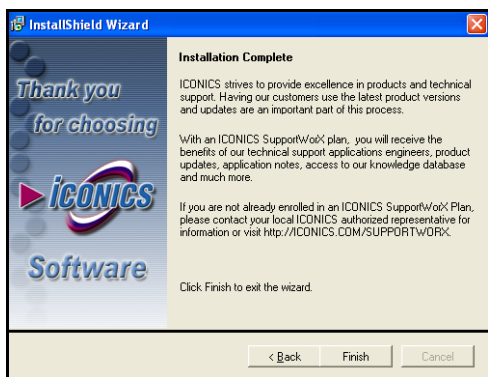


Figure 2.1. ICONICS SupportWorX program

2.4 Uninstalling GENESIS32

The GENESIS32 software can be uninstalled (removed) from the system. It is recommended that you back up all your project-related files before uninstalling. If your operating system requires a login, you need to log in with administrator capability to uninstall. Uninstalling GENESIS32 Software (or its components) will *not* uninstall the Licensing software. Your valid license will remain activated on your PC.

To uninstall GENESIS32:

1. Click **Start > Control Panel > Settings**.
2. Double-click on **Add/Remove Programs**.
3. From the list of programs that you can remove, select **ICONICS GENESIS32**.
4. Click on **Change/Remove** to remove GENESIS32 and all of its components.

5. Select **Remove**, and then click the **Next** button. When the files are removed, the uninstall program will indicate that the process is complete.

3 **ICONICS SOFTWARE LICENSING**

3.1 Introduction

ICONICS software products use a software-based licensing scheme. An activated license is required to use the software in full production mode. This license designates which products may be used, as well as the I/O point-count limit used in the system. This document explains the concepts of the software licensing and shows how to install and activate the license. For complete information about licensing, please refer to the ICONICS Software Licensing Help documentation on the GENESIS32 product DVD.

Note: GENESIS32 version 5.x, 6.x, 7.x, 8.x, and 9.x software licenses must be upgraded to work with GENESIS32 version 9.1 or subsequent versions of GENESIS32.

Note: If you wish to upgrade your ICONICS Software License for versions 8.x or 9.x, simply install the new version over the existing version. It is NOT necessary to uninstall the old version before installing the new version. The version 9.x licensing installation allows for a conversion of existing version 8.x licenses to a version 9.1 temporary 30 day license. During the 30 day temporary licensing period you will need to obtain and install a permanent license. Version 9.0x licenses do not need to be upgraded.

To install 9.1 on a system with versions 7.x and earlier requires uninstallation of the previous version first. After you install 9.1 you will have a temporary 30-day license.

Two changes have been to GENESIS32 9.1 licensing. The licensing server can now run on all 64-bit Windows operation systems. Additionally a new hardware licensing key is available from ICONICS.

3.2 Tag Count Architecture

ICONICS offers an open, scalable, modular and flexible HMI/SCADA system with a unique tag count architecture.

The ICONICS tag count architecture provides the maximum features and capability at a minimum cost when licensing GENESIS32 and other ICONICS automation products. The tag count architecture was designed to count only active OPC "in-use" or "runtime" tags for product licensing. It does not count "configured" or "calculated" tags in its licensing calculations. Since the tag database is defined in the specified OPC servers, ICONICS aggregates these tags references into various modules of GENESIS32. The tag count starts only during the runtime operation of the system on a unique tag count basis. The following points summarize the tag count architecture:

- Only active OPC tags are counted.
- The same tags used in multiple modules are counted only once.
- Expression and calculation results are not counted as tags.
- Local variables are not counted as tags.
- A license monitor utility (MonitorWorX) shows the actual tag usage and availability of total tags.

3.3 Free Development

There are two distinct modes of operation within the ICONICS software modules: **Configuration** and **Runtime**.

Configuration is the product's capability to let you configure the system—to create graphic displays in GraphWorX32, for example, define which data to log in TrendWorX32, and configure which OPC points to monitor for alarming in AlarmWorX32, etc. Many refer to Configuration mode as "Development" mode, since the entire project is designed and developed in this mode. Configuration mode in GENESIS32 does not require an installed software license. You may develop your system on any machine.

In **Runtime** mode, modules communicate with the actual I/O (Input/Output), talk to network nodes, and animate the documents made by using Configuration mode.

Note: A fully functioning runtime system requires a license.

3.4 Free Demo Mode Runtime

Without a valid license installed in your PC, it is still possible to enter Runtime mode (described above). The software will check for a valid software license key on initialization. If none is found, GENESIS32 runs in Demo mode. It has the following limitations:

- It will only permit Runtime mode for two hours.
- Only 32 OPC tag connections (points) will be updated.

Running past the two-hour limit generates a message stating that the demo time has been exceeded. You must then exit the application. Upon restart, you will get another two-hour block of time in which to run. If there are more than 32 tags on a particular screen, gray stars (or whatever is configured as the **Point Failure** character) will appear in place of the actual I/O data.

If you intend to run in **Demo** mode, skip to Chapter 4.

3.5 Installing ICONICS Software Licensing

You must install and run ICONICS Software Licensing before you can run GENESIS32 software in non-demo mode. By installing the ICONICS 9.1 License Utility, you will no longer be able to run the 5.x, 6.x, 7.x, or 8.x versions of GENESIS32. If you have an existing Site Key for version 5.x, 6.x, 7.x, or 8.x a temporary 30 day license will be authorized for GENESIS32 9.1. In order to proceed with the License Utility installation, you must acknowledge that you have read the version compatibility notice displayed in the installation screens.

Note: The version 9.1 licensing installation allows for a conversion of existing version 8.x licenses to version 9.1 for a temporary 30 day period. Version 9.0x licenses do not require an upgrade. To install 9.1 on version 7 and earlier, uninstall those versions first.

Note: Set the System Date and Time properly before installing the Software License Utility. Setting the time and/or date by more than an hour after the installation will affect any time-limited Licenses (such as the Temporary 30-day Activation).

Note: If your operating system requires a login name, you must log in with administrator capability before installing ICONICS Software Licensing.

If you are installing Licensing as a continuation of the GENESIS32 installation covered in the previous chapter, skip to step 5 below. For complete installation screens, please see the *Getting Started* Help on the product DVD.

1. Before installing ICONICS software, be sure that all other applications are closed and/or disabled.
2. Insert the GENESIS32 product DVD into the DVD drive.
3. You will see the DVD introduction and the main menu. (If "Autorun" is enabled on your system, the DVD introduction starts automatically. Otherwise, browse to your DVD drive and run the "RunMe.bat" file.)
4. Select **Launch Licensing Installation** from the software selection menu.
5. The Software License installation starts and displays a **Welcome** screen. Click the **Next** button to continue.
6. The **License Agreement** dialog box appears. Select **I accept the terms of the license agreement**. Click **Next**.
7. The **Customer Information** dialog box appears. Enter your **User Name** and company name. We recommend that you select to install the application for **Anyone who uses this computer (all users)**. Click **Next**.
8. Choose the destination directory for the installation. This defaults to `\Program Files\ICONICS\SoftLic`. If you want to install the License Utility in a different

directory, click **Browse**. Click the **Next** button to continue.

9. A notice appears, stating that the 30-day temporary license must be activated to provide a Site Code in order to obtain a valid Site Key. Select **Yes** and click **Next**.
10. Click the **Install** button to proceed with the installation.
11. Click the **Finish** button to exit the installation wizard. You may be asked to restart your computer before running the ICONICS License Utility.

Note: You must now run the License Utility and register your software license in order to use GENESIS32 or any of its components, as described below.

3.6 Temporary Authorization of GENESIS32 System

The ICONICS Software License Utility provides full authorization to any of the purchased GENESIS32 products and its available options. To launch the License Utility from the Windows **Start** menu, select **Programs > ICONICS Software Licensing > License Utility**.

A dialog box will open informing you that GENESIS32 is not authorized. You must first activate a temporary software license. Once you have activated the temporary license, you will then be able to register your permanent software license. This allows you to use ICONICS products immediately for up to 30 days. Click **OK** to proceed with the authorization.

If you are running the License Utility for the first time before authorizing, **Temporary License Authorization** appears, (**Figure 3.1**). The temporary licensing is a one-time license and is for a period of 30 days. This can be used for product evaluation and trial purposes. To execute the temporary license, click **Yes**. To transfer a license to the PC, click **No**. To continue to run in demonstration mode, click **Exit**.

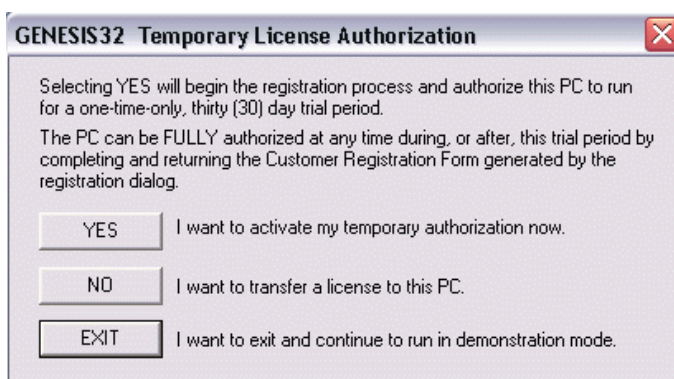


Figure 3.1. Temporary License Authorization

Note: If you are upgrading a previous version of the License Utility and already have a GENESIS32 5.x, 6.x, 7.x, or 8.x license, selecting YES will convert the GENESIS32 5.x, 6.x, 7.x, or 8.x license to a temporary 30-day V9.1 license of the same configuration.

The License Utility opens as shown in **Figure 3.2**. To register for a license, select **Register for a License** from the **Actions** menu in the License Utility, and then follow the instructions provided. You can also register for a license online by visiting the ICONICS Web site at <http://www.ICONICS.com/SupportWorX>.

Please refer to the ICONICS Software Licensing or *Getting Started* Help documentation on the GENESIS32 product DVD for details about registering, authorizing, transferring, or terminating an ICONICS software license.

Note: Uninstalling GENESIS32 software (or its components) will *not* uninstall the ICONICS Licensing software. Your valid software license will remain activated on your PC.

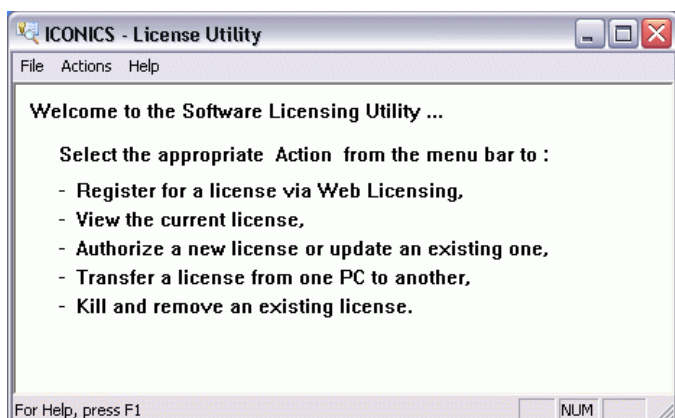


Figure 3.2. License Utility Screen

4 GEN32 DEMO

4.1 Introduction

The Gen32 Demo is a set of GraphWorX32 (.gdf) display files installed with your system to help you learn and test your new software. The Gen32 Demo contains the following:

- Online Product Tutorial
- Technology Training
- Corporate Information
- Project Examples
- Other Miscellaneous Files

Although this chapter only gives a quick overview of this demo, you are strongly encouraged to explore all of the files contained within the project. By switching to **Configure** mode in GraphWorX32, you can explore how the display was created and the dynamics and connections used.

Note: For complete information about the Gen32 Demo with additional screens, please see the *Getting Started* Help documentation on the GENESIS32 product DVD.

4.2 Starting the Gen32 Demo

Look in the `ICONICS\GENESIS32\Examples\Gen32Demo` directory (your default working directory) for Gen Demo. Gen32 Demo uses GraphWorX32, the HMI graphics software module of GENESIS32, as the "engine" for giving the presentations. To launch the Gen32 Demo:

From the Windows **Start** menu, select **Programs > ICONICS GENESIS32 > Gen32Demo**.

This will open the Gen32 Demo home page (**Home.gdf**) display file in GraphWorX32 in **Runtime** mode, as shown in **Figure 4.1**.



Figure 4.1. Gen32 Demo Home Page

4.3 Navigating the Gen32 Demo

The main navigation tools in the Gen32 Demo are contained within the border. Each button is explained below. Clicking on the **ICONICS** logo, shown in **Figure 4.2**, takes you to a series of screens that provide information about ICONICS.



Figure 4.2. ICONICS Logo

There are two forward-pointing arrow buttons with subtle differences in the way they operate, as shown in **Figure 4.3**. Use the **Small Forward Arrow** as a **Display Forward** button, working much like the forward button in Microsoft® Internet Explorer. Use the **Large Forward Arrow** to browse forward through the defined demo sequence.



Figure 4.3. Forward Arrow Buttons

There are also two backward-pointing arrow buttons with subtle differences in the way they operate, as shown in **Figure 4.4**. Use the **Large Backward Arrow** as a **Display Back** button, working much like the **Backward** button in Microsoft Internet Explorer. Use the **Small Backward Arrow** to browse backwards through the demo sequence.



Figure 4.4. Backward Arrow Buttons

Note: If you are simply going through the demo screens in sequence without jumping around, then both of these buttons operate in a similar fashion.

Clicking on the **Home** button, shown in **Figure 4.5**, takes you back to the start of the demo sequence (the **Home.gdf** display) from wherever you may be in the demo sequence.



Figure 4.5. Home Button

Clicking on the **List** button, shown in **Figure 4.6**, allows you to jump to any display used in the demo sequence. You can also use it to change which presentation sequence the Gen32 Demo will use.



Figure 4.6. List Button

When you first click on the **Home** button, it will open a **Demo Screen Sequence List** showing all the files in the current sequence being used by the Gen32 Demo. Select which file you wish to go to from the list, and then click the **Open** button (or simply double-click on the file name).

Clicking on the **Select a Different Presentation Sequence** button opens a dialog asking which other presentation you wish to use. Additional details on these, and on creating your own, can be found in the **ReadMe** file that comes with the Gen32 Demo.

Clicking on the **Industry Examples** button, shown in **Figure 4.7**, takes you to a series of example screens. Additional details are provided in the *Getting Started* Help documentation on the GENESIS32 product DVD.



Figure 4.7. Industry Examples Button

Clicking on the **Learning Center** button, shown in **Figure 4.8**, takes you to the **Tutorial** section of the Gen32 Demo.



Figure 4.8. Learning Center Button

Clicking on the **Help** button, as shown in **Figure 4.9**, opens a pop-up menu with links to the **Gen32 Demo Help Screen**, as well as the GENESIS32 *Getting Started* Help documentation and the GENESIS32 product help files.



Figure 4.9. Help Button

5 GENESIS32 QUICK START

5.1 Introduction

The *Getting Started* Help documentation on the GENESIS32 product DVD provides the following "quick start" tutorials to help you get started with your GENESIS32 projects:

- OPC Simulator Quick Start
- GraphWorX32 Quick Start
- TrendWorX32 Quick Start
- AlarmWorX32 Quick Start

This chapter only provides a brief overview of these tutorials. To follow along step-by-step with the full versions of the quick starts, please see the *GENESIS32 Getting Started* Help documentation on the GENESIS32 product DVD.

5.2 OPC Simulator Quick Start

GENESIS32 "Plugs and Plays" with the powerful open communication architecture of OPC (OLE for Process Control). An overview of OPC can be found in **Chapter 1**.

Since there are hundreds of OPC servers available, each with variations on the steps for using their configuration tools, it is not possible to provide exact details for the specific server you will use for your project. Instead, the **OPC Simulator Quick Start** provides a step-by-step guide for creating OPC tags using the ICONICS Simulator OPC Server. The Simulator OPC Server should already be installed on your machine in conjunction with GENESIS32. If it is not on your machine, you may install it from the GENESIS32 DVD.

Although you will ultimately use the actual OPC server connected to your real I/O, you should still complete the steps presented in the OPC Simulator Quick Start. To follow along with these steps, please see the *GENESIS32 Getting*

Started Help documentation on the GENESIS32 product DVD.

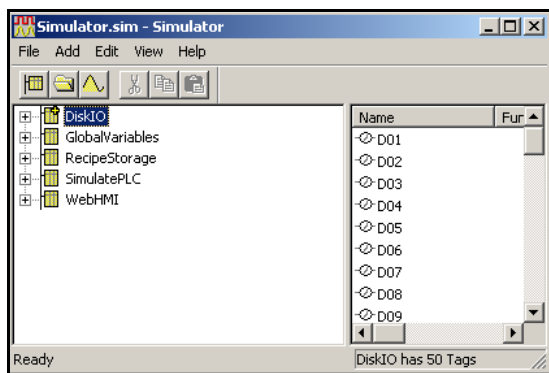


Figure 5.1. OPC Simulator Configurator

To launch the ICONICS Simulator OPC Server from the Windows **Start** menu: Select **Programs > ICONICS Tools > Simulator OPC Server**. This opens the configuration screen for the OPC Simulator, as shown in **Figure 5.1**. Note that there are definitions already created for this server. Various portions of the Gen32 Demo use these tags. As such, you should leave these configurations intact so the various examples used in the Gen32 Demo will function properly.

The names in the left pane of the window (e.g. **Disk IO**, **Global Variables**, **Recipe Storage**, **Simulate PLC**) represent simulated "devices." In the real world, "devices" could mean "Programmable Logic Controllers (PLCs)," "I/O Boards," or "Sensor Networks," etc. The first step, then, is to create your own simulated device to hook up to the simulated network of I/O. The OPC Simulator Quick Start walks you through the following:

- Starting a new OPC Simulator project
- Creating a simulated device
- Creating groups

- Creating tags

5.3 GraphWorX32 Quick Start

The **GraphWorX32 Quick Start** serves as a "mini-tutorial" for GraphWorX32, the HMI module in GENESIS32. There are dozens of tools with hundreds of parameters and combinations to create powerful graphics. The intent of the quick start is not to go through every combination and permutation, but to walk through a few fundamental concepts sufficient enough to get a project started.

The TrendWorX32 Quick Start and the AlarmWorX32 Quick Start also build on the example screen developed in the GraphWorX32 Quick Start, showing how to add live trending of data and alarm information. To follow along with the steps in the GraphWorX32 Quick Start, please see the *GENESIS32 Getting Started* Help documentation on the GENESIS32 product DVD.

Note: For additional information on using GraphWorX32, please refer to the Gen32 Demo tutorials (see Chapter 4) or the GraphWorX32 Help documentation available on the GENESIS32 product DVD.

The Gen32 Demo provides an example GraphWorX32 display that serves as a starting point for the GraphWorX32 Quick Start. This GraphWorX32 display file, called **QuickStartWalkThru.gdf**, is installed in the *Program Files\ICONICS\GENESIS32\Examples\Gen32Demo* directory. To start the project:

1. Launch GraphWorX32 from the Windows **Start** menu by selecting **Programs > ICONICS GENESIS32 > GraphWorX32 > GraphWorX32**.
2. In GraphWorX32, select **Open** from the **File** menu.
3. Browse to the *ICONICS\GENESIS32\Examples\Gen32Demo* directory and open the file called **QuickStartWalkThru.gdf**.
4. The display, shown in **Figure 5.2**, already has the **Gen32 Demo** template applied (the top and left border

with the navigation buttons, etc.), as well as a number of objects already configured.

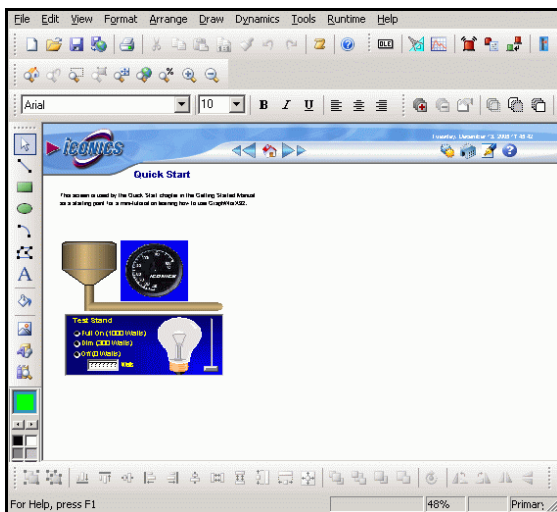


Figure 5.2. GraphWorX32 Quick Start Example Display

You will modify the display to show live values coming from the Simulator OPC Server, using the tags created in the OPC Simulator Quick Start. The GraphWorX32 Quick Start walks you through the steps for configuring the dynamics for this display, including:

- Process points
- Runtime mode
- Location dynamic
- Rotation dynamic
- Color dynamic
- Writing values to OPC tags

5.4 TrendWorX32 Quick Start

TrendWorX32 is the Data Logging and Trending module in GENESIS32. There are actually several components that make up this software package:

- SQL Data Logger
- Data Logging Configurator
- Persistent (Background) Trending
- Trend Viewer ActiveX for Live and Historical Trending
- Database Reporting Tools

Within each of these components are dozens of tools with hundreds of parameters and combinations to satisfy a wide range of applications. The intent of the quick start is not to go through every combination and permutation, but to walk through enough fundamental concepts of the TrendWorX32 Viewer ActiveX to get a project started.

Note: For additional information on using TrendWorX32, please refer to the Gen32 Demo tutorials (see Chapter 4) or the TrendWorX32 Help documentation available on the GENESIS32 product DVD.

The **TrendWorX32 Quick Start** builds on the **QuickStartWalkThru.gdf** GraphWorX32 display developed in the GraphWorX32 Quick Start, showing how to add live trending of data to that display. To follow along with the steps in the TrendWorX32 Quick Start, please see the *GENESIS32 Getting Started* Help documentation on the GENESIS32 product DVD. To start the project:

1. If it is not already running in GraphWorX32, open the **QuickStartWalkThru.gdf**.



Figure 5.3. Inserting a TrendWorX32 Viewer ActiveX

2. The TrendWorX32 component for plotting live and historical data graphically on the screen is actually an ActiveX component. It is therefore available not only within the TrendWorX32 container application, but in any ActiveX container. In GraphWorX32, insert the TrendWorX32 Viewer ActiveX into the display by clicking on the **TWXView32** button on the **ActiveX** toolbar, as shown in **Figure 5.3**.
3. A trend window is placed on the screen, as shown in **Figure 5.4**. Shrink it down and move it to fill in the right hand section of the screen, as shown in Figure 5.4. It is easiest first to move it so the lower right corner is at the desired location, and then simply use the upper left resize handle to position the opposite corner.

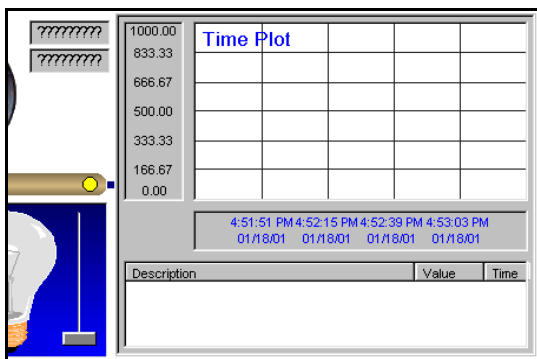


Figure 5.4. Placement of the Trend Viewer ActiveX

The TrendWorX32 Quick Start walks you through the steps for configuring the trend viewer for this display, including:

- Dragging and dropping data sources
- Manipulating trends during runtime
- Configuring the trend viewer properties

5.5 AlarmWorX32 Quick Start

AlarmWorX32 is the alarm monitoring, logging, and reporting module in GENESIS32. There are several components that make up this software package. Within each of these are dozens of tools with hundreds of parameters and combinations to satisfy a wide range of applications:

- Alarm Server Configurator: Creates alarm definitions
- Alarm Server: Main engine for monitoring alarms
- Alarm Logger Configurator: Defines which alarms get logged to a database and/or printer
- Alarm Logger: Print and log to a database
- Alarm Container: Provides a container for the Alarm Viewer ActiveX (helpful for stand-alone applications)
- Alarm Viewer ActiveX: Plug-in that shows live alarms
- Alarm Report ActiveX: Plug-in that shows historical alarm information from the logged database
- Alarm Indicator ActiveX: Monitors alarm activity from virtually anywhere on your computer display
- AlarmWorX32 Multimedia (optional): Plug-ins for enunciating alarms using multimedia "agents," including pager, telephony, e-mail, fax, marquees, text messaging, and task tray

Note: For information about AlarmWorX32, refer to the Gen32 Demo tutorials (Chapter 4) or AlarmWorX32 Help on the GENESIS32 product DVD.



Figure 5.5. Inserting an AlarmWorX32 Viewer ActiveX

AlarmWorX32 Quick Start builds on **QuickStartWalk-Thru.gdf** from the GraphWorX32 Quick Start, adding a live

alarm viewer to that display. To follow along with the AlarmWorX32 Quick Start, refer to *GENESIS32 Getting Started* Help on the DVD. To start the project:

1. If it is not already running in GraphWorX32, open the **QuickStartWalkThru.gdf**.
2. The AlarmWorX32 component for showing live active alarms in a table is actually an ActiveX component. It is therefore available not only within the AlarmWorX32 container application, but in any ActiveX container. In GraphWorX32, insert the AlarmWorX32 Viewer ActiveX into the display by clicking on the **AWXView32** button on the **ActiveX** toolbar, as shown in **Figure 5.5**.
3. An alarm window is placed on the screen. Move it and resize it to fill up the bottom section of the screen, as shown in **Figure 5.6**. **Save** the display file.

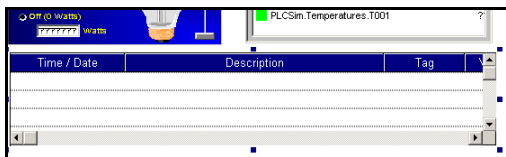


Figure 5.6. Placement of the Alarm Viewer ActiveX

The AlarmWorX32 Quick Start walks you through the steps for configuring the alarm viewer for this display, including:

- Creating an alarm view
- Alarm viewer runtime operation
- Configuring the alarm viewer properties
- Configuring an alarm tag

5.6 ScheduleWorX32 Quick Start

ScheduleWorX is a scheduling management program to control many of industries' needs for scheduling automation, such as controlling building lights, HVAC, machine operation time, and many others.

ScheduleWorX and UDM operate under the same single configuration file. Unlike other modules of Genesis32 that uses separate configuration file, ScheduleWorX will store all of its schedules, valuesets, and holiday information in the same configuration file that is used by UDM. With this in mind, when you open ScheduleWorX, any configuration that is currently active in UDM will be loaded automatically.

A schedule is where you put in your events. By assigning valueset to a schedule, you will be able to modify each valueset's behavior for a specified events. You can create weekly recurring schedule, exceptions, and holiday events.

To create a schedule:

1. To launch ScheduleWorX click Start > Programs > ICONICS Genesis32 > ScheduleWorX > **ScheduleWorX**
2. To create a new schedule right click on the Schedule in the tree-control, and select **New > Schedule**.
3. Enter your **events**, and **save** the file.

6 GENESIS32 UTILITIES

6.1 Introduction

In addition to the core products of GraphWorX32, TrendWorX32, and AlarmWorX32, many other important tools and utilities are also installed with GENESIS32. This chapter briefly introduces some of these utilities. For more information, please refer to the Help documentation on the GENESIS32 product DVD.

6.2 Security Server

The ICONICS **Security Server** provides a variety of options for restricting operator actions during runtime, including:

- Which points they can write to (change value).
- Which files they can open.
- Time sheets for defining when they can log in.
- Password management.
- Workstation access for logging in.
- Client application action restrictions.

For additional information, refer to the Security Server Help documentation on the GENESIS32 product DVD.

6.3 MonitorWorX

The **MonitorWorX Viewer** is a tool that provides graphical monitoring and a centralized diagnostics area for many aspects of your GENESIS32 applications, including:

- Applications and Services
- Licensing
- Redundancy
- Runtime

Key features of MonitorWorX include:

- Look and feel of the Unified Data Browser.
- Movable split bar separating the tree control from the item viewer.
- Shows runtime information for active servers.
- Centralized diagnostics tool for GENESIS32 components.
- Starts and stops applications and services (serves as a replacement for the GenTray application).
- Provides licensing information and duplicate license detection (serves as a replacement for the License Monitor application).
- Displays the runtime status of redundant node pairs (support for redundancy in DataWorX32 Professional Edition). Also allows you to designate (in real time) which node in a redundant node pair is the active node and which node is the standby node.
- System tray provides visible "bubble" notifications.

For additional information, please see the MonitorWorX Help documentation on the GENESIS32 product DVD.

6.4 GenBroker

GENESIS32 provides a utility called **GenBroker™** to assist with projects using a set of applications networked together. GenBroker enables you to designate which method to use for network communications, as well as define remote servers for a networked set of workstations. There are many options and possible configurations.

The GenBroker Configurator is a tool that enables you to customize your network architecture. The GenBroker Configurator allows you to:

- Specify the communication method.
- Configure the GenBroker Client.

- Configure the GenBroker Server.
- Assign nodes to direct channels.
- Assign mediator nodes for indirect channels.
- Specify the default channel.
- Add and remove nodes or IP addresses.
- Configure channel properties.
- Specify the location of primary and redundant remote servers.

The configuration settings are saved in a GenBroker configuration (.gbx) file. You can store multiple configuration files. Configuration files tell GenBroker Server how to communicate when it interacts with various clients. For additional information, please see the GenBroker Help documentation on the GENESIS32 product DVD.

6.5 TraceWorX32

Using a technology that has been incorporated into all ICONICS products, **TraceWorX32** provides online diagnostics and tuning of applications running in the GENESIS32 system. TraceWorX32 is designed for systems integrators, OEMs and customers who want to have tools for doing their own troubleshooting and diagnostics. For additional information, please see the TraceWorX32 Help documentation on the GENESIS32 product DVD.

6.6 ProjectWorX32

GENESIS32 contains numerous applications with multiple components, requiring a well-trained user in order to successfully create, integrate, deploy, and manage projects. Each of these components requires complex setup of many different types of configuration files, databases, and OPC servers, as well as runtime and security settings. To simplify project management and deployment, ICONICS has introduced **ProjectWorX32**, which integrates all GENESIS32 applications into a single, easy-to-manage format. The

ProjectWorX32 user interface is basically a container embedded in the Microsoft Management Console (MMC). The ProjectWorX32 console conveniently consolidates all of your GENESIS32 files in one location, enabling you to:

- Organize all application files into separate projects.
- Create new application files and OPC configurations.
- Import application files into projects.
- Start and stop GENESIS32 applications.
- Pack project files into a single, compressed file, and unpack project files for easy deployment to multiple computers.
- Activate entire projects into runtime mode.
- Password-protect projects security settings.
- Back up project files.
- Publish projects to the Web.
- Generate comprehensive reports for all files and projects.

For additional information, please see the ProjectWorX32 Help documentation on the GENESIS32 product DVD.

6.7 VCRWorX32

VCRWorX32 is a powerful tool in GENESIS32 that enables the replay and reanimation of graphical, historical and alarm data. For additional information, please see the VCRWorX32 Help documentation on the GENESIS32 product DVD.

6.8 Unified Data Manager

The **Unified Data Manager** enables the centralized management of commonly used expressions, value sets, tag groups, alarm subscriptions, alarm filters, recipes, and event triggers across GENESIS32 products as well as other ICONICS products. From an easy-to-use interface you can create libraries of reusable expressions, value sets, recipes

and other functions. The Unified Data Manager provides time-saving, on-the-fly selections and modifications of commonly used functions, saving integration and applications development time. For additional information, please see the Unified Data Manager Help on the DVD.

6.9 ScriptWorX 2006

ScriptWorX has undergone some major changes from ScriptWorX32 to ScriptWorX 2006. **ScriptWorX32** is still included with GENESIS32 Version 9, so ScriptWorX32 configurations from earlier versions will not need to be updated, but the many advantages of ScriptWorX 2006 will most likely convince you to use it for new applications.

ScriptWorX 2006 allows you to create and run custom scripts. These scripts are written in Microsoft Visual Basic for Applications (VBA), and are run as multithreaded objects. The ScriptWorX 2006 Configurator indicates what type of script is being created and how it will be executed. User-defined VBA scripts can perform OPC read-and-write operations to any OPC server, which interfaces to factory floor devices, such as PLCs and other OPC-compliant servers. ScriptWorX 2006 simultaneously performs calculations, manages databases, and executes any operation available in the VBA language to access reports or perform recipe operations. ScriptWorX 2006 also offers project-level scripting. ScriptWorX 2006 takes advantage of the new Unified Data Manager with its extensive centralized support for triggers. VBA scripts can be scheduled and configured for execution, and can be triggered based on OPC Data Access, OPC Alarm and Events, and file events. For additional information, please see the ScriptWorX 2006 Help documentation on the GENESIS32 product DVD.

6.10 DataWorX32

DataWorX32 provides OPC-server-to-OPC-server data bridging, OPC aggregation, OPC tunneling, and mission-critical OPC-based redundancy. Unique data-bridging technology allows the connectivity of any OPC server to any other OPC server, providing Plug and Play interoperability. This enables you to connect two different OPC servers and

share data easily and seamlessly. Data can also be manipulated through expressions and calculations. For additional information, please see the DataWorX32 Help documentation on the GENESIS32 product DVD.

6.11 Data Mining

GENESIS32 data mining enables visualization of data from various data sources, such as a Microsoft Access, in a customizable display format that enables users to interact with and manipulate data. The Data Mining Configurator establishes connections with data sources that can be mined from GENESIS32 applications, such as GraphWorX32, where users can visualize data. For more information, see the Data Mining Configurator documentation on the DVD.

6.12 SNMP Configurator

Today's factory automation systems must integrate information from different infrastructures reliably and in real-time. To assist with integration, GENESIS32 enables users to integrate OPC, SNMP (Simple Network Management Protocol), and databases with real-time data mining. ICONICS' native SNMP network management and analysis capability was specifically developed for the industrial controls marketplace to seamlessly integrate monitoring and analysis of a wide variety of managed and unmanaged Ethernet devices into all ICONICS products. For additional information, please see the SNMP Configurator documentation on the GENESIS32 product DVD.

7 *HELP AND TECHNICAL SUPPORT*

7.1 Online Help

ICONICS software provides online help with descriptions and explanations of each application. Help is available from the Help menus and within most dialog boxes. You can access help from the following:

- Select **Help Topics** from the **Help** menu of the current application. This opens the help file for that application. To search for a topic in the help file, click the **Find** button and go through the **Find Setup Wizard**. Type or select the term you want to find, and then click on the topics.

Note: Most help (.hlp) files for GENESIS32 are installed in the *Program Files\ICONICS\GENESIS32\Bin* directory and the *Program Files\Common Files\ICONICS* directory. Each help file has an accompanying table of contents (.cnt) file. If the **Find Setup Wizard** fails to initialize when you try to execute a search operation (as described above), close the help file and then delete any .fts, .ftg, and/or .gid files from the directory. Then reopen the help file run search again.

- Click on the **Help** button (or press the **F1** key) in any dialog box to display context-sensitive help for that dialog box or application.
- Move the mouse pointer over an icon and pause for a moment to display pop-up ToolTips for quick help.
- Adobe® Acrobat® PDF files of all GENESIS32 documentation are included on the GENESIS32 product DVD in the Documentation section.
- To access general information and the latest software enhancements, open the **Genesis32.txt** file in the directory where you installed the program files.

- Run the Gen32 Demo (refer to **Chapter 4**), which offers an online tutorial as well as many examples from which to learn.
- Additional example files are also installed in the *Program Files\ICONICS\GENESIS32\Examples*.

7.2 Training Classes

Training classes are held regularly at the ICONICS training facility in Foxborough, Massachusetts. To reserve seats in training courses and to view the current ICONICS training schedule, go to www.iconics.com/support/training.asp. If you have any questions about ICONICS training, please contact our training coordinator at 508-543-8600.

7.3 Technical Support

ICONICS customers may obtain technical support in several different ways. First-Line Support is through your local ICONICS representative or distributor. You may also contact ICONICS' Support Engineers directly by phone, fax, e-mail or the ICONICS Web site.

For complete information about Global Technical Support, please see the Global Support and Services User Guide at www.iconics.com/support/supportworx.asp.

Global Support and Services

ICONICS is proud to provide our customers with the highest quality customer service. Our Global Support and Services programs are supported by ICONICS offices around the globe and our network of sales channel distributors and representatives, with local and regional locations for front-line service and expert assistance. Programs include the **SupportWorX™** Technical Support Services subscription program for continuous technical support; **Quality Professional Services** for expert system architecture design assistance, training and start-up assistance; a **24 x 7 Emergency Support Option** plan; and **Training and Certification** programs for ICONICS users, systems integrators and sales channels. For complete information about SupportWorX service plans and technical support,

please see the Global Support and Services User Guide at www.iconics.com/support/supportworx.asp.

ICONICS Knowledge Base

The **ICONICS Knowledge Base** is a subscription-only service that contains hundreds of known product questions and answers. The Knowledge Base includes solutions, tips and tricks and frequently asked questions (FAQs) on all ICONICS products. Advanced search allows you to tailor queries using a natural language approach. *This service is available by subscription only.* For more information go to: www.iconics.com/support/knowledgebase.asp.

Online Support

ICONICS maintains a comprehensive Web site at www.iconics.com. This is the best place to go for the latest events, support information, product downloads, licensing, documentation, services, and product news. For specific support options, go to: [SupportWorX](#).

Note: Software obtained from ICONICS.com is subject to the ICONICS License Agreement.

Telephone Support

ICONICS support centers are open Monday through Friday, year round, except for local holidays and ICONICS holidays. Support handle calls on a first-come, first-served basis. Calls are answered immediately during the business hours below.

Americas (United States): 508-543-8600	8:00 AM – 6:00 PM Eastern Standard Time
Europe (Czech Republic): 420-377-183-447	9:00 AM – 6:00 PM European Central Time
Asia Pacific (Australia): 61-2-9898-3211	9:00 AM – 6:00 PM Australian Eastern Time

Please have the following available when you call:

- Your SupportWorX Plan Number
- Your GENESIS32 Registration or Serial Number
- A PC available for tests and diagnostics

- A clear understanding about the issue.
- The version of your OS and the ICONICS product(s)
- OPC server or relevant third-party software info

Note: Go to www.iconics.com/support/support-offices.asp. to contact our Technical Support department. You can submit an Action Report to our Technical Support staff at: www.iconics.com/support/action_report.asp.

E-mail Support

The ICONICS support center e-mail addresses are:

- **North America:** Support@ICONICS.com
- **Europe:** EuropeSupport@ICONICS.com
- **Pacific Rim:** PacificRimSupport@ICONICS.com

Please include your SupportWorX Plan Number and Product Registration Number or Serial Number when sending your message. E-mail requests will be answered on a first-come, first-served basis typically the same day (up to three days maximum).

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