



# ICONICS - DataWorX32

AT Automation México Integradores Certificados de ICONICS



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Para obtener ayuda en determinar el producto que mejor se adecue a su proyecto, por favor póngase en contacto con nosotros a:

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Microsoft  
Partner

2017 Partner of the Year Winner  
Application Development Award



# Designed for Use in Many Industries

For more than 30 years, ICONICS has developed leading-edge software tools for manufacturing, industrial, and building automation. ICONICS has shipped over 350,000 products that are installed in applications spanning the globe in various industries:



**Automotive**



**Building Automation**



**Food & Beverage**



**Government & Military**



**Manufacturing**



**Oil & Gas**



**Materials & Mining**



**Pharmaceutical**



**Sustainability**



**Transportation**



**Utilities & Energy**



**Water & Wastewater**

# ICONICS Cross-product Features

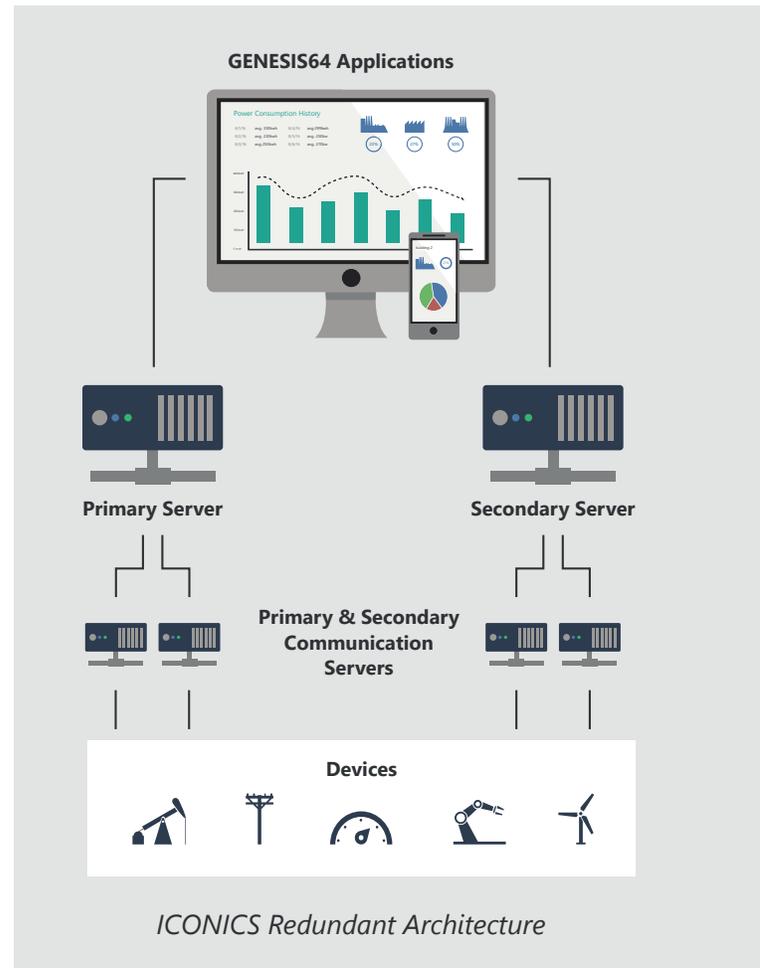


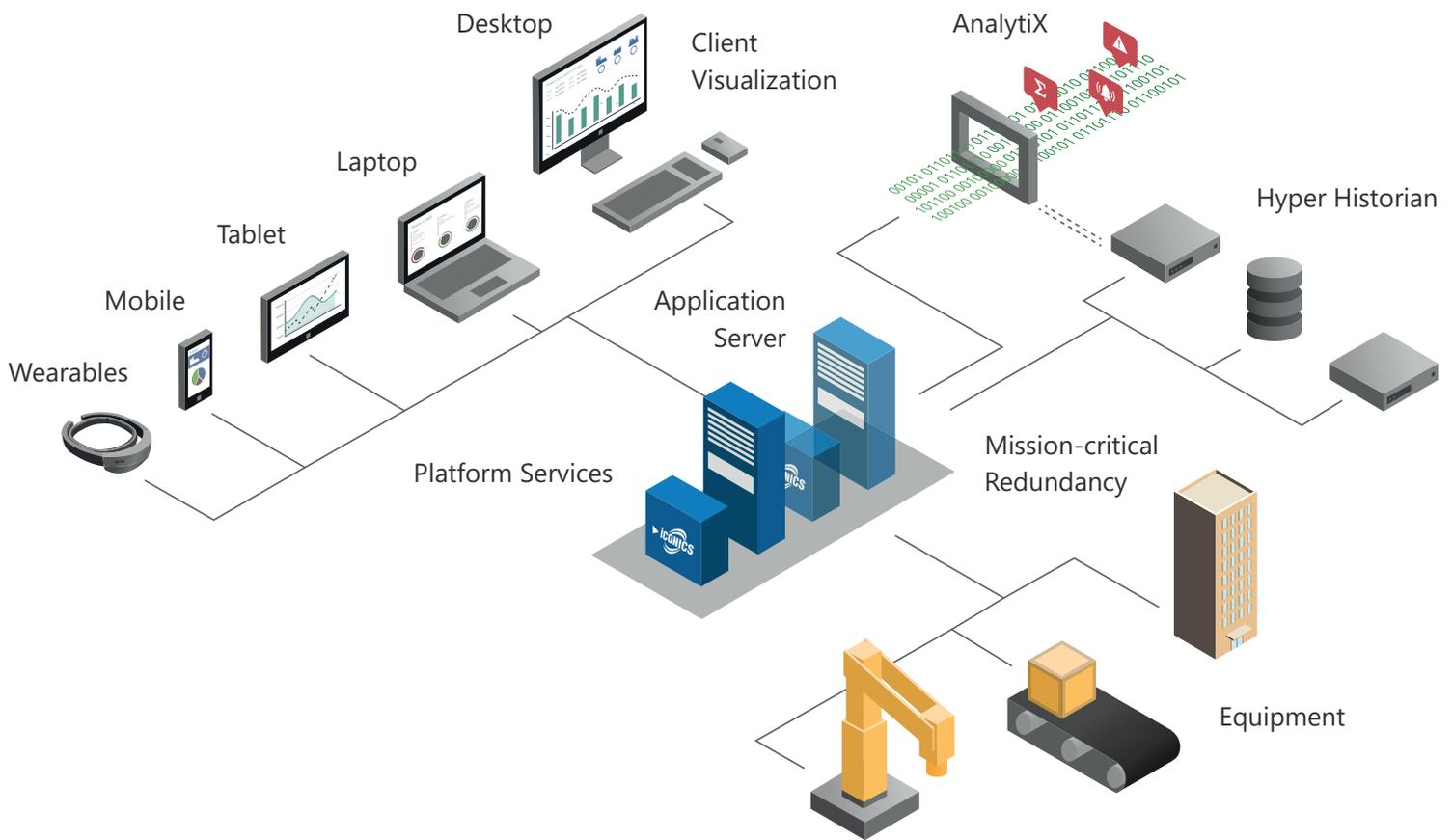
## Advanced Visualization on Any Device

Bring the visualization of ICONICS to any device. Migrate desktop displays created in GENESIS64 from desktop to any mobile client. MobileHMI™ is a powerful app that provides a consistent user experience on any mobile device for GENESIS64 dashboards. WebHMI™ brings the capabilities of GENESIS64 applications to any HTML5 or WPF compliant web browser. Generate executive self-service dashboards utilizing preconfigured symbols from any mobile device with KPIWorX™. GENESIS64's responsive UI flawlessly transitions between clients to provide a consistent user experience.

## Mission-critical Redundancy

ICONICS ensures the safety of any critical data by offering high availability redundancy for communication reliability. Redundant collectors and loggers serve as a backup in case of a system failure. With automatic fault detection and store-and-forward technology, GENESIS64 users can be assured that mission-critical real-time data, historical data, and alarm information are always available. ICONICS redundancy solutions are simple to configure, install, and deploy. ICONICS software redundancy covers all major aspects of data redundancy such as data access, historical data, alarms, and security.





*ICONICS System Architecture*

## Powerful Centralized Configuration

ICONICS displays can be created using two powerful configuration tools. The Workbench is the multi-functional, centralized desktop or web-based environment for all back-end configurations making development more efficient and minimizing design time for any application. Offered in WPF, users can configure and manage their entire GENESIS64 application from anywhere.

Front-end user interfaces and dashboards are configured using the GraphWorX64 visualization module. Design HMI and SCADA displays leveraging 2D and 3D graphics, preconfigured symbols, dynamic properties, animation, and flexible aliasing.

## Universal Connectivity

GENESIS64 supports industry standard communications such as OPC, OPC UA, Modbus, BACnet, web services, and databases. As the first 64-bit Advanced Workstation (B-AWS), GENESIS64 is certified by the BACnet Testing Laboratories, ensuring maximum integration with BACnet protocols such as BACnet objects, trends, and alarms. GENESIS64 is certified for OPC UA compliance by the OPC Foundation. Simple device discovery on the network makes integration seamless and efficient.

## DataWorX™32

DataWorX32 is a 32-bit, multithreaded, OPC-compliant client and server application providing multiple-functionality that conforms to Microsoft COM/DCOM program practice. 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 License Versions

	<b>DataWorX32 Redundancy</b>	<b>DataWorX32 Professional</b>	<b>DataWorX32 Standard</b>	<b>DataWorX32 Tunneler Kit</b>	<b>DataWorX32 Lite Version</b>
	DATAWORX 32-R V9.4	DATAWORX 32-PRO V9.4	DATAWORX 32 V9.4	DATAWORX 32-TUN V9.4	DATAWORX 32-LITE V9.4
<b>OPC Data Aggregation</b>	Y	Y	Y	Y	Y
<b>OPC HDA Tunneling</b>	Y	Y	Y	Y	Y
<b>OPC A/E Tunneling</b>	Y	Y	Y	Y	Y
<b>OPC DA Tunneling</b>	Y	Y	Y	Y	Y
<b>United Data Manager</b>	Y	Y	Y	Y	Y
<b>SNMP</b>	Y	Y	Y	Y	Y
<b>MonitorWorX</b>	Y	Y	Y	Y	Y
<b>Security</b>	Y	Y	Y	Y	Y
<b>GenBroker Networking</b>	Y	Y	Y	Y	Y
<b>Database OPC Server</b>	Y	Y	Y	Y	Y
<b>Global Aliasing</b>	Y	Y	Y		
<b>OPC DA Data Bridging</b>	Y	Y	Y		
<b>OPC DA Redundancy</b>	Y	Y	Y		
<b>Store &amp; Forward Technology</b>	Y	Y			
<b>OPC HDA Logged Data Redundancy</b>	Y	Requires Pair			
<b>OPC A/E Logged Data Redundancy</b>	Y	Requires Pair			

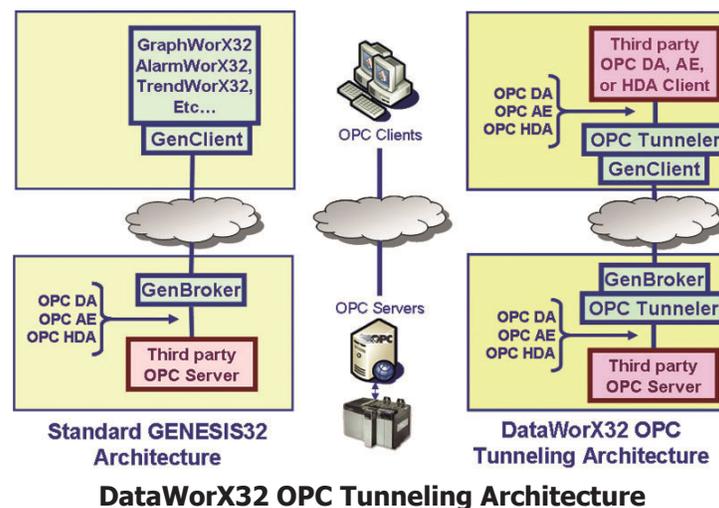
The main features of DataWorX32 include the following:

- OPC Redundancy
- Secure OPC Tunneling
- Patented OPC Data Bridging
- Compliant with OPC Data Access 1.0 – 3.0 Standards
- OPC Data Aggregation for Optimization
- Easy to Configure
- Real-time Redundancy Status Monitoring
- Client & Server Side Redundancy
- Alarm, Trend and SQL Data Logging Synchronization
- Guard Against Single Point of Failure
- Different Configurations to Choose From

## OPC Tunneling

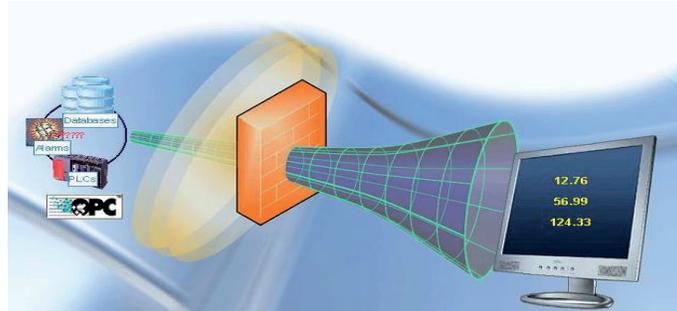
DataWorX32 will now be offered in three license versions: Professional, Standard and Lite. DataWorX32 V9.4 contains many significant new product capabilities and enhancements, including:

- New full featured redundancy with support for OPC Data, OPC Alarms and OPC HDA Historian
- New OPC Tunneling supports any third-party OPC server to OPC client communications
- New MonitorWorX shows performance and provides centralized diagnostic utility
- Integration with new Unified Data Manager
- OPC groups and user-selectable Data Bridging and Patented Data Aggregation
- New alarm and data historian Store and Forward technology
- New scheduled data transfers



# DataWorX32

The new OPC Tunneling feature comes with all license versions of DataWorX32 V9.4 and connects a remote OPC server to a local client in a robust and secure manner, allowing for one server to be redirected to more than one location. The powerful graphical user interface allows for easy configuration and a centralized place to manage all remote connections. The underlying technology behind OPC Tunneling is the patented ICONICS GenBroker™ communication, which provides high-performance and robust communication, replacing Microsoft DCOM communications. OPC Tunneling is completely OPC-compliant and is IT firewall-friendly, supporting communications over LANs, WANs and the Internet with extensive built-in security.



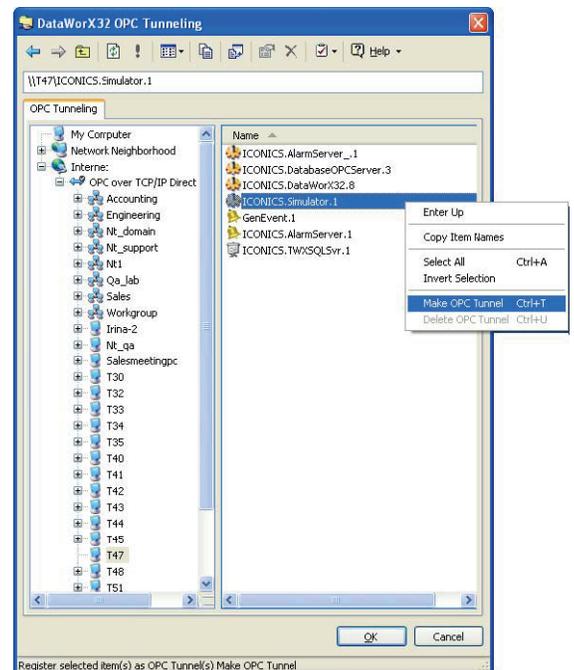
It's simple to install and deploy OPC Tunneling technology to virtually any application requiring remote and secure OPC communications with DataWorX32 V9.4.

DataWorX32 V9.4 OPC Tunneling fully supports open OPC industry standards such as:

- OPC Data Access (DA 3.0)
- OPC Alarm and Events (AE 1.1)
- OPC Historical Data Access (HDA 1.2)
- OPC Unified Architecture (UA)

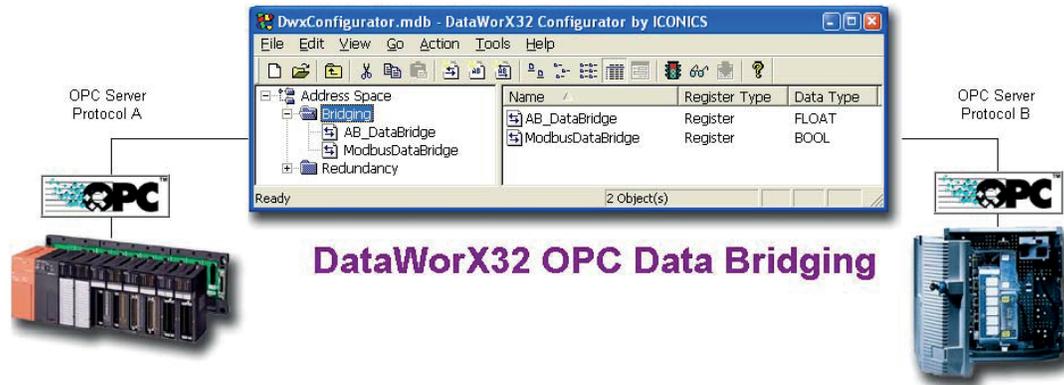
Other significant features of DataWorX32 OPC Tunneling include:

- Auto-discovery of remote OPC DA, AE and HDA servers
- Extremely simple to set up and configure
- Supports OPC browser interfaces over LANs, WANs and the Internet
- Provides a robust, secure alternative to standard Microsoft DCOM communications
- Integrated secure communications
- IT-friendly communications through firewalls and Network Address Translators (NAT)
- Supports TCP/IP and XML communication protocols

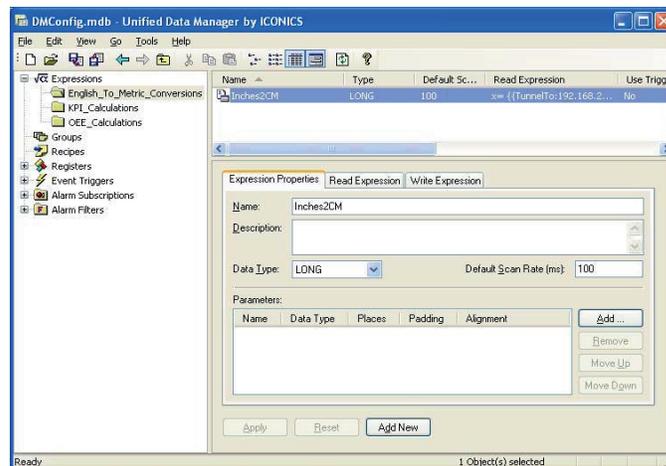


## OPC Universal Data Bridging

DataWorX32 provides simple and reliable means for connecting real-time OPC DA data between OPC servers and applications using OPC.



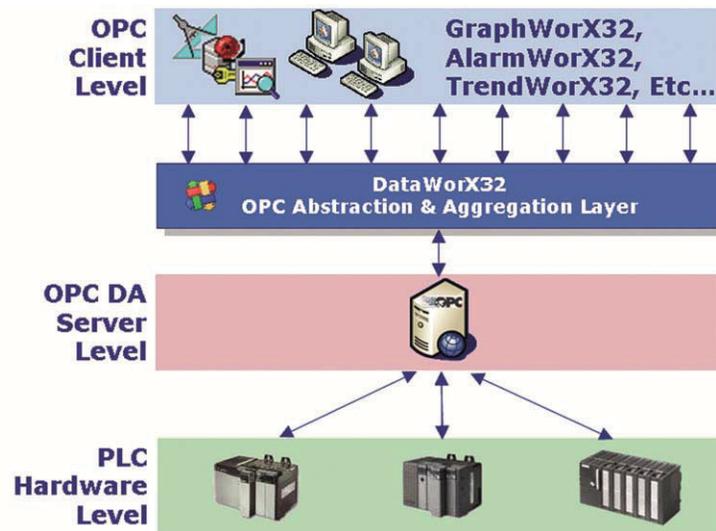
DataWorX32 supports the use of OPC groups and registers, which are used to form collections of OPC items that will be moved between OPC servers at a specified rate. Using multiple groups, DataWorX32 allows you to control how fast data are transferred from one OPC server to another. By using DataWorX32 groups with different update rates, you can tailor your data transfers to fit the needs of the application. While one item may need to be sent at high speed, other items in the application may need slower update rates. The benefit is reduced network traffic and increased overall communications reliability.



## OPC Aggregation

Often in very large projects, several OPC client applications request the same points from an OPC server. For example, GraphWorX32 may need to display a tank level value, and AlarmWorX32 may need to monitor and alarm that same value. This may increase the load of the OPC server, as it now has to provide the same data more than once. Thus, when multiple clients request data from an OPC server, DataWorX32 monitors the OPC server and aggregates the data to the requesting clients.

Often it is desirable to optimize the work performed by the lower-level I/O servers (for example, greater throughput can be achieved). DataWorX32 can serve as a "middle-man" between clients and servers and assist in this optimization process. This is beneficial especially with remote servers over the network.



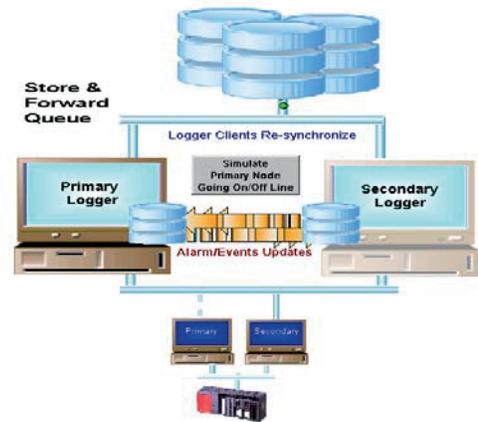
Architecture of OPC Data Aggregation

## OPC Redundancy

### DataWorX32 Professional with Redundancy

New DataWorX32 full-featured redundancy 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 downtime.

Taking maximum advantage of the popularity of the OPC Data Access, OPC Alarm and Events and OPC Historical Data Access standards, a DataWorX32-enabled system uses multiple connections to a device or system to increase the reliability of data collection. By using built-in, patented aggregation, redundant data paths transparently map and appear as if a single OPC server connection. DataWorX32 can be seamlessly integrated into any existing OPC application without any changes to the client and without loss of data.



### DataWorX32 V9.4 Redundancy Key Features Include:

Seamless and transparent addition to OPC applications

Extremely easy to set up; no programming or application changes required

Upon failure of a primary OPC server, DataWorX32 automatically switches to the secondary server

Supports multiple OPC Data Access (DA) server pairs; supports 1.0 through 3.0 specifications

Supports multiple OPC Alarm and Event (AE) server pairs

Supports multiple OPC Historical Data Access (HDA) server pairs

Add redundant data collection to any OPC Data Access application

Automatic as well as manual fallback capability when primary server becomes available

Built-in MonitorWorX32 support with system tray diagnostics

Configure OPC tags for visualization of key redundant monitor items

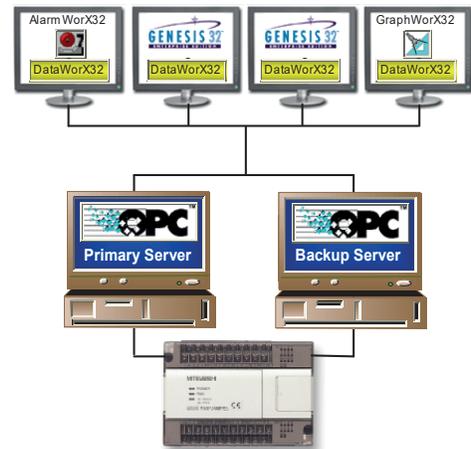
Built-in audit trail/diagnostics with event logging, tracking redundant events to disk

Drop-in design makes implementing redundancy a snap

Available fail-over modes: hot, warm, and cold

Configurable server polling intervals

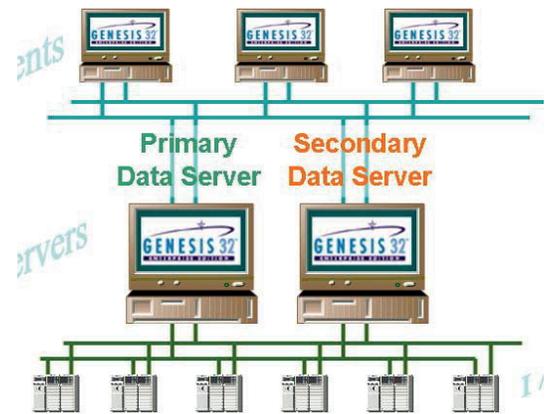
Integrate with multimedia alarming product to provide e-mail, and SMS notifications



# DataWorX32™

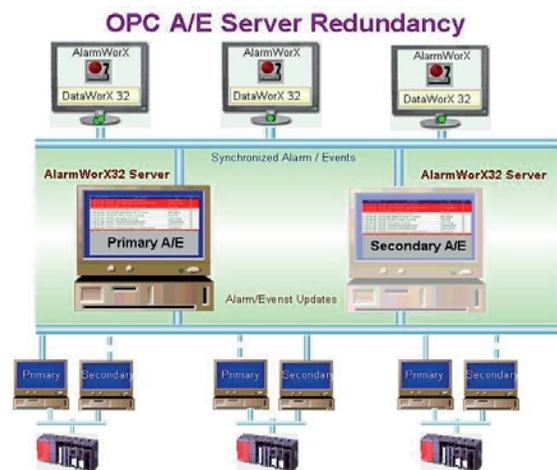
## OPC Data Redundancy

DataWorX32 V9.4 supports OPC DA (Data Access) Redundancy. DataWorX32 is a powerful data-optimization tool, as well as an easy-to-configure redundancy solution for any OPC-based application. The patented OPC data-aggregation technology found in DataWorX32 will lower network traffic by aggregating server-to-client requests, leading to a reduction in CPU load and an increase in performance. DataWorX32 is a component of the GENESIS32 product family, and it serves as a project-level data system for GENESIS32 applications.



## OPC AE Alarm Redundancy

DataWorX32 V9.4 supports OPC Alarm and Events server redundancy and alarm logger redundancy. Providing both real-time OPC Alarm Server redundancy as well as synchronization of alarm historical log files was a design goal. Alarm acknowledgements are automatically synchronized, guaranteeing that all operator actions are accounted for when switching from primary to secondary alarm servers and vice versa. Integrated Store and Forward technology provides the core capability when synchronizing alarm history between primary and secondary alarm log files.



## OPC HDA Redundancy

DataWorX32 V9.4 supports OPC Historical Data Access (OPC HDA) redundancy, providing several configurations for guaranteeing synchronization of critical historical time-stamped data. Integrated Store and Forward technology provides the core capability when synchronizing historical data between primary and secondary log files. DataWorX32 supports Microsoft SQL Server data stores for highly available trend historian redundancy.