InTouch 9.0
Visualization Software

- 🌐 *Powerful and Flexible*
- 🌐 *Easy to Use*
- 🌐 *Unrivaled Connectivity*
- 🌐 *Agile Applications*
- 🌐 *Wonderware® SmartSymbols*

OVERVIEW

Wonderware's InTouch® 9.0 visualization software is a powerful graphical human-machine interface (HMI) for industrial automation, process control and supervisory monitoring. The InTouch HMI enables users to visualize and control industrial processes while providing engineers with an easy-to-use development environment and extensive functionality to rapidly create, test and deploy powerful automation applications that connect and deliver real-time information. InTouch software is an open and extensible HMI that enables flexibility in custom application design with connectivity to the broadest set of automation devices in the industry.

POWER AND VERSATILITY

InTouch 9.0 software combines the world's leading HMI software with cutting edge graphical advances to enable fast, powerful application creation and modification. The InTouch 9.0 HMI continues to outshine its competition with advances that include easy–to-use, object-oriented programmable graphics, powerful communication connectivity and a flexible architecture. As a result, users can quickly create applications that conform with company standards yet are versatile enough to be strategically deployed throughout an organization via the best-suited devices for increasing productivity and efficiency.

A History of Protecting Engineering Investments

Wonderware invests heavily in research and development to ensure the delivery of new, powerful and innovative products. The result: Companies can focus on running their business while its engineers leverage the latest software technologies.

InTouch 9.0 software reflects this innovation with the addition of SmartSymbol technology. InTouch software provides users with a versatile development environment and a flexible architecture, which empowers them to create agile applications for any automation application scenario. InTouch software can be deployed on standalone machines; in a distributed server/client architecture; in applications leveraging the Industrial Application Server; and as a thin client application using Terminal Services. InTouch software is also the first HMI product to achieve "Designed for Windows® XP" certification from Microsoft. It can also be used to create displays that can be viewed from workstations, PDAs, browsers and the new Wonderware Industrial Tablets and Touch Panel Computers.

When customers purchase the industry's leading HMI, they also receive worldwide application support. Wonderware has installed more than 200,000 InTouch HMIs worldwide and has a track record for protecting customers' application engineering investments by automatically migrating their applications to new versions of InTouch software. Wonderware also employs award-winning technical support and friendly sales staff worldwide.
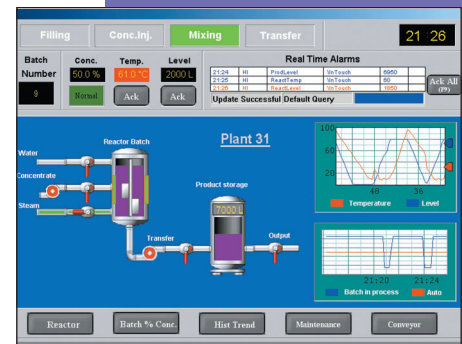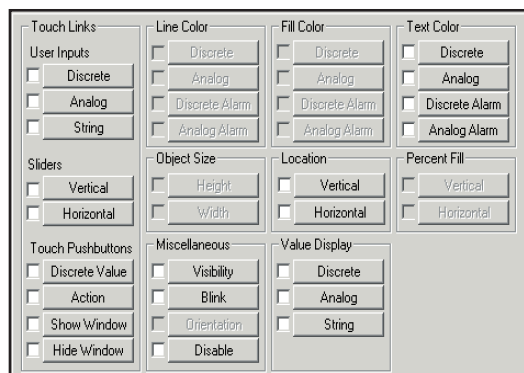
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Powering intelligent plant decisions in real time.

EASE OF USE

InTouch software enables users to quickly create and deploy graphical representations of real-time industrial processes.

*Simple Configuration*

Graphical User Interface (GUI)

The InTouch HMI also empowers users to quickly and easily develop custom graphical views of their processes. A user can develop graphics with a variety of tools in Wonderware's WindowMaker™ graphical editing program, which includes standard graphical components, bitmap images, ActiveX® controls and Symbol Factory — an advanced graphics library that contains thousands of preconfigured industrial images and SmartSymbols. All of these tools are easy –to use and intuitive, helping users to quickly develop and deploy visualization applications.
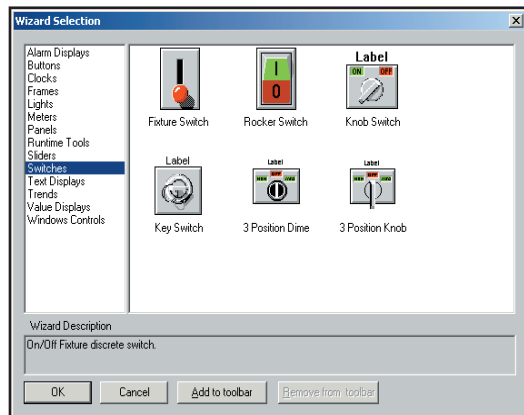
Powerful Wizards and Templates

SmartSymbol Enabled

SmartSymbols represent an enormous advancement in the creation, deployment and modification of graphical elements inside an application. Using the SmartSymbol Manager, application developers can create templates from graphics that can connect to ArchestrA® Objects or InTouch tags through remote references. These symbol templates are saved in the Symbol Library and can be instantiated by selecting them and dropping them into an InTouch window.
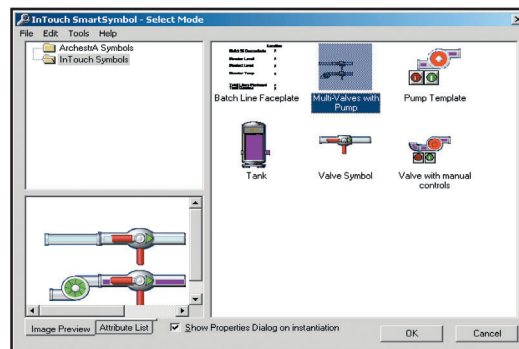

Standard Library Templates

SmartSymbols enable object-oriented graphics so that users can create standardized libraries of objects that contain all the graphics, scripts and tag controls that an application object needs to be useful. Any graphic in an InTouch window can be converted into a SmartSymbol by right-clicking on it. In addition, libraries of SmartSymbols can be exported to other applications and plants, enabling companies to standardize on graphics throughout the entire organization.

Super-Fast Change Propagation

Once a SmartSymbol object is deployed, if users need to change an object, they simply modify the SmartSymbol template and the change automatically propagates throughout the application, to every window in which the SmartSymbol is used. This makes changing, upgrading and modifying applications very fast and simple. Validating and re-validating applications after modification is also simplified with SmartSymbols.
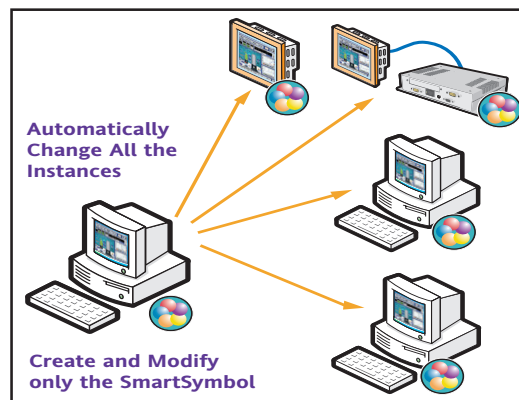

Productivity Improvements

SmartSymbols can save an immense amount of time when it comes to creating new applications and modifying existing applications. New applications can be quickly created using standard SmartSymbol libraries, ensuring compliance with standard operating procedures. Plus, existing applications can easily be enhanced by modifying SmartSymbol templates and using NAD (Network Application Development) to automatically upgrade applications and windows. Customers benefit from improved flexibility while greatly reducing the risks and time associated with modification.

Powerful QuickScript Editor

With the QuickScript Editor, an InTouch application can be extended and customized to address specific system requirements, making InTouch software one of the most flexible HMI products on the market. Scripts can be configured to execute based on numerous parameters, such as specific process conditions, data changes, application events, window events, keyboard strokes, ActiveX events and more. The QuickScript environment also supports QuickFunctions, which allow users to develop a library of scripts that can be re-used, simplifying the application and resulting in decreased initial engineering and application maintenance time and simplified application deployment.

The QuickScript Editor is simple – to use and allows users to completely customize how their applications behave. When creating scripts, users can click on buttons with common expressions and structures, such as greater than, less than, for-next and if-then-else. Advanced functions, such as math, string conversion and others, are accessible through a Wizard, which prompts the user for the required arguments and ensures the correct syntax for the function. A built-in validation engine allows the user to validate scripts before deploying them, preventing runtime errors. In addition, for more advanced users, scripts can be written and edited directly in the script editor, or cut and pasted from other applications, encouraging re-use and saving engineering time. The QuickScript Editor gives users the flexibility to quickly and easily customize their applications. From a novice to an expert programmer, everybody can use InTouch scripting.
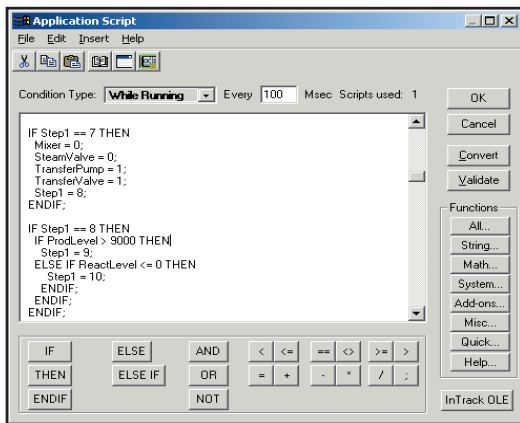
Easy-to-Use QuickScript Editor

Deployment

The InTouch Fast Switch allows application developers to switch back and forth between runtime and development environments at the click of a button. Developers can quickly determine how their applications will look and behave before deploying them into a production environment. In addition, the InTouch HMI can be started as a service, enabling automatic application start up and continuous operation through multiple log-on and log-off cycles.

Runtime Viewing Enhancements

In addition, InTouch users can run the new script function – IOSetRemoteReferences, to modify the data source for ArchestrA Objects or InTouch tag references at runtime. This enables developers to switch object instances for graphic symbols based on particular conditions or directly via user interaction such as clicking a button. It also allows users to modify an application's access name (Galaxy or InTouch Tag Server node) and item name at runtime, greatly increasing the amount of information a user can view with minimal application modification. By adding a button to a window, users can opt to view information from different devices, objects, areas and plants. Updating the real-time information on the window is very fast because only one line of script needs to execute. This functionality applies to all graphic objects and SmartSymbols.

UNRIVALED CONNECTIVITY

InTouch software can connect to virtually any industrial automation control device because of the hundreds of available I/O and OPC® servers that are designed to connect to Wonderware products. The list of available servers is longer than that of any other HMI product on the market. This is made possible by Wonderware's device integration team as well as hundreds of third-party product developers that offer connectivity to Rockwell, Siemens, Schneider and other products.

Wonderware servers provide access to InTouch application data through Microsoft® DDE communications, Wonderware's SuiteLink™ protocol or OPC technology. Third-party developers can use the ArchestrA DAS (data access server) Toolkit to create servers that incorporate one or all of the communication methods listed above. The InTouch HMI, as well as Wonderware's other FactorySuite A²™ products, are capable of serving as an OPC clients or OPC server.

ARCHITECTURE — EASIER SYSTEM DEPLOYMENT AND MAINTENANCE

Standalone

InTouch applications can be installed in a standalone environment — a single computer node. This is useful for companies that do not require many different operator stations for viewing and controlling the same industrial processes. Each node is completely self-contained and not dependent on any other computer for operation. These systems can also be networked.
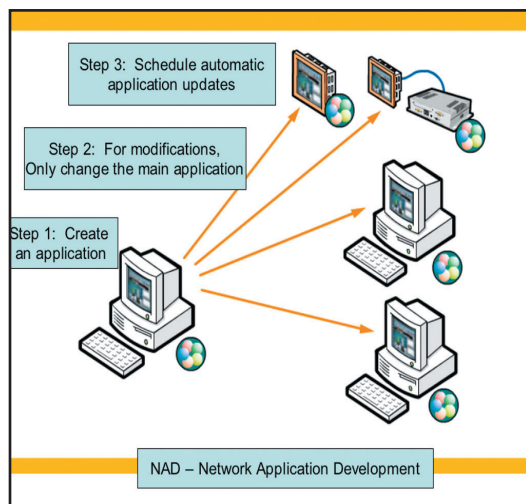
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Client/Server

Moreover, InTouch applications can be installed in a client/server environment. This method saves time and money on software maintenance and administration. Users can choose from several different scenarios, depending on their needs.

Tag Server Configuration

Using thethe tag server configuration, a user can designate one or multiple computers as tag servers. These tag servers can store the tagname dictionary (all the tags used in the InTouch applications), perform historical event logging, run QuickScripts, act as an alarm facility and connect to I/O data. Applications running on the client nodes (operator stations) connect to the tag servers to display the information.
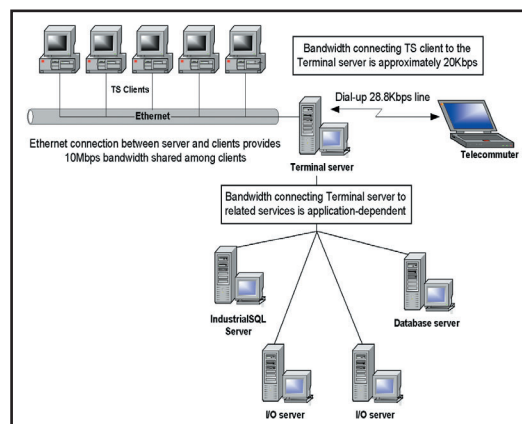
Dynamic Network Application Development (NAD)

Dynamic NAD facilitates centralized maintenance of an InTouch application master copy using one network server. Each client node makes a local copy of the master application, providing strong redundancy. If the server is unavailable, the client node keeps working — using its local copy of the application. Reconnections after the server re-appears are transparent and seamless. Another powerful NAD feature is that users can accept InTouch application changes at the client nodes, without shutting down the running InTouch application. The system alerts the operator when changes to the application are available and the operator can accept them when it is convenient. Once accepted, only the application components that were changed are downloaded and updated on the client nodes. If the operator chooses not to accept the configuration changes, the latest application will be downloaded the next time the system is restarted. Therefore, the operator is always using the most current application and can update the running application at any time, without incurring downtime or loss of process visualization.

Step 3: Schedule automatic application updates

Step 2: For modifications, Only change the main application

Step 1: Create an application

NAD – Network Application Development

Terminal Services

Terminal Services permit centralized software deployment, maintenance and management, re-use of hardware, high levels of security, and client support for multiple operating systems. They include the Microsoft Windows 2000; XP; 2003; CE; Embedded Windows NT® (NTE); Windows for Workgroups 3.11, 95 and 98; Windows for Workgroups NT 3.51 and 4.0; Linux®; and Unix® operating systems. In addition, customers can use thin-client terminals to extend the view into their processes. Thin-client terminals can also be used in place of regular computer nodes to provide additional low-cost views into the application or replacements for indicating devices, such as chart recorders or temperature controllers. In addition, Terminal Services for InTouch applications can run on PDAs and Tablet PCs for mobility and constant visualization into and control over an application. The Terminal Services for InTouch HMI provides all of the benefits of thin-client technology while reducing the overall cost of system ownership.

TS Clients

Bandwidth connecting TS client to the Terminal server is approximately 20Kbps

Dial-up 28.8Kbps line

Ethernet

Ethernet connection between server and clients provides 10Mbps bandwidth shared among clients

Terminal server

Telecommuter

Bandwidth connecting Terminal server to related services is application-dependent

IndustrialSQL Server

Database server

I/O server   I/O server

InTouch View

Systems featuring Wonderware's Industrial Application Server use InTouch View for process visualization. The Industrial Application Server greatly reduces the engineering efforts and time required to maintain and deploy large systems within one plant or across multiple plants. InTouch View is an ideal choice for customers looking to migrate existing applications into one large, feature-rich system. In this configuration, the Industrial Application Server handles all of the security, scripting, history and I/O, and InTouch View provides a low-cost HMI solution for visualizing the information.

Tablet PC Support

Wonderware's InTouch software has been enhanced to help customers leverage new Tablet PC features such as Inking and Annotation. Inking enables customers to write values into data links in their own handwriting. The InTouch application recognizes numbers and/or text in multiple languages and inputs them into the data field. Annotation enables users to mark up a graphical

display with pens and highlighters. After capturing and annotating a graphical screen, the user can instantly e-mail, print or save the screen capture to facilitate troubleshooting and explanations of the production process.

Wonderware Tablets and Touch Panel Computers

Wonderware's Industrial Tablets and Touch Panel Computers are pre-integrated with fully functioning InTouch software. Existing applications can be re-used with Wonderware's Industrial Tablets and Touch Panel Computers without modifications, saving valuable engineering time and effort while increasing the mobility and versatility of the applications.

InTouch applications on Industrial Tablets and Touch Panel Computers can provide visualization and control in many automation scenarios previously serviced only by closed proprietary (a.k.a., 'dumb') terminals. Wonderware Industrial Tablets and Touch Panel Computers work out of the box, without additional configuration, and include access to Wonderware's extensive library of device integration tools, ensuring connectivity to a wide range of systems.

Tablet PC, XP Pro and XP Embedded Support

Wonderware Industrial Tablets feature the latest version of the InTouch software are the Microsoft Windows XP Tablet PC Edition operating system. Touch Panel Computers are available with either the Microsoft Windows XP Professional Edition or XPe (XP Embedded) Edition operating systems in standard and industrialized models.

ADDITIONAL DISTRIBUTED SYSTEM FEATURES

InTouch software offers several additional features to enable better application design and control for distributed environments. The InTouch HMI also offers client/server tools for configuration, deployment, maintenance and multi-plant systems.

Remote Tag Referencing

In order to fully realize the benefits of the client/server architecture, the InTouch HMI offers Remote Tag Referencing for application developers, which allows them to create an InTouch application without using any local tagnames. At runtime, the client nodes connect to the tag server to retrieve information. Remote Tag Referencing enables companies to save time and money because users can create one template and re-use it several times throughout the application.

Distributed History

InTouch software includes a distributed historical trending system that allows users to dynamically specify a different historical file or data source for each pen of a trend chart. This allows an operator to view both native InTouch history and IndustrialSQL Server™ history in the same trend. Distributed history trending enables swift analysis of historical information on one screen, saving time and improving the analysis of multiple variables.

Dynamic Resolution Conversion (DRC)

Dynamic Resolution Conversion (DRC) enables users to develop applications in one screen resolution and run them in another, without affecting the original application. The applications can also be run at a user-defined resolution, instead of the display resolution. In addition, DRC allows users to take advantage of multiple monitors within an application without worrying about where the windows will appear. Users can save time by creating an application once and deploying it anywhere, on displays of any size — without redesigning, copying or modifying the original application.

Distributed Time Zones

In addition, the InTouch HMI provides services to both the distributed history and alarm systems, permitting value viewing in the local time. This is important because it eliminates confusion over when events occurred when applications become larger and span multiple physical areas.

FEATURES AND BENEFITS

SECURITY MODELS

Access-Level Password Security

InTouch can be configured to use an access-level password security model that enables the developer of the InTouch application to group users into access levels with different passwords and then assign the access levels to windows and tags. This gives the developer the ability to limit the users' capabilities in the InTouch application, based on their areas of responsibility and authority.

Integrated Windows Authentication

Strong Security for Applications

Microsoft Windows NT Authentication

The InTouch 9.0 HMI enables application developers to use the Microsoft Windows NT operating system for authentication. This gives them tools to grant

permissions to InTouch users on a domain controller or the local computer, based on user identity and group affiliations. This fully integrated approach to application security reduces the amount of required by the IT department to administer and maintain security passwords and user names.

FDA 21 CFR Part 11

In addition, InTouch 9.0 software includes authentication fields that are necessary for customers who need to comply with FDA 21 CFR Part 11 and other regulations. New security script functions and variables have been added to version 9.0, making it easier for users to comply with government regulations and establish plant security policies.

Industrial Application Server Security

For customers who have adopted Wonderware's Industrial Application Server, the ArchestrA software architecture offers complete, secure integration between InTouch and Industrial Application Server applications.

DESIGNED FOR WINDOWS XP

Microsoft Windows XP Logo Certification

InTouch software is the first HMI to qualify for Microsoft's prestigious "Designed for Windows XP" logo. This means that InTouch applications will install and run on the Windows XP platform. Version 9.0 also leverages new XP features, which system administrators can use to easily install and remove drivers from the XP platform.

ALARMS — MORE VIEWING OPTIONS, ADDITIONAL FEATURES AND BENEFITS

Knowledge about system alarms and the ability to acknowledge them in a timely manner can save a company hours of costly downtime. Operators need to view alarms and track what occurred throughout the entire manufacturing process in order to minimize and be accountable for losses. InTouch software offers three different application alarm views that can be used together or separately.

THREE VIEWS INTO ALARMS

Distributed Alarm Display

The Distributed Alarm Object enables operators to select and pre-configure alarm views at runtime. This display shows a summary of current alarms.

Database View Control

The Database View Control displays alarms that have been logged in the InTouch Alarm Logger Database. The display shows the Origin Time, GMT Time, or Local Time for historical session alarms.

Alarm Viewer Control

The Alarm Viewer Control is an ActiveX control that provides both current summary and historical session alarm information. It has a similar look and feel to the Database View Control to enable quick configuration and ensure ease of use. The alarm viewers enable the operator to sort the alarms based on the important priorities at runtime. Dialog boxes and easy-to-use Wizards also make alarm configuration simple to implement. An InTouch user gains complete control over the current alarms in their system and retrieval of historical alarm information.

ALARM FEATURES AND ENHANCEMENTS

Alarm Acknowledgement

InTouch software offers three alarm acknowledgement models:

- Traditional, condition-oriented alarms;

- Event alarms, which are compatible with the OPC alarm model and require an acknowledgment for the most recent transition to an alarmed state; and

- Expanded Summary alarms, which support acknowledgment of each transition into and out of an alarmed state.

Alarm Flexibility

Alarms can be enabled or disabled directly or indirectly, using Alarm Inhibitor Tags, under full control of the application. Alarm suppression can be applied to single alarm classes, tags or groups, to prohibit the display of alarm information on a specific view node. System-wide disablement can also block alarm activity at the source.

Powerful Distributed Alarm Subsystems

Alarm Toolkit

The Alarm Toolkit enables third parties, systems integrators (SIs) and end users to enhance InTouch systems by writing custom Alarm Providers and Alarm Consumers that work with their devices. Alarm Providers determine alarm conditions and publish the alarms to the InTouch Distributed Alarm Subsystem. Alarm Consumers are clients that receive information from the InTouch Distributed Alarm Subsystem. By using the toolkit, a hardware device interface can be constructed and integrated into an InTouch environment, allowing that hardware device to publish and manage alarms using the Distributed Alarm Subsystem.

SuiteLink Time-Stamping

InTouch 9.0 software offers alarming up to the millisecond -- when the alarm is generated, not when the consumer receives the alarm.
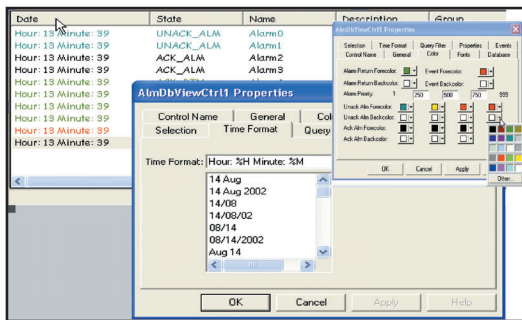
Easy Alarm Configuration Wizards

Alarm Database

The InTouch Distributed Alarm Subsystem supports logging alarms and events to a Microsoft SQL Server 7.0, 2000 or MDSE database. This gives users the power of a relational database regardless of the application size or project budget.

AlarmSuite Database Migration

Support for AlarmSuite users is still available. However, to enable maximum flexibility, the InTouch 9.0 HMI also provides migration tools from existing AlarmSuite databases to the Alarm Database View Control.

Easy-to-Configure Hot Backup and Resynchronization

The Distributed Alarm System allows you to configure a secondary backup Alarm Provider to establish a fail-safe system. Alarm Provider Pairs are configured using a supplied utility. Should a primary Alarm Provider fail, the Distributed Alarm Subsystem seamlessly acquires alarm information from the backup system. Upon reconnection to the primary Alarm Provider, the Distributed Alarm Subsystem synchronizes the information before the primary system becomes live again.

ADDITIONAL FEATURES

Tagname Browser

The Tagname Browser allows the user to select tagnames and tagname fields from any FactorySuite® application, such as another InTouch node, the Industrial Application Server, the IndustrialSQL Server historian, InBatch™ production management software, InControl™ real-time control software, or any other tagname source that supports the InTouch Tagname Dictionary interface. This enables quick configuration between applications, saving time for the developer and synchronizing tagnames for easier administration and maintenance.

Automatic Application Backup

When existing applications require conversion to run on newer versions of InTouch software, this backup feature protects the older application on the previous software version from being overwritten. If necessary, the user can revert to the Backup Directory.

Alarm Printing Options

The InTouch HMI enables alarm printing from any printer that runs on a Windows operating system and includes support for USB and network printers.

FactoryFocus Graphic Monitoring Software

FactoryFocus™ graphic monitoring software provides a view-only runtime version of the InTouch 9.0 HMI. It gives managers and supervisors the ability to view a continuous HMI application process in real time. System security increases with this view-only capability because no data can be changed. InTouch applications do not require modification to use the InTouch FactoryFocus software.

Time and Date Functions

Users can access UTC Time, the current local time, the current time offset from the GMT zone, and daylight savings time status for their applications, simplifying worldwide application management.

Tagname Cross-Referencing

The Tagname Cross-Referencing function allows users to analyze tagname, SuperTag and remote tag reference usage and indicates the window or QuickScript in which a specific tagname or reference is used. For convenience, the Tagname Cross-Reference window can remain open in the WindowMaker editing program while the developer performs other tasks. It also allows for direct viewing of any QuickScript or QuickFunction in which a tagname is found.

Local Variables

InTouch 9.0 QuickScripts and QuickFunctions support the use of local variables to store temporary results and create complex calculations with intermediate scripting values. Using local variables in QuickScripts and QuickFunctions does not decrease the licensed tagname count.

Instrument Failure Monitoring

Wonderware's InTouch 9.0 software supports several tagname dot fields, including .RawValue, .MinRaw and .MaxRaw. Any operator can use these dot fields in InTouch QuickScripts to monitor instrument values and determine if instruments have failed or are operating out – of range or calibration.

VTQ

VTQ refers to the data Value, Timestamp and Quality of I/O-type tagnames provided by an I/O Server. Through standard SuiteLink protocols, the time and quality stamps are available as 19-dot fields for tags and may be referenced in animation links and scripts. The VTQ model is compatible with the OPC standard.

INTEGRATION WITH FACTORYSUITE COMPONENTS

InTouch 9.0 software functions as the universal FactorySuite A[2] client. It can be used as a front end for the Industrial Application Server, InTrack™ resource tracking software, InBatch production management software, the IndustrialSQL Server historian, InControl software and DT Analyst™ asset –monitoring and software. InTouch graphical windows can be viewed over a PDA, Tablet PC, using Terminal Services for InTouch software, or over a browser, using SuiteVoyager® portal software. In addition, client tools such as ActiveFactory™ analysis tools, QI Analyst™ SPC/SQC software and SCADAlarm™ event-notification software collaborate with the InTouch HMI to provide additional information about the industrial process.
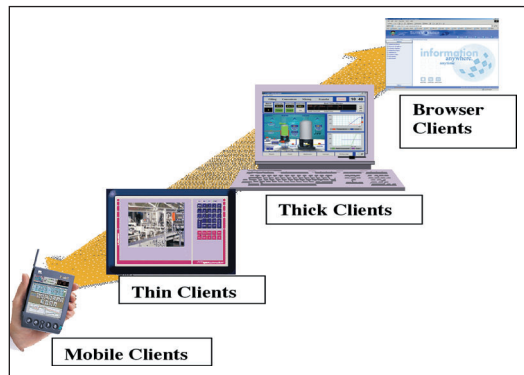
Agile Applications

COMPREHENSIVE SUPPORT

Wonderware's Comprehensive Support Program makes it easy to maintain up-to-date Wonderware software and associated applications. To learn more about this valuable program, which maintains and often increases the value of industrial software applications, call to action.

SYSTEM REQUIREMENTS

To run InTouch 9.0 software, we recommend the following minimum hardware and software configurations:

HARDWARE

Minimum

■ 400 MHz Pentium II

■ 256 MB of RAM, plus 5 MB of additional RAM per 5K tags

■ 2 GB Free Hard Disk Space (excluding Windows XP Embedded systems)

Suggested

■ 1.2 GHz Pentium III or greater

■ 512 MB of RAM

OPERATING SYSTEMS*

■ Microsoft Windows 2000 Professional, Server and Advanced Server

■ Microsoft Windows XP

■ Microsoft Windows XP Tablet Edition**

■ Microsoft Windows 2003 Standard and Enterprise Editions

■ Microsoft Windows XP Embedded**

*with the latest service packs applied

**on select hardware