



FactorySuite 2000 Toolkit

Product Position

The FactorySuite Toolkit is a powerful set of product-specific tools that allows you to extend FactorySuite 2000 to meet your specific application needs. The FactorySuite Toolkit contains the following five development kits.

InTouch Extensibility Toolkit

The Extensibility Toolkit for Wonderware InTouch is a collection of Software Development Kits (SDKs) that provides application developers the means to extend the functionality of InTouch. Developers can now build new capabilities for InTouch applications and seamlessly link them into the InTouch development and runtime environments.



InTouch Extensions allow users to do things such as run their own Script functions, import drawings and measurements, translate databases, instantly place intelligent configurable components or systems in applications, access the InTouch database, and more. In fact, virtually any capability a developer can conceive for an application may be accomplished with Extensions. InTouch Extensions can dramatically increase productivity, assure repeatable functionality across installations, customize, differentiate, and add value to product.

The ability to extend the capabilities of InTouch is a direct result of Wonderware's commitment to open programming environments. By providing customers and third-party developers with Wonderware's Applications Program Interface (API) and in-house development tools, Wonderware has made it possible to create a vast pool of useful InTouch Extensions that may be traded, bought and sold between users. The Wonderware Users Forum on CompuServe has become a central exchange for Extensions, ideas, and information. While some Extensions have broad applicability, others are specific to a project or industry. As the number of Extensions grows, so does the value of InTouch.

InTouch Extensions are productive. Days or more of work can be contained within a single extension. Highly repetitive and time consuming activities may be done by them. With the click of a mouse, Extensions may be placed in an application and configured for use within seconds.

Extensions can be:

- Intelligent and configurable graphic components or systems such as meters, valves, faceplates, ovens, tank farms and processing rooms.
- Complex interfaces such as a custom historical trending screen, a database conversion utility, or a data logging module.
- Mathematical operators containing complex formulas, interpolations, or transformations.
- Functions that launch other Windows processes, execute command sequences, perform file management functions, or manage computer resources.

Whatever form they take, InTouch Extensions are likely to become an important part of the developer's design repertoire.

The Extensibility Toolkit consists of three software development kits: the [Wizard SDK](#), the [Script Extension SDK](#), and the [IDEA SDK](#) and [Visual Basic Extension](#).

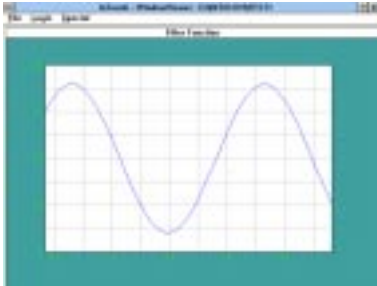
FactorySuite 2000™ Toolkit

PRODUCT DATA SHEET

The FactorySuite Toolkit is a powerful set of product-specific tools that allows you to extend FactorySuite 2000 to meet your specific application needs.

The IDEA SDK and Visual Basic Extension

The IDEA SDK and Visual Basic Extension (VBX) provide quick and easy access to the InTouch database from programs outside the InTouch family. Included with the IDEA SDK is a set of APIs that can be combined and integrated within selected programming languages to read and write from the InTouch database. The APIs elevate the programmer from the cumbersome details of data structures to accessing variables within a single statement.



For Visual Basic programmers, a VBX is included that makes the addition of InTouch database information to Visual Basic applications quick and easy. The VBX provides a link that automatically updates data in the Visual Basic program as data changes within InTouch.

Using either extension, multiple ports to the InTouch database may be established, allowing extremely fast access and data transfer rates. This access is not through DDE, but rather through a direct connection to the runtime database.

Even with multiple concurrent accesses, the InTouch database can easily respond to the needs of real-time programs. In fact, the IDEA SDK is the same tool that Wonderware developers use to write interfaces for other programs to access the InTouch database.

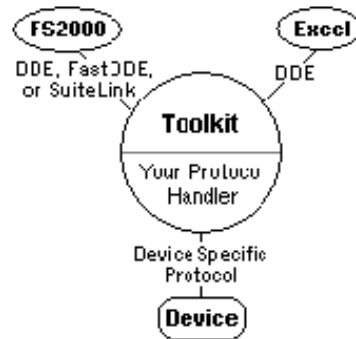
The IDEA SDK and the Visual Basic Extension may be used in cases when a company has invested significant time and resources to develop a proprietary program that is not easily converted to a Windows DLL or suited to InTouch, but requires data contained within InTouch.

The IDEA SDK supports programs written in Microsoft and Borland C, Turbo Pascal and Visual Basic for Windows, as well as C, FORTRAN and Turbo Pascal for DOS.

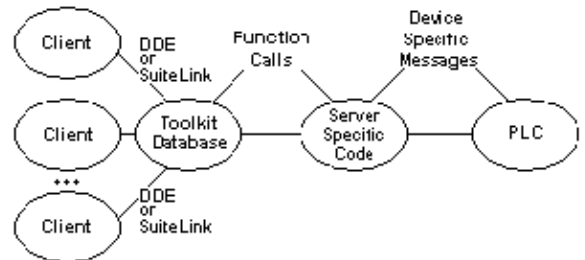


I/O Server Toolkit

The FactorySuite_ I/O Server Toolkit allows you to develop customized interfaces between FactorySuite and a wide variety of communication devices. Common applications include PLCs, DCSs, and hardware devices directly to a PC. The I/O Server Toolkit is used internally for developing dozens of Wonderware I/O servers and hundreds of third party I/O servers with a worldwide installed base of thousands of sites. The Toolkit minimizes the learning curve associated with Dynamic Data Exchange (DDE) and SuiteLink implementation by utilizing the man-years of development and testing that have gone into Wonderware FactorySuite and I/O Server products. The toolkit includes complete documentation, enhanced sample I/O server code, and a test client that supports DDE, fastDDE, and SuiteLink help to develop and test new I/O servers quickly.



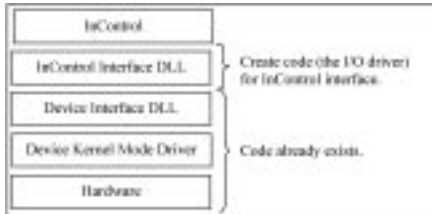
The FactorySuite I/O Server Toolkit provides a high-level application program interface (API) that doesn't require detailed handling or understanding of low level details of the client/server communication protocol (DDE or SuiteLink). The Toolkit has been optimized for performance in real-time data acquisition applications. The I/O Server Toolkit is based on a library that includes high level functions that take care of the more difficult complications associated with the development of a well-behaved, high performance I/O Server. In addition, the FactorySuite 2000 I/O Server Toolkit adds support for VTQ (value, time and quality) on a per item basis. The API enables developers to easily add statistical counters and rates to their I/O servers.



InControl I/O Toolkit

The Wonderware_ InControl_ I/O Connectivity Toolkit allows you to develop customized interfaces between InControl and the software code for an I/O device. The toolkit includes complete documentation, interface descriptions, test utilities and sample code needed to create and debug an InControl I/O Driver.

I/O drivers for InControl are essentially Windows NT Dynamic Link Libraries (DLL). Drivers have two basic



modes of operations: design-time and run-time modes. At design time, the configuration engineer has the chance to select and configure the driver, to choose the device options, to save the configuration, and to assign symbolic names to physical hardware. The symbols can be accessed in the InControl application program and viewed in the Symbol Manager. At runtime, the driver is called to initialize the hardware and update the I/O image registers to or from the device. Many drivers access I/O scanner cards that provide network connectivity to field devices..

Common applications include I/O scanner cards, for which the vendor typically provides a kernel mode component that allows access to the dual-port-RAM, interrupts and I/O bus ports, and additional DLLs that provide high-level functions to application developers. Typically, the driver development task involves designing the interface between InControl and the software code for a device interface that already exists. In this case, all that is needed is a “thin” interface layer between the two, and the addition of configuration screens that allow the user to define the I/O, as illustrated in the following figure.

The need for the kernel mode component is dependent on your specific device. For example, if you use the standard serial ports, you can use the Win32 Application Program Interface (API) to access them without any kernel mode code.

InControl Factory Object Toolkit

The InControl Factory Object Toolkit includes documentation and code samples to enhance ActiveX Controls so that they can be more tightly integrated into an InControl project as an InControl Factory Object.

Since InControl is an ActiveX container, you can write specialized functions external to the product called ActiveX components and plug them into InControl. This allows an almost limitless extension of InControl for your factory control application. In InControl you can invoke any method within the ActiveX component or interface with any of its attributes. The information and samples in this

toolkit allow you to enhance any ActiveX component and take advantage special interfaces to InControl symbols and runtime information.

InBatch Toolkit

The InBatch 7.0 Toolkit is a collection of API's that provide users with the capability to write custom applications that interface with the InBatch 7.0 flexible batch software as included with FactorySuite 2000. Proficiency in C programming, the Windows NT operating system, and a strong knowledge of configuring and applying InBatch is required. The InBatch toolkit includes the following libraries:

■ Batch Talk

The Batch Talk library allows users to develop custom applications that interface with the InBatch scheduling database and also to create custom operator interfaces that have all or a portion of the functionality contained in the Batch Display application. The functionality that is supported by the Batch Talk library is similar to that provided with the InBatch 7.0 ActiveX objects.



■ Batch Database

The Batch Database library allows users to develop custom applications that interface with the InBatch 7.0 material and recipe databases. With this library data can be read from and written to either of these databases.

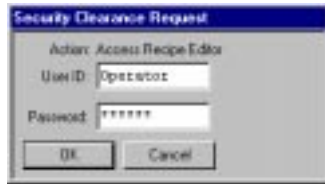


■ Tag Talk

The Tag Talk library allows users to develop custom applications that interface with any of the tags defined in the batch system. The user can create application specific tags that can be used in other custom applications, as well as read and write values for any tag defined in the system.

■ Security

The Security library provides an interface for granting or restricting access to InBatch applications and their functions and for modifying user passwords. Applications that use this library are clients of the InBatch Security Manager. This manager decides whether or not a potential user has the required security clearance. The Security library provides an application with both Done By and Check By function options for security execution.



■ Environment Talk

The Environment Talk library contains functions that allow communications between applications and the Environment Manager. This library can be used to incorporate custom applications into the InBatch 7.0 environment management system.

Specifications

Hardware:

Any IBM® compatible PC with a Pentium 100 processor or higher. At least 32 MBytes of RAM. At least 100 MBytes of free hard disk space. (At least 50 MBytes hard disk capacity for the application files.)

Software:

Microsoft® Windows® 95 or Windows® NT 4.0 operating systems, For the Windows 95 operating system to implement the distributed functionality of InTouch, Wonderware NetDDE must be installed and operational.

Additional

CD ROM drive. Pointing device. For example, mouse, trackball, touch screen.

Monitor:

VGA color display capability (Super VGA with 256 colors and 800 x 600 pixel resolution recommended).

Optional:

Windows-compatible sound card (Soundblaster™ or equivalent) and speakers.

Note:

Wonderware FactorySuite 2000 (Version 7.0 products) does not support the Microsoft Windows NT 3.x or Microsoft Windows for Workgroups operating systems.



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