

InTouch® 9.0 for Terminal Services



- Lower Total Cost of Ownership
- Increased Productivity
- Flexible Software Deployment



PRODUCT HIGHLIGHTS

- Multiple Platforms and Devices
- Ease of Use
- Wireless and Internet Access to InTouch HMI
- Remote Application Control
- Network Load Balancing
- Increased Reliability

InTouch® human-machine interface (HMI) software from Wonderware, a business unit of Invensys Systems, Inc., is the world's leading HMI for visualizing and controlling plant processes. InTouch HMI software offers 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 for Terminal Services software extends the capabilities of InTouch software by enabling users to deploy the InTouch HMI in terminal server systems. The software provides familiar development and runtime environments, as well as easy access to HMI applications from several different software platforms and devices. This increased visibility into the plant's real-time processes can lead to more intelligent plant decisions.

InTouch 9.0 for Terminal Services software offers manufacturers tools to lower their total cost of ownership, increase productivity throughout the lifecycle of their plant's software applications and deploy the InTouch HMI in a variety of ways.

LOWER TOTAL COST OF OWNERSHIP & INCREASED PRODUCTIVITY

InTouch 9.0 for Terminal Services software gives manufacturers tools to lower their total cost of ownership and increase productivity, by maximizing their existing hardware and system investments.



Centralized Software Administration & Management

Centralized software administration and management empowers companies to lower IT costs by reducing the number of servers hosting software, while increasing reliability and scalability. With InTouch 9.0 for Terminal Services, users can globally upgrade software and modify applications on the terminal server. When users access applications affected by changes to the terminal server, they can choose to accept, reject or automatically receive the changes. This centralized approach accelerates plant-wide software administration and management, which can significantly increase productivity and minimize downtime.

Hardware Reuse & System Migration

InTouch for Terminal Services software can save manufacturers significant time and money because it lets them reuse existing hardware and migrate existing systems to the terminal server application at convenient times, which decreases production downtime.

Thin-Client Terminals

Thin-client terminals provide a low-cost alternative to system expansion, while increasing reliability. There is simply less that can go wrong with a thin-client terminal and replacement is fast and easy.

Companies can lower the total cost of ownership of their plant-floor systems through:

- Centralized software administration and management
- Thin-client terminals
- Reusing old hardware systems

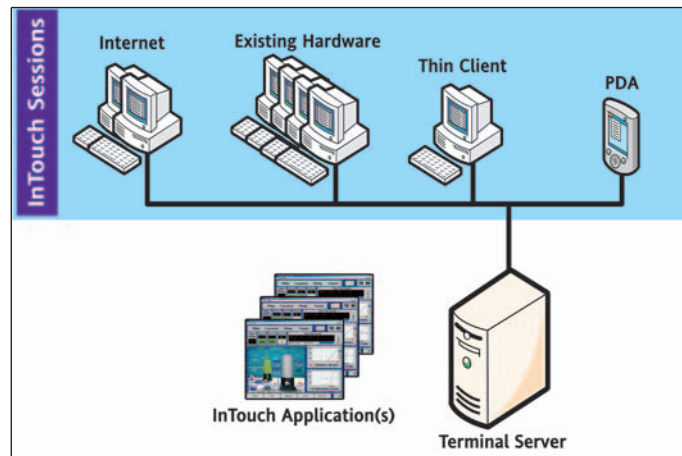
By centralizing software administration and management, reusing hardware, migrating systems and giving manufacturers the option to use thin-client terminals, InTouch 9.0 for Terminal Services software can help lower a company's total cost of ownership and increase plant productivity, while leveraging the latest technologies and products.

FLEXIBLE SOFTWARE DEPLOYMENT

Server-Centric Deployment

InTouch 9.0 for Terminal Services software can be deployed in a fully server-centric mode, in which applications run entirely on the terminal server. If clients have the terminal services protocol installed on their systems, they can access a thin-client version of the InTouch application, known as a session. The InTouch session provides full InTouch capability to the client. The session is managed transparently by the terminal server operating system and is independent of any other client session. Therefore, each operator can log into the terminal server and view his/her own session of the InTouch application.

Network bandwidth traffic is minimal because only screen, mouse and keyboard information is transmitted between the client and the server. So plant operators as well as casual users—including maintenance staff, supervisors, engineers and/or vendors, who might need immediate access to critical manufacturing or process information—can simultaneously run sessions.



Flexible Deployment

Operating Systems

Hardware systems with the terminal server protocol installed can access InTouch applications running on the terminal server to leverage the InTouch HMI's latest features. In addition, the Microsoft Windows® 2000 Server and 2003 Server operating systems (OS) can be extended to the older hardware platforms without upgrading the operating system.

InTouch software applications in a terminal services system are supported on clients running multiple operating systems and versions, including:

- Microsoft Windows for Workgroups 3.11 OS
- Microsoft Windows CE, 95/98, 2000, XP and 2003 OS
- Microsoft Windows NT™ 3.21/4.0 OS
- Microsoft Windows Embedded NT (NTE) and Embedded XP (XPe) OS
- UNIX® operating system
- Linux® operating system

Thin-Client Terminals

Thin-client terminals can also be used to lower the total cost of ownership while providing additional views into the application. Hand-held PDAs can display InTouch for Terminal Services applications, with the added benefits of mobility and constant application supervision.

InTouch for Terminal Services software also gives users the flexibility to view InTouch applications through:

- Hardware systems
- Thin-client terminals
- PDAs
- Internet browsers

InTouch for Terminal Services software extends the usefulness of the InTouch HMI software by providing access from a range of devices and platforms without modifications to the existing application. Therefore, companies can immediately distribute the benefits of the latest software applications to their entire manufacturing system, which can improve productivity while lowering the total cost of ownership.

Expansion Options

The thin-client approach to InTouch deployment allows users to gradually transition to terminal server usage. Users can mix-and-match client/server and terminal server configurations, as well as mix-and-match RDP (Remote Desktop Protocol) and ICA® clients in order to run combinations of Windows workstations and Linux clients. (The RDP and ICA communication protocols support transmission of information between the terminal server and the client nodes.)

Users can have one application on the server and execute it multiple times, in multiple sessions. Or, they can have multiple different applications running and executing simultaneously on the server. The user can choose how to set up the system.

ADDITIONAL FEATURES & BENEFITS

Increased System Availability

Deploying InTouch software as a thin client increases system availability. Thin-client environments typically encounter fewer problems than traditional systems. Even if a component fails, users can usually get applications back up and running in less than a minute, simply by plugging in a new terminal device.

System Performance

Wonderware has performed massive scalability and concurrency testing on InTouch for Terminal Services software to verify that it works properly in a thin-client environment. When users deploy the InTouch HMI in a terminal server system, they should enjoy the same high performance and ease of use they've come to expect from Wonderware's InTouch software.

Citrix Support

Citrix® MetaFrame™ is available as an add on option to Windows NT, Windows 2000 Server and Windows 2003 Server Terminal Services OS. This permits the use of non-Windows operating systems for clients, including UNIX, Linux and Macintosh® OS. Citrix supports its own terminal protocol (the ICA protocol) and its own set of Terminal Services tools.

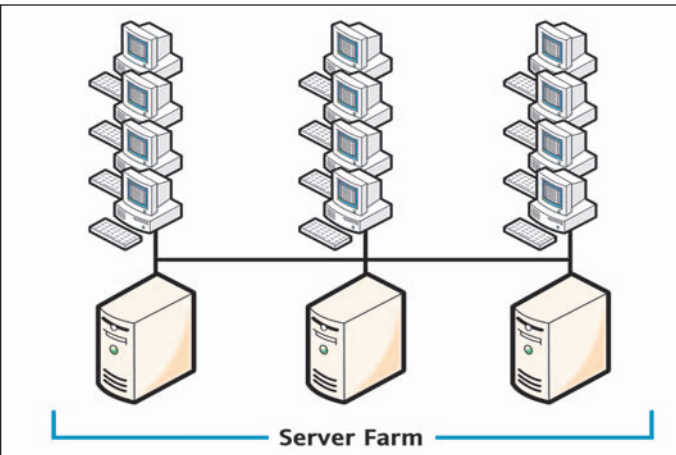
Windows 2003 Terminal Services Support

InTouch 9.0 software supports the new features in the Microsoft Windows 2003 Terminal Services OS, enabling users to leverage the latest technologies throughout the thin-client system. Some of the enhancements include full-color support for graphics (so your InTouch graphics will look vibrant on thin-client devices), the ability to designate network resources per thin client and the ability to remotely administer Console 0, which is the terminal server. Please refer to the Microsoft® website for more information about Windows 2003 Terminal Services enhancements.

Network Load Balancing

Microsoft and Citrix support network load balancing, which is important in implementing mission-critical applications. Network Load Balancing enhances the availability and scalability of applications. It redirects the connection from a failing or offline server to a backup. After maintenance is completed, the offline computer

can transparently rejoin the cluster. There are many methods of deploying system redundancy. Please consult your Wonderware®, Microsoft, or Citrix websites for the latest information.



Remote Access

InTouch 9.0 for Terminal Services also enables remote control and application shadowing. A designated user can dial in via a remote access server (RAS) and request simultaneous control of the session.

Wireless Access

InTouch 9.0 for Terminal Services also supports wireless clients right out of the box, for easy mobile access to InTouch applications.



Wireless Access

Internet Access

With Microsoft's Terminal Services Advanced Client (TSAC), users can easily access InTouch applications in a terminal server environment. TSAC provides almost the same functionality as the full Terminal Services client, but it's designed for the Internet. Clients need only have an Internet Explorer 5 (or greater) browser installed.

IndustrialSQL Server and ActiveFactory Support

The thin-client version of InTouch 9.0 software supports Wonderware's ActiveFactory™ client tools, allowing users to view and analyze information from Wonderware's IndustrialSQL Server™ real-time plant historian. ActiveFactory client tools can run on the terminal server.

Communications

Inter-nodal communications are enhanced with modifications to Wonderware's SuiteLink™ protocol to support session communications. InTouch software will automatically detect if it's communicating in inter-session (rather than inter-node) mode and can give the user information about the terminal server client and console.

InTouch for Terminal Services software can also leverage Network Application Development (NAD) capabilities. NAD allows users to dedicate memory space on the server to maintain local history data and retained tags, so that data can be accessed properly to run applications.

I/O Server Support

InTouch for Terminal Services software supports all standard InTouch I/O Servers that are certified as compliant with the Microsoft Windows 2000 operating system. I/O Servers can be deployed from a terminal server or a separate node.

Security

InTouch for Terminal Services software can be fully locked down so that an operator can only see the InTouch HMI. Users' access levels are based on their login. InTouch for Terminal Services software leverages the Windows NT security system, so that privileges can be assigned to specific groups and users.

Enhanced Development Tools

InTouch developers also benefit because InTouch 9.0 for Terminal Services software supports clipboard cutting and pasting between sessions. Authorized developers can call up one version of Wonderware's WindowMaker™ graphical editing software in a session, cut-and-paste, and all the associated links go with it.

"On the cost-reduction side, we've been able to extend the life of our bag house filters, which has saved us thousands of dollars."

"It provides a rich set of user features that give us the ability to visualize the data in virtually any way we desire."

"Scrap has now been reduced in the production process because IndustrialSQL Server and ActiveFactory software help our staff run and monitor processes more effectively."

"Our state regulators are impressed with the data we give them during the audit process. Questions are answered more quickly and readily, and proof is right there on the monitor as to what our equipment is acting like."

Showa Denko Carbon
Ridgeville, North Carolina



SPECIFICATIONS

Server Hardware Requirements

CPU1	Physical Memory	Virtual Memory	# of Clients	MHz
Pentium III	384 MB	960 MB	5	450
Pentium III	1024 MB	2560 MB	15	500
Pentium III	2048 MB	5120 MB	25	700

- Multi-processors can improve performance.
- Add 128 MB of RAM for Windows 2000 Advanced Server OS.
- Memory requirements depend on application load and the number of users connected. RDP will need 40-60 MB per user running InTouch software, while the ICA protocol will require slightly more.
- Virtual memory (page file size) should be at least 250% of the physical memory.

Operating Systems Supported

- Microsoft Windows 2000 Server, Advanced Server and Windows 2003 Server operating systems*
- Citrix MetaFrame 1.8 running on top of Windows 2000 Server and Advanced Server operating systems
- Citrix MetaFrame XPe Feature Release 3 running on top of Windows Server 2003 Standard Edition operating system

Terminal Protocols Supported

- Microsoft RDP 5 or greater
- Citrix MetaFrame (the ICA protocol) 1.8a or greater

Hard Disk Space

- One or more hard disks with a minimum of 2 GB on the partition that will contain the system files.

Networking

- 10/100/1000 Mbps Ethernet network adapter card on a network that uses the TCP/IP protocol.

Peripheral Devices

- Hard Disks. Disk speed is critical for terminal server performance. SCSI (Small Computer System Interface) disk drives, especially drives compatible with the latest standards, have significantly better throughput than other types of drives.
- Network Adapters. A high-performance network adapter is recommended, especially if users require access to data that is stored on network servers or client/server applications, such as Wonderware's InTouch software. Using multiple adapters can significantly increase network throughput.

RDP Client Hardware Requirements

- There will be some performance considerations, depending on the model of the client and the applications to be supported. In general, users may deploy any terminals that support either RDP protocols (Windows CE, Embedded NT, 3.1/3.11, 95/97/98/ME, 2000, XP, Embedded XP and 2003 OS). Wonderware supports Linux and Unix operating systems only on hardware that supports the ICA protocol.

*With the latest service packs applied.

Contact Wonderware or your local Distributor for information about software products for industrial automation.
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