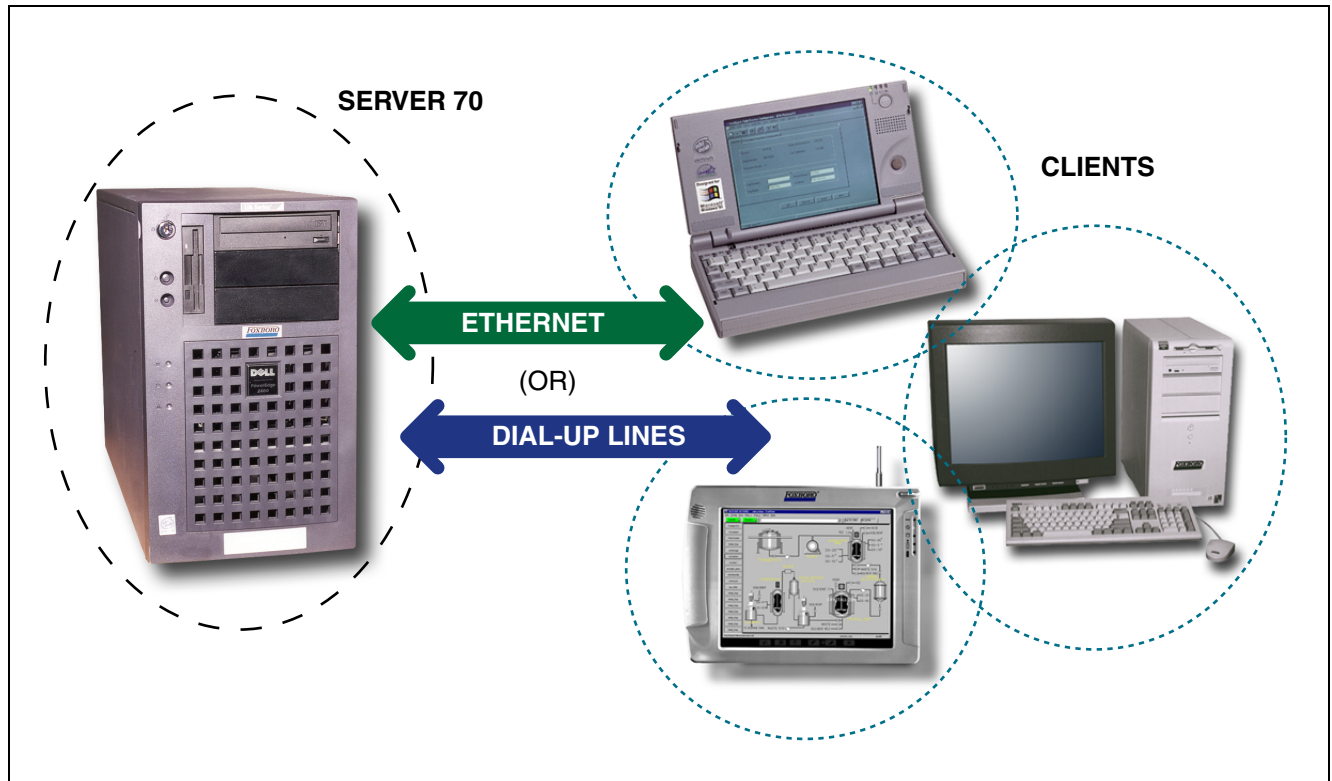# I/A Series® Software
Server 70 Software Overview
Windows NT® Server 4.0, Terminal Server Edition

The Server 70 is a server-class processor running the Microsoft™ Windows NT Server 4.0, Terminal Server Edition operating system.

The Server 70 offers:

- A premium level system with high-end processor speed, up to 2 GB of memory, optional internal RAID, up to six internal SCSI hard drives, and redundant hot-swap power supplies.
- Hosting of control stations and/or supporting data acquisition, and monitoring functions.
- An application platform and human interface station in an Ethernet or Nodebus-based system.

- The ability of each Server 70 station to support viewing of I/A Series applications from up to 20 remote client stations over local area networks and dial-up connections.
- Web-browser or Terminal Server Client window access to applications running on the Server 70 from remote client stations.
- Remote client stations to a Server 70 may be other AW70s or WP70s, or third-party Windows-based PCs.
- An enhanced printscreen utility that incorporates the ability to swap black and white colors, automatically send screen captures to a printer or file, place date and time on each printout and many other useful features.

The Server 70 supports remote engineering and operations capability via access to I/A Series displays for the purpose of monitoring and, optionally, controlling your process. The Server 70 supports remote invocation of the following I/A Series applications:

- FoxView™
- Alarm Manager
- FoxDraw™
- Integrated Control Configurator (ICC) in the Application Workstation 70 (AW70) version
- System Management Display Handler (SMDH).

ICC and SMDH are single instance, meaning there can be only one instance running on the Server 70 at a time, including remote sessions. Other applications are multi-instance and may be invoked from multiple client sessions simultaneously.

Security of remote client access is user-configurable. The remote sessions can range from being view-only to being equivalent to a local operator, providing the flexibility and control over what a remote user can do.

The Server 70 platform is available in two models: one with limited I/A Series Application Workstation 70 (AW70) functionality and one with full I/A Series Workstation Processor 70 (WP70) functionality. The AW70 functionality supported by the Server 70 is a subset of the AW70. For example, Server 70 does not include support for all I/O options, such as the PCFB (PC Fieldbus), PKTX (Allen-Bradley) cards, and Bristol Babcock RTUs. Refer to Table 1 for a list of applications supported by Server 70.

NOTE
Server 70 stations should not be used as replacements for dedicated I/A Series AW70 and WP70 stations because of single-point-of-failure and performance considerations. When remote client stations are totally dependent upon applications running in the Server 70, a failure or shutdown of the Server 70 may affect all these remote stations as well. Also, due to the variability of the demand that can be placed on the Server by remote client sessions, the performance of the applications running on the Server 70 may not be as deterministic as on a dedicated single-user workstation.

SERVER 70 SOFTWARE/LICENSES

Server 70 requires the following sets of licenses.

The *operating system licenses* include:

- Microsoft Windows NT Server 4.0, Terminal Server Edition (TSE)
- Microsoft Client Access Licenses (CALs)
- Microsoft Terminal Server Client Access Licenses (TS CALs)

When a Server 70 is purchased, it comes with a license bundle that includes one Windows NT Server TSE license along with ten CALs and ten TS CALs. This provides support for ten remote client stations. Additional client access licenses (CALs and TS CALs) can be purchased separately from Microsoft or a Microsoft authorized distributor. Each Server 70 can support up to 20 remote clients.

The *I/A Series software licenses* required are:

- I/A Series AW70 or WP70 software licenses (Ethernet or Nodebus)
- I/A Series Server 70 software license option
- Additional FoxView licenses (one per remote session)

Server 70 Operating System

The Server 70 uses Microsoft's Windows NT Server 4.0, Terminal Server Edition (TSE) operating system to allow you to remotely view instances of the FoxView application. You should not run or install applications such as Microsoft Exchange™, SQL or SAP on the Server 70 due to their impact on performance.

Remote Client Stations

Each Server 70 station can support up to 20 client sessions depending on resource loading.

Remote client stations can have access to more than one Server 70 station, even at the same time over Ethernet or dial-up lines. Refer to Figure 1. Any application that can be viewed on the local monitor attached to the Server 70 can also be viewed at a remote client station.

There are two ways to access these applications remotely. One way is using an ActiveX-enabled browser such as Internet Explorer™ 4.x or later. In this case, no additional software needs to be installed on the remote client station. The other is to install the Terminal Server Client software on the remote platform from a diskette. (This diskette can be created from a utility on the Server 70 and supports Windows 95™, Windows 98™, Windows NT™ and Windows 2000™ remote client stations.)

A FoxView license is required for each concurrently running instance of FoxView. FoxView Windows NT site licenses are available in increments of 5, 10, 20, 50 and 100 users (up to 20 maximum supported by each Server 70).

Server 70 I/A Series Software

The Server 70 can be purchased with either of the following:

- Full Workstation Processor 70 (WP70) functionality
- A subset of Application Workstation 70 (AW70) functionality.

The Server 70 supports the following categories of application software:

- Standard Application Packages
- Optional Application Packages
- Input/Output Support
- User Programming Support.

Standard Application Packages

The following application software is included with each AW70 or WP70 Server 70 as noted in Table 1.

- FoxView provides access to block detail displays, user-configured displays, select displays, and trend displays.
- FoxDraw provides drawing functions organized as a set of tools used to construct and edit objects.
- SMDH monitors the health of the equipment and allows responses to fault conditions.
- Alarm Manager provides notification and response capabilities, such as current alarm displays and user configured alarm displays.
- ICC provides for the configuration of control blocks and I/A Series control schemes.

Optional Application Packages

Many optional software packages are supported by Server 70. Note that additional software licenses may apply to some applications for remote client access. Frequently used options include, but are not limited to:

- FoxAnalyst™ is an advanced trend chart application for data review and comparison, designed to serve plant operators in the control room.
- FoxPanels provides notification of and the responses to alarm conditions.
- FoxCAE™ software performs database engineering, automatic loop documentation, and backdocumentation.
- AIM*Historian™ provides capability for collection, storage, and retrieval of historical process information.
- AIM*DataLink™ provides easy access to real-time data objects and historical information from Windows-based applications.
- AIM*Explorer™ is a tool for visualizing and exploring real-time and historical process data served from I/A Series systems and other data servers.
- AIM*SPC™ provides on-line displays of charts and other SPC tools for process variables.

NOTE

Some applications that run on a Windows 9x or Windows NT Workstation 4.0 may not run as expected on a Server 70 because the Server 70 utilizes the Terminal Server Edition of Windows NT Server 4.0 as its operating system. Microsoft has published guidelines for optimizing applications for this environment. If there are any questions or problems regarding a particular application, it is recommended that the supplier of that application be contacted.

Input/Output Support

Software drivers are available with the AW70 Server 70 access software for interfacing to the following devices and protocols.

- Modicon Modbus™ allows connection to Modbus and Modbus-compatible devices.
- Ethernet allows connection to Micro-I/A stations.
- OPC I/O gate is a bridge between the I/O gate data collector and the control process, using the OLE for process control (OPC) protocol.
- DDE I/O gate is a bridge between the I/O gate data collector and the control process, using the Dynamic Data Exchange (DDE) protocol.

User Programming Support

Powerful support is provided for interfacing user programs with I/A Series control systems:

- FoxAPI™ provides a function call interface that provides connection-based read or write access to I/A Series data objects.

There are some differences between the Terminal Server Edition operating system and Windows 9x or Windows NT Workstation 4.0. For most applications, no programming changes are required to run in the TSE environment. However, programmers are encouraged to consult the Microsoft web site to understand how to optimize applications for the Terminal Server environment.

Table 1. Standard and Optional Packages for Server 70

Standard Application Packages	AW70, Server 70	WP70, Server 70	Optional Application Packages	AW70, Server 70	WP70, Server 70
FoxView	S	S	FoxAnalyst	O	O
FoxDraw	S	S	FoxPanels	O	O
FoxSelect	S	S	FoxCAE	O	–
Alarm Manager	S	S	Integrated Control Software	O	–
SMDH	S	S	AIM*Historian	O	–
Operator Action Journal	S	S	AIM*DataLink	O	O
FoxDoc	S	S	AIM*Explorer	O	O
FoxIFDC	S	S	AIM*SPC	O	O
System Definition	S	S			
ICC	S	–			
PLB View and Monitor	S	–			
Process Summary Report	S	–			
FoxAPI	S	–			

S = standard; O = optional.
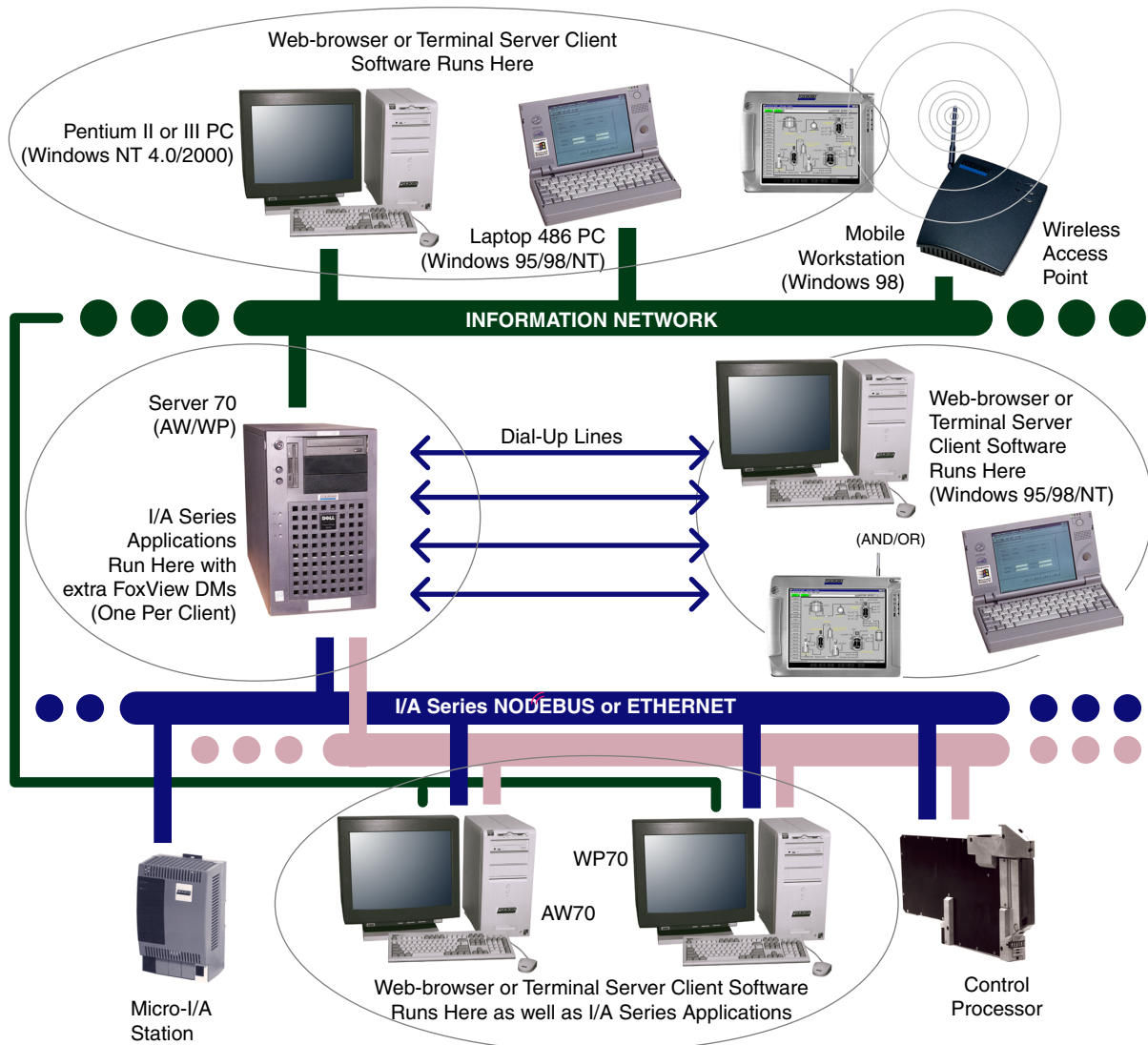
Figure 1. Server 70 Configuration on an I/A Series Nodebus