Proficy  
HMI/SCADA – iFIX

A market-leading supervisory monitoring and control solution that leverages advanced technologies, Proficy HMI/SCADA - iFIX provides a window into your total operations cycle—enabling faster, better business decisions for high performance.

Key Technical Benefits

Flexibility of connecting and presenting data

Scalability from isolated sensor to company-wide integration

Reliable information analysis

Real-time data management

Adherence to compliance standards

Proficy HMI/SCADA - iFIX is a flexible, integrated solution that provides superior process visualization, data acquisition, analytics and supervisory control of your operations. It offers a robust SCADA engine, rich set of connectivity options, open architecture and highly scalable and distributed networking model.

Used in a variety of applications across diverse industries, iFIX is ideally suited for applications as simple as typical HMI applications such as manual data entry and validation to very complex SCADA applications like batching, filtration and distributed alarm management. It also complies with industry standards—making it ideal as part of more IT-focused operations management and MES systems.

Open, Flexible and Scalable Architecture

Distributed Client-Server Architecture – Isolated to Integrated. iFIX can be configured from the machine and remote I/O level to the enterprise and advanced analytical layer. Its distributed client/server architecture enables flexible, scalable and powerful visualization for your plant or process.
iFIX is known for its robust SCADA engine that enables simple or complex applications to help you precisely monitor, control and visualize every aspect of your process. iFIX also has an extremely flexible architecture that provides the power to meet your current application needs while delivering scalability for future growth.

**Thin Client Capability.** iFIX leverages Microsoft® Terminal Services and/or Citrix-based services either through operation on a SCADA node or as a separate Terminal Server. You can easily manage your users and terminal services session with iFIX’s Profile Manager, a powerful configuration and management tool.

**Native and OPC Connectivity.** With a rich set of over 500 and a growing list of I/O drivers, iFIX enables you to connect to a wide range of hardware. It also supports different communication standards like Serial, TCP/IP, leased lines/modems from a single SCADA server. Its native I/O drivers and OPC servers support various performance-enhancing tools and provide support for driver failover across multiple communication channels to ensure seamless integration.

**iFIX Embedded.** iFIX is also available for Windows Embedded XP—enabling you to develop your application once and deploy it across a wide variety of devices.

**Web Client Capability.** iFIX WebSpace is an easy-to-use, full-featured web client that enables full control and visualization capabilities over your company intranet or secure internet without the need to alter the iFIX application.

iFIX can handle large numbers of I/Os, alarms and client nodes. Its built-in mathematical and logic processing capability can help you process large amounts of data; iFIX’s SCADA servers can serve the data to as many as 200 thick clients at the same time.
With Proficy Change Management, you can easily compare current versions with previous versions to ensure the integrity of your information.

iFIX offers an extremely reliable ActiveX® container based on Secure Containment technology. Its GUI container has been specifically designed for high reliability and offers technology that can capture failures of third-party ActiveX controls and scripting without crashing the container environment.

RELIABLE AND SECURE

Advanced Failover - Database Synchronization and Alarm Synchronization. iFIX SCADA servers support replication and failover of database and alarms between the primary and backup SCADA servers—ensuring that you have high availability and continuous control. Every aspect of the iFIX database is replicated, including adding/deleting tags, run time modifications, alarm generation, acknowledgement and database storage. All of the E-Signature configuration and audit trails can also be replicated.

Secure Networking – Network Encryption and Controlled Topology. To protect your data assets, iFIX offers a high degree of network security with a proprietary set of communications, a layer of network encryption and the ability to explicitly define communications with remote nodes. In addition to enabling communications with any requesting node, iFIX offers a communication table for defining nodes that are allowed to communicate.

Integrated Change Management. iFIX tightly integrates with our Proficy Change Management software to provide you with additional security and disaster recovery capability. You can report differences between databases, graphics, graphic scripts, dynamos, global variables, security configuration and other important system files; you can also track audit trails of system changes in real time.

DATA ANALYSIS, MANAGEMENT AND PRESENTATION

Flexible Charting and Trending. iFIX provides flexible options with support for real time, historical, SPC, histogram and logarithmic charts—enabling you to customize the data. Within each chart type, iFIX provides options for arranging data through several plotting methods, different legend selections, exporting options and auto-scaling for best-fit charts.

iFIX’s distributed alarm management allows you to view, acknowledge and notify personnel in their respective functional areas, thus reducing alarm clutter.
Advanced and Distributed Alarm and Event Management.
iFIX offers you maximum flexibility in configuring alarms such as:

- Distributed alarm management – You can divide your solution into functional areas and distribute alarms across these areas.
- Advanced alarm management – You have the flexibility to define alarm delays, alarm inhibit factors, alarm suspension factors and re-alarming time. iFIX’s alarm statistics and counters provide critical insights into the alarm and operator behavior.
- Store and forward capabilities – You can store and forward alarms to a relational database or Proficy Historian through the OPC Foundation certified OPC A&E Server, providing the ability to access alarms and events through simple SQL queries.

Whether you’re implementing a single, stand-alone HMI or a highly complex, multi-node, multi-site SCADA system, iFIX offers the functionality to help you quickly develop an application of any type and size.

You can customize and arrange data to view trends and other key information for enhanced decision making.

iFIX’s failover capability enables you to configure an independent network solely between the primary and backup for replication.
With iFIX, you have two tightly integrated storage options:

- **Proficy Historian** helps you address the need for more demanding node-based applications and more centralized data logging.
- **Classic Historian** manages the typical data logging tasks of a small application.

**Electronic signatures.** You can easily configure e-Signatures, which are part of the iFIX core, while creating the tag database. E-Signatures work together with iFIX’s Alarm & Event engine to record runtime changes made to the system and create an audit trail to help you meet regulatory compliance standards such as 21 CFR Part 11 and NERC.

**Easy Configuration for Development Productivity**

- **Prebuilt Dynamo Objects, Efficient Dynamo Management and Dynamo Toolkit.** iFIX offers over 500 prebuilt dynamos from basic lights and gauges to ISA symbols and equipment dynamos. iFIX dynamos are objects that can be versioned and named, and they follow the master-instance linkage—automatically replicating when changes are made to the master through the Dynamo Updater toolbar. iFIX’s Dynamo Toolkit enables you to build custom dynamos, which can be stored as Dynamo sets and will follow the same master-instance linkage.

**VisiconX Objects.** You can connect to any relational database by simple configuration of wizards. You can build SQL queries using the VisiconX objects to access simple data from a single database or combine multiple queries to access complex data from various sources.

**Flexibility to Customize**

- **VBA – Scripting to Match Today’s Demands.** iFIX includes a powerful and comprehensive scripting language, Microsoft® Visual Basic for Applications (VBA). In addition, the implementation of VBA in iFIX is pervasive in the GUI environment.

**Discovery and auto-configuration (DAC) tools** allow you to discover PLC configurations, which in turn can be used to create the iFIX Database, and configure the I/O driver and the Historian database. DAC also supports OPC drivers and can be used to discover OPC data sources.
Powerful APIs for Data Access and Automated Development. You can easily customize iFIX with various toolkits that enable system integrators and OEMs to apply iFIX to virtually any application:

- **iFIX Integration Toolkit**—designed to give you APIs for programming and data interfaces
- **System Extension Toolkit** for network access
- **Database Dynamo Toolkit**—enables you to develop custom function blocks
- **Biometric Toolkit**—to customize the iFIX e-Signature dialogs for biometric interfaces.

iFIX drives effective utility management and has proven to be a reliable and innovative solution for process visualization, alarm management, and integration of SCADA with business systems — empowering users with better analytics. This results in operational excellence for our clients, which aligns with our business vision.

Bill Serjeantson
VP of SCADA and Telecommunications Services,
Westin Engineering

From runtime actions to special development tools, VBA enables you to customize iFIX beyond all other products.

### Vertical Solutions Packs

Vertical Solutions Packs for iFIX are a packaged set of industry-specific components designed to reduce costs by accelerating, enhancing and standardizing your applications.

#### iPower

Specifically developed functionality for transmission, distribution or substation automation SCADA. Major components:

- Automatic configuration of dynamos and database
- Powerful menu navigation customizable to your application
- Pan, zoom and de-clutter

#### Water Solutions Pack

Specifically developed for water and/or wastewater HMI/SCADA. Major components:

- 651 Water/Wastewater Dynamos
- Advanced pump, valve and tank objects
- PLC5/SLC 500 DAC & Productivity Pack
- E-Signature option

#### OEM Solutions Pack

A compilation of pre-configured out-of-the-box graphic objects and screens tailored to machine-level applications. Major components:

- Out-of-the-box screens, including OMAC-based templates
- Integrated WorkSpace configuration toolbar
- Machine-ready Dynamos
- Touch screen trend and input screens