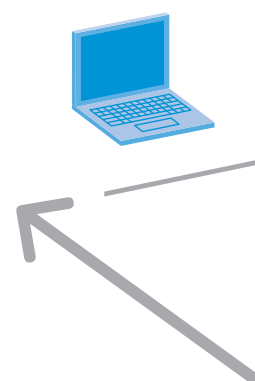


# Proficy HMI/SCADA – iFIX

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

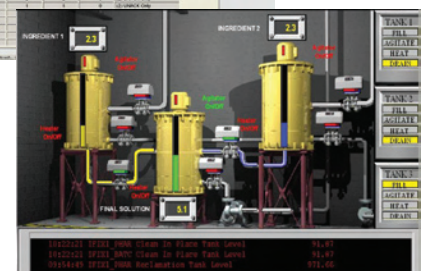
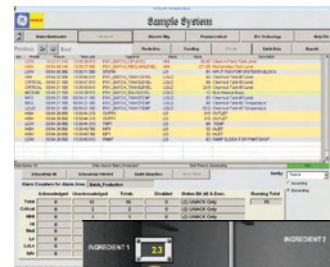
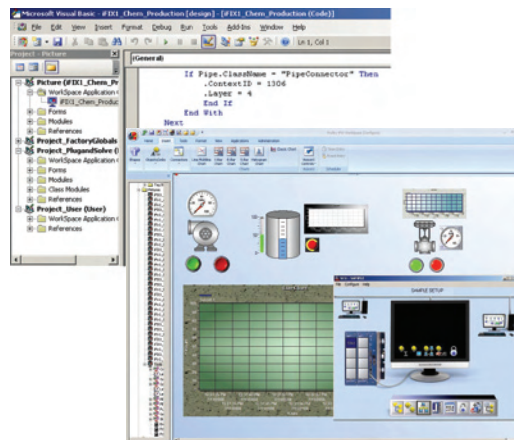
Adherence to compliance standards

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.

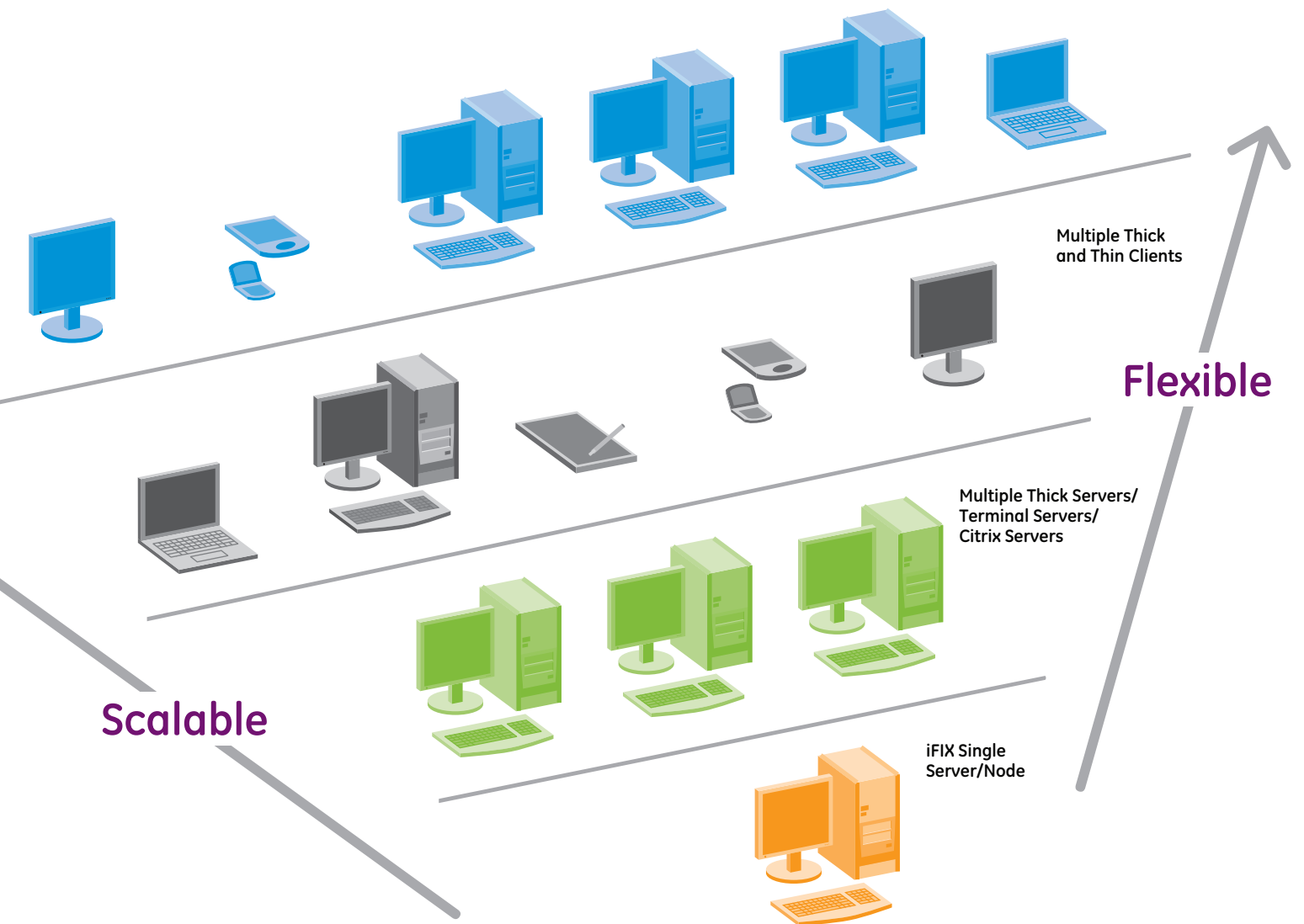
## OPEN, FLEXIBLE AND SCALABLE ARCHITECTURE

**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



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.

architecture enables you to spread applications across your operations, either geographically or across various application domains.

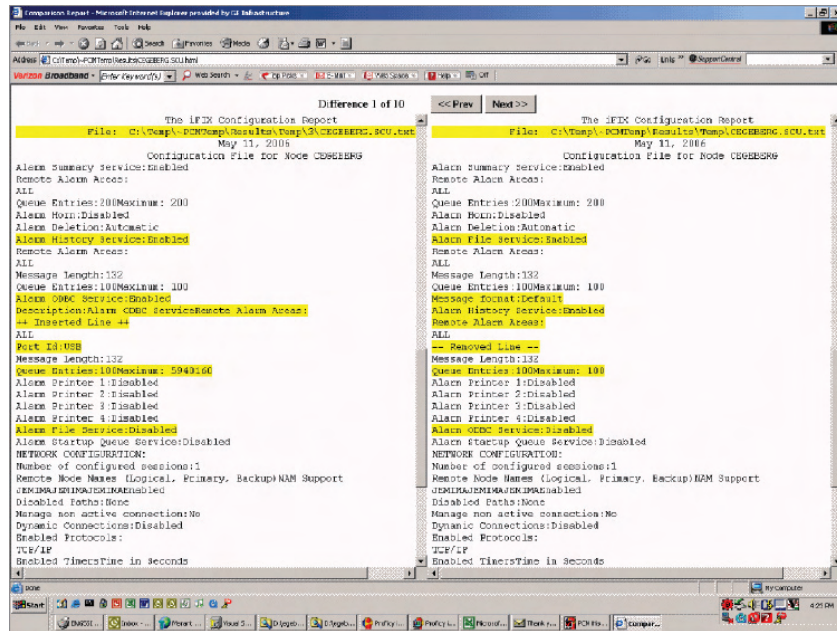
**Thin Client Capability.** iFIX leverages Microsoft® Terminal Services and/or Citrix-based services either through operation on a SCADA node or as a separate Terminal Server. You

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 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

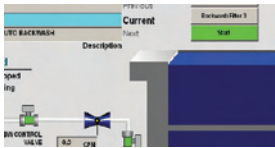
of network security with a proprietary set of communications, a layer of network encryption and the ability to explicitly define communications with remote nodes. In addition to enabling communications with any requesting node, iFIX offers a communication table for defining nodes that are allowed to 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.

## Data Synchronization

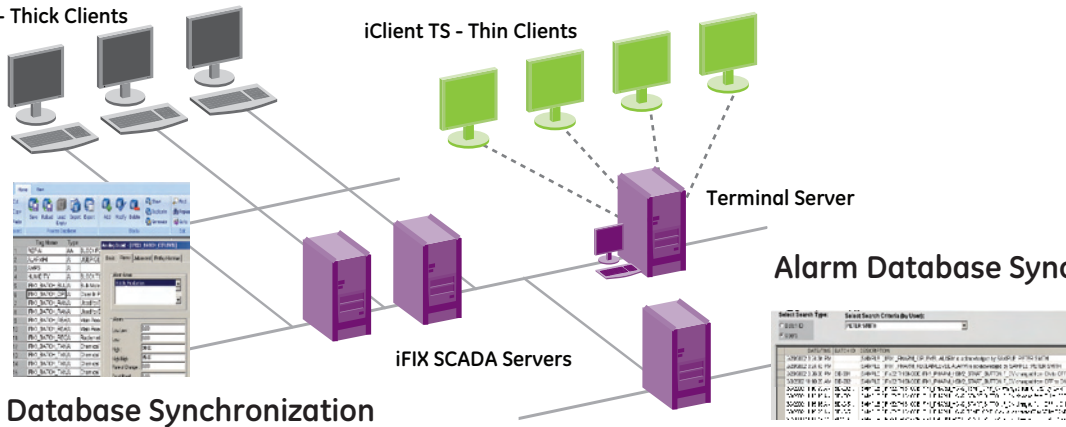


## Alarm Queue Alarm Acknowledgement Synchronization

ALARM	SEVERITY	DESCRIPTION	STATUS
001	CRITICAL	0-2500 DEG	ACK
002	CRITICAL	0-2500 DEG	ACK
003	CRITICAL	0-2500 DEG	ACK
004	CRITICAL	0-2500 DEG	ACK
005	CRITICAL	0-2500 DEG	ACK
006	CRITICAL	0-2500 DEG	ACK
007	CRITICAL	0-2500 DEG	ACK
008	CRITICAL	0-2500 DEG	ACK
009	CRITICAL	0-2500 DEG	ACK
010	CRITICAL	0-2500 DEG	ACK

iClients - Thick Clients

iClient TS - Thin Clients



## Alarm Database Synchronization

## Database Synchronization

iFIX's failover capability enables you to configure an independent network solely between the primary and backup for replication.

### Advanced and Distributed Alarm and Event Management.

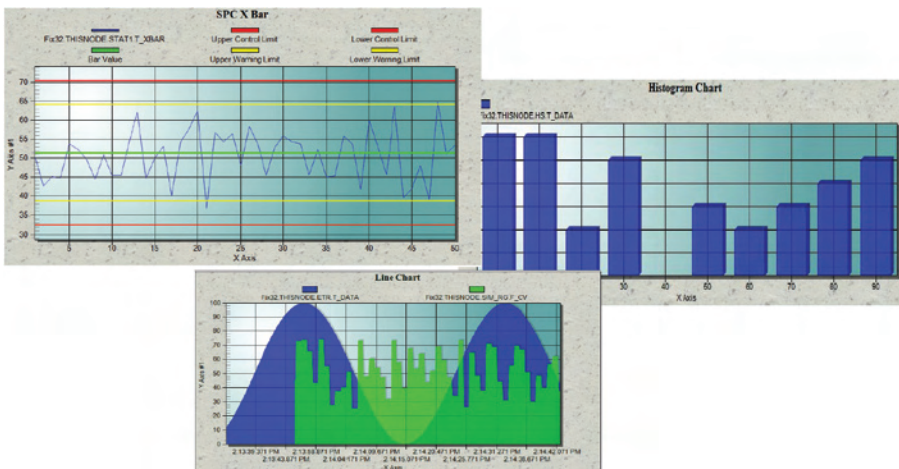
iFIX offers you maximum flexibility in configuring alarms such as:

- Distributed alarm management – You can divide your solution into functional areas and distribute alarms across these areas.

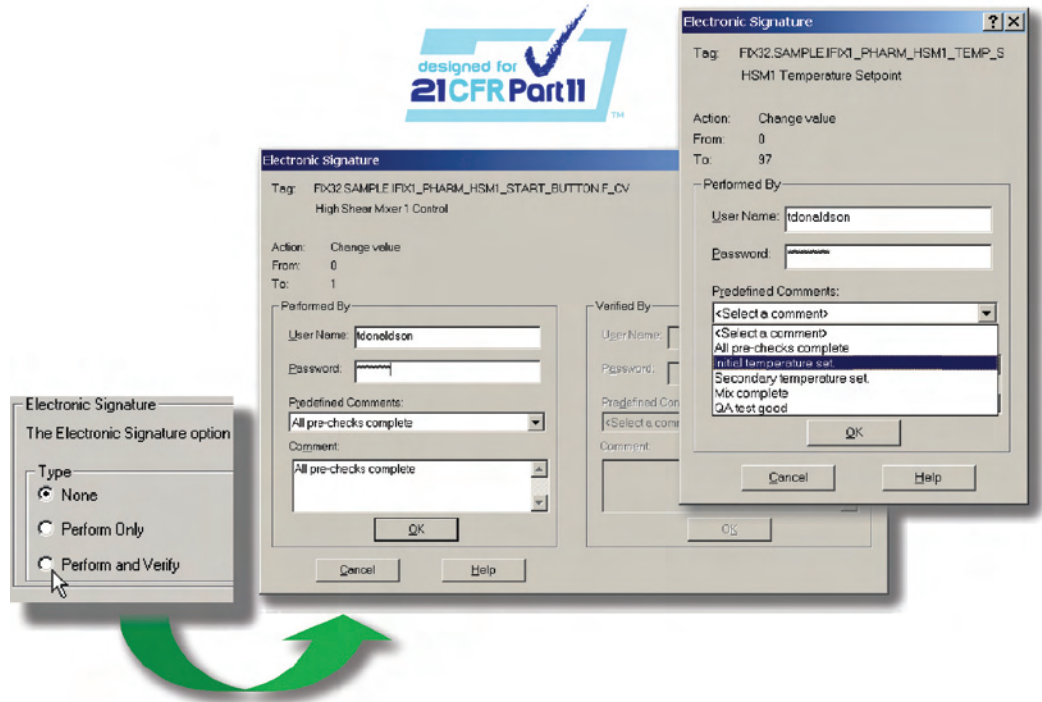
- Advanced alarm management – You have the flexibility to define alarm delays, alarm inhibit factors, alarm suspension factors and re-alarmed time. iFIX's alarm statistics and counters provide critical insights into the alarm and operator behavior.
- Store and forward capabilities – You can store

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.



It's easy to configure e-Signatures while configuring your iFIX database.

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.

**Integrated Historian.** 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. iFIX supports configuration of Historian through a single environment, which allows you to quickly set up your applications.
- 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.

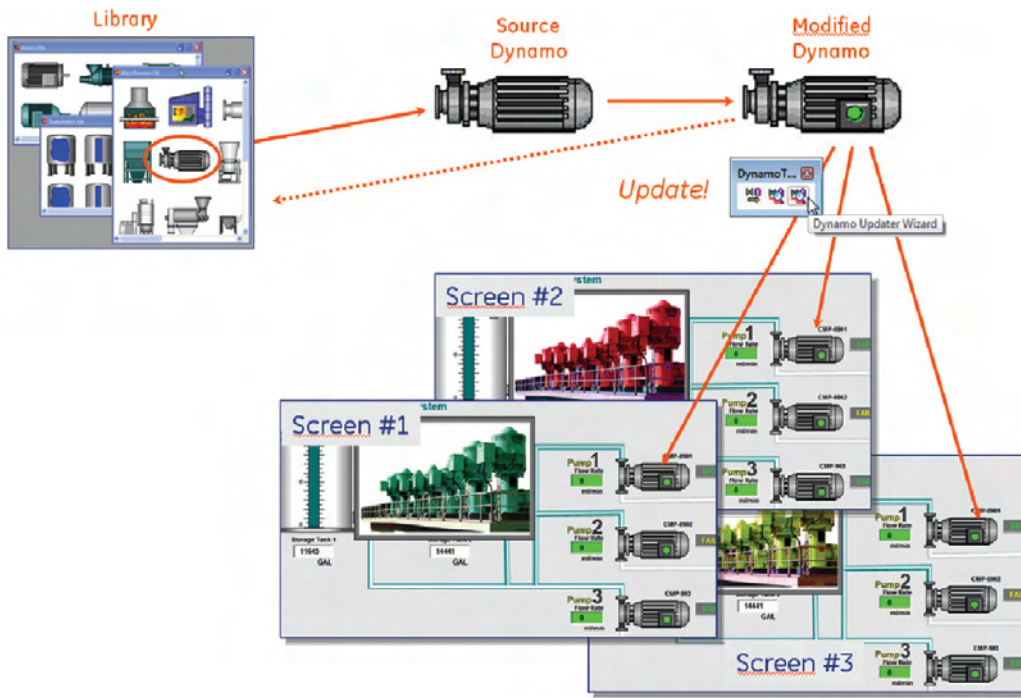
### EASY CONFIGURATION FOR DEVELOPMENT PRODUCTIVITY

**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.



When you make changes to the Master dynamo, all instances will be updated across the entire application.

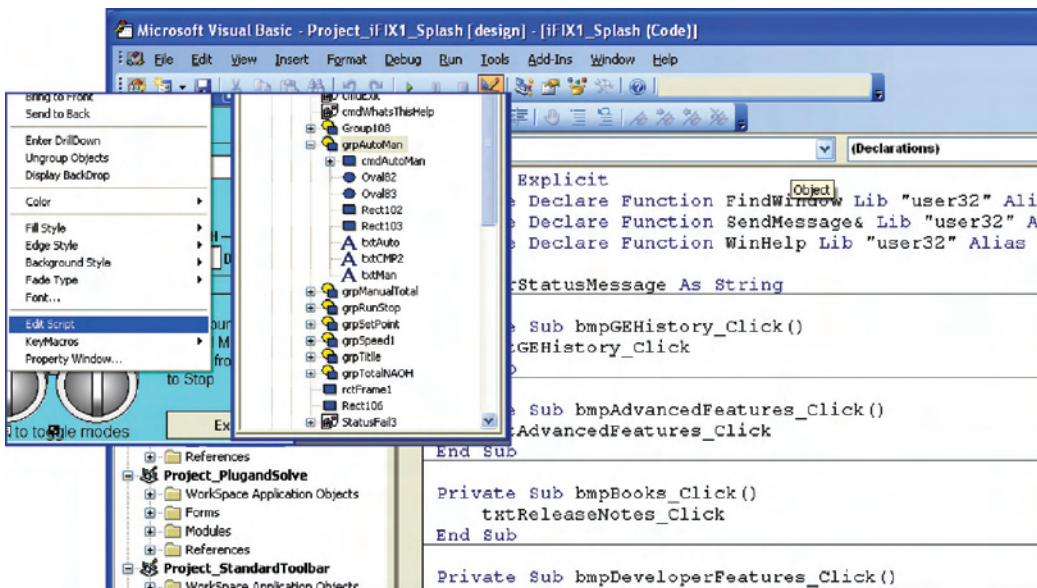
### Powerful APIs for Data Access and Automated Development.

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.