Proficy* Real-Time Information Portal

Real-time production data where you need it

Features

- Manufacturing Intelligence Framework
  - Web based configuration
  - Script and HTML free
  - Role-based navigation and security
  - Easily convert interactive displays into reports
- Common Web Client
  - Combine the client functions
  - Proficy HMI/SCADA
  - Sophisticated web based, portal and cockpit
- Time-based Data Analysis
  - Connect and interact with plant-wide, real-time and historical data
  - Visualize, annotate and analyze process data
  - Analyze your process by event
  - Drill into detail data
- Graphical Presentation
  - Complete graphics library
  - Common graphical tools
  - Animations
  - Graphically create a library of parameterized SQL statements
- Enterprise-wide Quality
  - Variable SPC charts
  - Control chart alerts
  - Quick Reports for drill down

Proficy Portal is GE Intelligent Platforms' breakthrough real-time manufacturing intelligence application, allowing you to gain business insight from all of your plant data in real time. This powerful application is an incredible resource for your business, providing visibility into plant floor operations. As a result, it enables real time decision support and continuous process improvement, and enhances the return on your current and future IT investments.

Proficy Real-Time Information Portal provides a web-based solution that integrates all of your on-line and process-based systems with plant-wide connectivity, analysis and web-based visualization components.

This revolutionary application provides a common web client and reporting environment for a fully integrated solution that maximizes the value of your other GE applications, as well as the data and content from your legacy and third party systems. By applying sophisticated trending, graphical presentation and statistical analysis to all of your on-line data, Proficy Portal provides unique organization-wide views and insight into how your plant is operating, and how to improve it.

Proficy Portal is a web-based application that provides advanced analysis, reporting and visu-alization capabilities. As the web client for the entire GE product family as well as other third party plant systems, Proficy Portal brings together all of your process and on-line data. It presents and analyzes data

so that decisions can be made in real time, based on all the information available.

For the first time, users throughout your facility and throughout the world now have access to production data how and when they need it – all at the click of a mouse. Proficy Portal provides this connectivity to your plant data with a robust set of analysis and visualization components – all in a personalized web environment that was developed specifically to meet your industry's strict requirements.

Proficy Portal is available in both Historian and Enterprise Editions to meet your specific needs. Both versions include a wide range of features and functionality that enables you to significantly improve your overall understanding of how your plant is performing.

Manufacturing Intelligence Framework

Proficy Portal provides a rich, web based environment for developing and deploying visualization, analytical and reporting applications. As a pure web-based application, Proficy Portal allows the end user unprecedented access to data and control over how to visualize and analyze it – all in a simple, easy to use and near-zero-maintenance environment.

- Web based configuration, runtime and administration environment requires no client install or maintenance.
- Script and HTML free environment means end users, not programmers, can customize Proficy Portal displays, analysis and reports, and publish them directly to the web.

Proficy Portal Features and Benefits

- User and role-based navigation and security personalizes the user's experience, secures your data and simplifies compliance.
- Easily convert interactive displays into reports for printing or saving in Adobe PDF format by adding headings, footers and formatted grid expansion.

Time-based Data Analysis

Proficy Portal provides interactive analysis of real-time and historical data sources through trend charts, grids and data links. This provides users with insight into the operation of their plant for making crucial improvements to quality and efficiency.

- Connect and interact with plant-wide, real-time and historical data sources and adjust system parameters with read/write capabilities.
- Visualize, annotate and analyze process data, strings or other information with the Time chart.
- Analyze your process by event (such as comparing batch or production runs) using the event component. Drill into detail data using intelligent grid components that allow data to be easily sorted, printed and exported.

Common Web Client

A single web client that combines content from other GE applications such as Proficy HMI/SCADA – iFIX and data from across data sources within the plant and the organization allows for real-time decision making at all levels. Solve your plant manufacturing intelligence needs with a single script and in an HTML free environment.

- Combine the client functions of our full software family with information from legacy and third party systems on the same screen at the same time.
- Use the Proficy HMI/SCADA – iFIX Jump-Start utility to automatically create content based on real-time Proficy HMI/SCADA – iFIX displays.
- Graphically create a library of parameterized SQL statements that interact with plant floor and corporate data stores. Proficy Portal supports SELECT, INSERT, UPDATE, DELETE and CALL statements.
- Build and deploy sophisticated, web-based views and dashboard applications with KPIs and drill down by linking forms components, buttons, hyperlinks, charts and more.

Graphical Presentation

Graphical presentation rapidly communicates essential information from more complex data sets for notification of alerts, status changes and data summaries. Graphical presentation can also bring a familiar look and feel when moving plant floor applications to the web, providing:

- A complete graphics library of shapes, images, etc.
- Common graphical tools for drawing displays (align, group etc).
- Animation of shape properties from any data source and command actions for navigation and drill down.
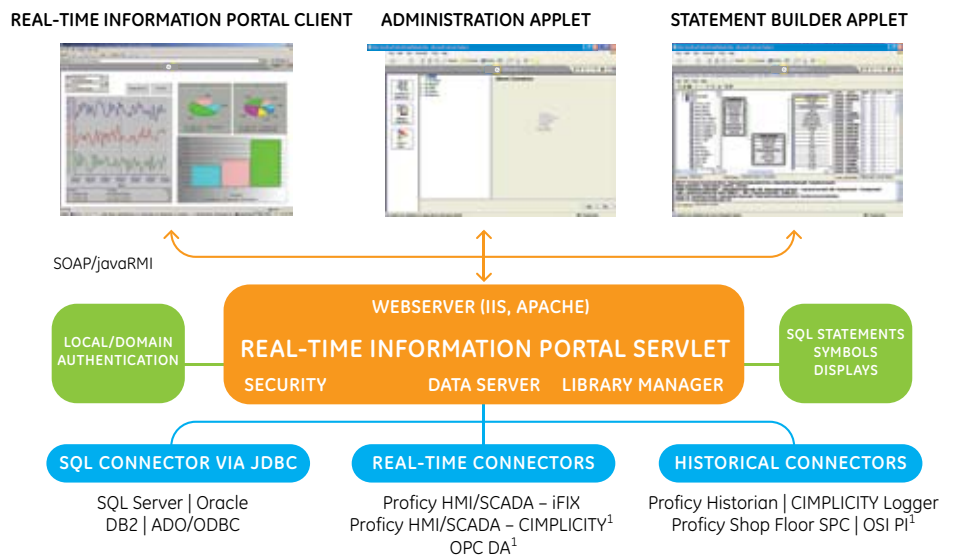
Enterprise-wide Quality

Enterprise-wide quality takes data from other GE Quality applications (Proficy Shop Floor SPC, Proficy Quality) and other third party or legacy systems and provides SPC charts and components for monitoring and performing root cause analysis. This feature supports consistency, quality, Six Sigma and other continuous improvement initiatives across the plant and across the entire organization. As the web client for the entire GE software portfolio, Proficy Portal provides a consistent set of tools for analyzing and reporting disparate process, lab and shop-floor SPC systems, along with interfaces to off line Six Sigma tools such as Minitab. These tools include:

- A complete set of variable SPC charts, including control charts, histograms, Pareto charts and correlation/regression charts.
- Control chart alerts based on Western Electric Rules.
- Calculated or supplied control limits for charts.
- Quick Reports for drill down into any SPC chart and direct export of chart data to Minitab or Excel for offline analysis.

System Architecture

Proficy Portal is a web-based Java application that runs under the Microsoft IIS webserver. Proficy Portal includes three applets: the Client, which supports both runtime and configuration mode; the Administrator and the Statement Builder. Applets are downloaded and run inside the Java runtime engine running within Internet Explorer.

The server runs the Proficy Real-Time Information Portal Servlet, which provides file, user management and the connector infrastructure. SQL-based connectors use JDBC drivers installed on the server to connect to relational data sources, while real-time and historical connectors use local or remote API interfaces[1].

REAL-TIME INFORMATION PORTAL CLIENT   **ADMINISTRATION APPLET**   **STATEMENT BUILDER APPLET**

SOAP/javaRMI

WEBSERVER (IIS, APACHE)
REAL-TIME INFORMATION PORTAL SERVLET
SECURITY   DATA SERVER   LIBRARY MANAGER

LOCAL/DOMAIN AUTHENTICATION

SQL STATEMENTS SYMBOLS DISPLAYS

SQL CONNECTOR VIA JDBC
SQL Server | Oracle
DB2 | ADO/ODBC

REAL-TIME CONNECTORS
Proficy HMI/SCADA – iFIX
Proficy HMI/SCADA – CIMPLICITY[1]
OPC DA[1]

HISTORICAL CONNECTORS
Proficy Historian | CIMPLICITY Logger
Proficy Shop Floor SPC | OSI PI[1]

[1] Proficy HMI/SCADA – CIMPLICITY, OPC and OSI PI connectors are remotable, allowing for connector installation on remote systems. When a connector is remote it communicates back to the Proficy Real-Time Information Portal server through TCP/IP.

Proficy Portal Editions

Historian Edition

The Proficy Portal Historian Edition is a sophisticated trending and analysis application for making business sense out of plant-wide time based process data. It is an easy-to-use, yet powerful client tool developed for the best-in-class Proficy Historian plant-wide database and extended to connect to a host of real-time and historical data sources.

Time-Series Trend Charts

Analyzing time-series data is easy with Proficy Portal's Trend Chart functionality.

Event Charts

Event trends allow data to be queried and displayed by criteria other than time (i.e., batch ID or serial number).

Text Trending

String or Text values can be trended on the Y-axis. Transitions or string value changes can be identified by examining the step-like patterns.

XY Plots

XY plots give you the power to plot values and compare them against each other.

Alarm Plots and Grid

Assign alarm limits to plot lines, allowing pen line colors to change when limits are exceeded. View, filter and sort Proficy HMI/SCADA – iFIX alarm histories stored by the Proficy HMI/SCADA – iFIX Alarm ODBC service.

Tabular Data – Grid

The grid components provide a tabular view of data from any Proficy Portal data source, including relational data, historical and real-time sources.

Datalinks and "Roll-Ups"

Datalinks enable you to display numeric values on a Proficy Portal screen. Roll-ups or post-processed information such as total, average, minimum and maximum values over a range can also be presented in a display.

Quick Analysis

Quickly view trends and analyze detailed data using Quick Analysis capabilities. Quick analysis allows users to drill down into different data values using a simple click of the mouse.

Named Times and Time Ranges

Support for Named Times and Time Ranges simplifies and unifies configuration settings. Named ranges can be applied to displays and display components, making it easier to view data by named shift, period or other named combinations. Named times are shared system-wide and appear through the display components and within the time component.

Axis Stacking and Chart Transparency

Proficy Portal charts incorporate Axis Stacking and Chart Transparency, powerful features that make it easy to compare data.

Annotations for Process Optimization

Annotations and comments can be added to charts and grids and stored in the Proficy Historian, then easily edited and displayed. You can add, store, and retrieve comments, providing an explanation of process anomalies and other production events.

Display Scrolling

Display Scrolling allows an entire display to be navigated through time by using one set of scroll buttons.

Enterprise Edition

The Proficy Portal Enterprise Edition is an advanced plant-wide analysis solution for integrating process and product-based data into a common web view system. Extremely easy-to-use, 100% web based and customizable by end-users, this edition provides production managers with a powerful method for driving real-time performance management and continuous improvement throughout the organization.

Typical applications include:
- Real-Time Performance Management, including Key Performance Indicators (KPIs)
- Web-based Product and Process Data Integration and Reporting
- Remote Monitoring and Analysis
- Robust Batch and Event Trending Analysis and Reporting
- Quality Analysis and Reporting
- Relational Database Interfacing

Proficy Portal Enterprise Edition includes all the features of the Historian Edition, plus critical functionality for deploying more advanced web-based information applications.

Relational Database & OPC Support:
ODBC, JDBC, OLEDB

Different communication methods and drivers are supported for communicating with relational databases. This includes support for communication to ODBC sources, OLEDB

View and analyze critical process data

Proficy Portal

providers and native JDBC drivers for specific databases such as Oracle, DB2 and Microsoft SQL Server.

Statement Builder

Users can graphically create re-usable SQL statements or queries that can be used throughout the Proficy Portal system. These reusable statements can be easily created by graphically selecting the appropriate database fields. Statements can be triggered automatically or on command from other controls.

Key Performance Indicators

Proficy Portal provides an easy method for users to monitor key performance indicators (KPIs) being derived by Proficy Plant Applications. In addition, ad-hoc calculations and expressions can be created within Proficy Portal to perform a wide variety of KPIs.

Specifications

Proficy Portal Server

Hardware:
Minimum
• Pentium IV 1 GHz computer with 1 GB RAM
Recommended
• Pentium IV 2 GHz with 2 GB RAM or better

Software Operating System:
• Windows Server 2003, or Windows Server 2008
• Microsoft Internet Information Services (IIS) web server v5.0 or later, or Apache Web Server 2.0.52 or later
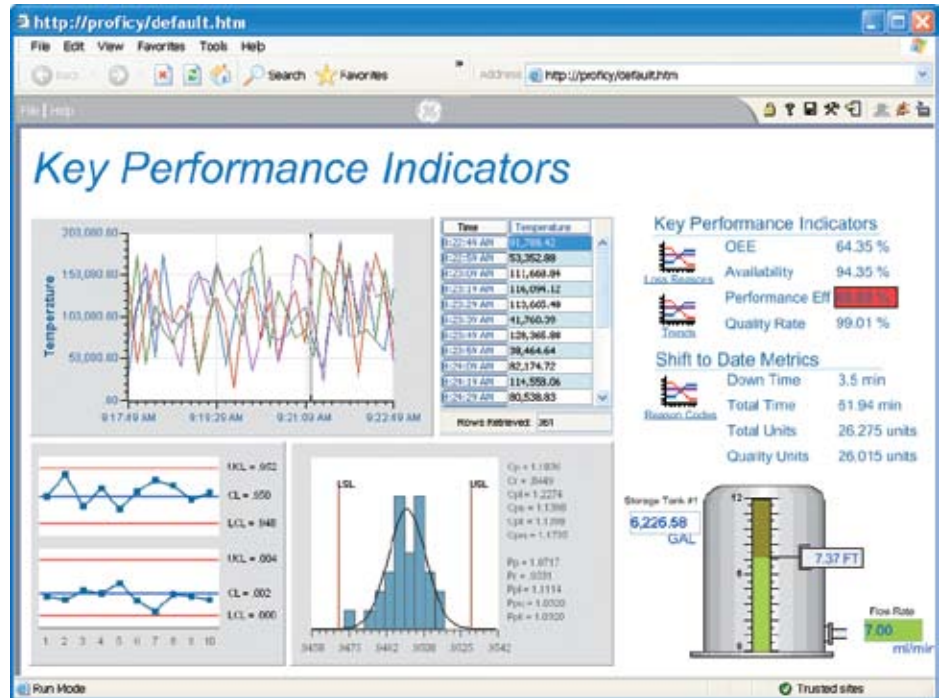
Proficy Portal Clients

Hardware:
Minimum
• Pentium IV 1 GHz or faster computer with 512MB of RAM

Software Operating System:
• Microsoft Internet Explorer v5.5 or later, with the latest service pack
• Support for Java v6.0 Runtime (provided)

One of the following:
• Windows XP Service Pack 1 or higher
• Windows Vista

Proficy Portal delivers critical production data in context on demand to wherever the decision makers need it.

About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit www.ge-ip.com.

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