

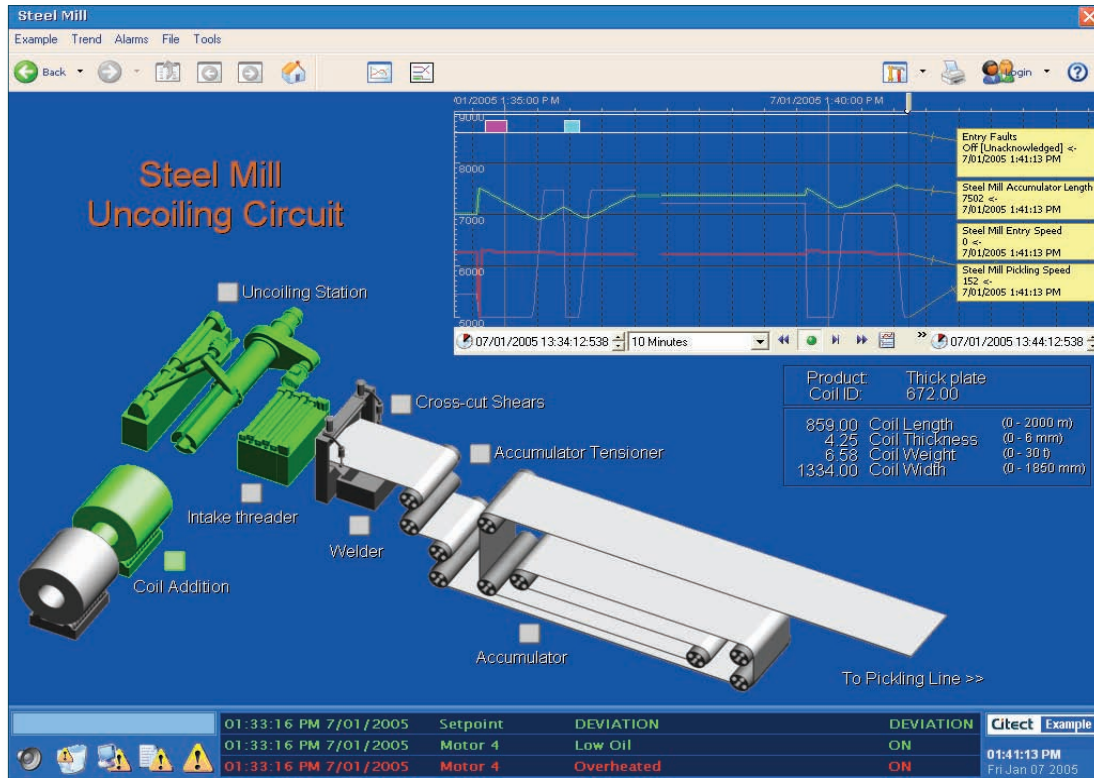
Analyze the cause of process upsets quickly and easily

Achieve more with CitectSCADA Process Analyst

A man in a light blue shirt is sitting at a desk in a control room, talking on a white corded telephone. He is looking at several computer monitors displaying data. The room has a grid ceiling and other monitors in the background.

CitectSCADA

Compare alarm and trend data



CitectSCADA Process Analyst allows you to view plant processes with embedded alarm and trend data.

While sophisticated analysis tools are available in data historians, an intuitive visualization tool that sits in the SCADA system itself – such as CitectSCADA Process Analyst – can deliver actionable insight to the operator faster, and enable the operator to immediately modify process conditions in order to achieve the desired results.

Process Analyst is the next generation in real time and historical visualization tools. It allows operators and process engineers to analyze the cause of process disturbances by bringing together trend and alarm data, which traditionally have been stored separately. With Process Analyst, users can simply view them all on a single, integrated display.

Process Analyst boasts many unique features, including complete flexibility to set the pen display, true Daylight Savings Time support, accuracy to millisecond resolution, individual time axis per pen, customizable toolbars, rich printing and the retention of all display settings for easy recall.

Process Analyst presents not only the alarm and trend data, but also the operator's response to those alarms. Therefore, the analysis includes a whole new level of insight into operator effectiveness, as well as areas of attention in system design. Process Analyst has pre-configured templates, saved "view" or "favorite view" options. As a result, operators do not have to repeatedly customize their preferred views, again improving their productivity.

Unique Features Pen styles

Process Analyst allows you to individually customize each pen in the display for greater clarity. They can be customized for color, quality styles, sample markers and even the way data is requested. For example, for an analog alarm, you can select a different color for each alarm state, such as Low Low, Low, High, High High, deviation and rate of change. There are also indicators for the time an alarm is acknowledged by an operator and whether it has been gated/disabled.

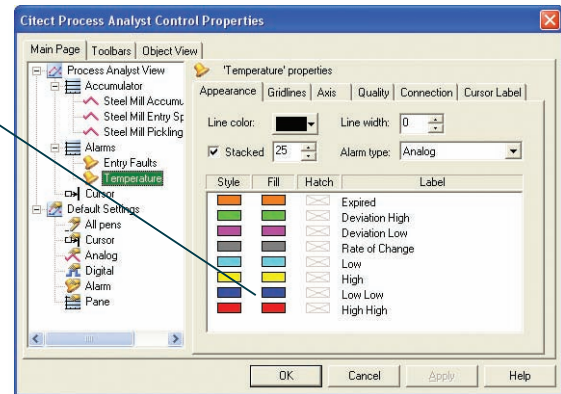


Benefits at a glance

- Analyzes the cause of process upsets quickly and simply
- Allows operators to recognize patterns that may lead to process disturbances
- Provides total flexibility on how you view and analyze your process
- High quality output to printers
- True Daylight Savings Time support
- Runtime language switching

Process Analyst's unique features

Alarm pens can represent different alarm states with colors or fill patterns.



Individual pens can be unlocked, allowing their values to be compared in different time frames.

Export data to clipboard or file.

Runtime help

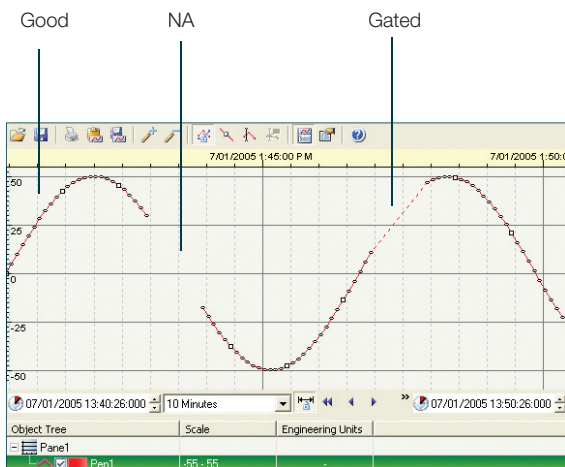
Save the current view as either a template or a process snapshot.

Alarms can be overlaid or displayed on a separate pane. The pen displays the ontime, offtime, acknowledge time and operator comment.

Overlaid analog and stacked digital pens on the same pane

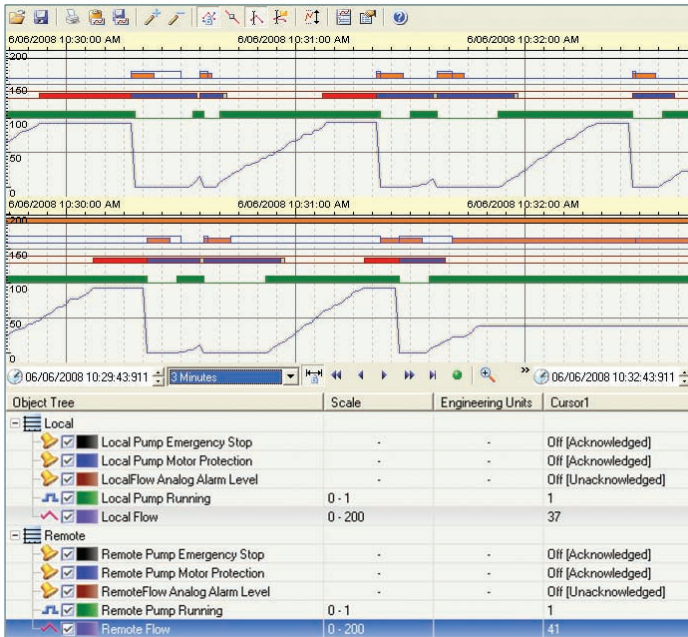


The value of any pen is displayed at the current cursor location.

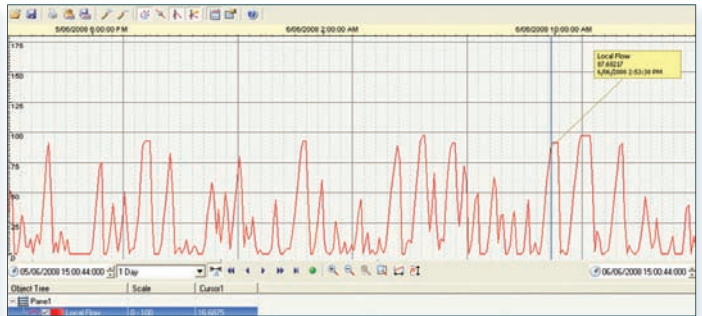


Trend example showing different quality attributes.

Improve process productivity



Event Comparison: Dual panel display with multiple pens on top and bottom



Periodic Analysis: Single pen over a day with different bell curves

Navigation

The navigation system provides ultimate control over the portion of your data you want to look at, by allowing you to:

- Quickly jump to the current time
- Jump back and forth through time
- Drag the pane backward and forward through time
- Change the time span using a pre-defined list of spans
- Change the time span to a user-defined value
- Directly enter a start and/or end time
- Fit the span to current/next/previous hour, day, month, etc.
- Replay trends and alarms by automatically scrolling through historical data

Zooming

Process Analyst includes a unique interactive zooming feature that allows your operators to fine tune the degree of zoom in or out by dragging the mouse against the horizontal or vertical axis. Process Analyst also provides other zooming operations, including:

- Zoom in or out in steps
- Undo last zoom
- Box zooming
- Reset to default

Event Comparison

You may wonder why an action worked last time but not this time? Regardless of how many variables are available, comparing two sets of data by overlapping them can get messy. Process Analyst makes it easy for you to locate the problem by allowing you to segment the data into panes and pens. Each pen can then be aligned to compare two time periods. Process Analyst's automation interface makes event comparison simple. It helps both to set up an event comparison and to move from event to event in order to detect changes.

Periodic Analysis

Many processes are, by nature, repetitive. Any day, any batch or any time interval can be a defined period within the plant. By enabling the same pen to be added multiple times over different time intervals, Process Analyst allows the repeated operation to be overlaid on the same pane for comparison. For periodic data, such as energy consumption or water flow, monitoring the current vs previous periods of time can alert an operator to abnormal settings within the process and lead to the correction of problems before they appear on the report the next day.



“Process Analyst is a vast improvement on existing SCADA systems, and enables processes to be optimized by making it easier for operators to analyze disturbances.”

Paul Donald
Telemetry Officer
Central Highlands Water

Get the complete picture with a single viewer and improve productivity



SCENARIOS

Root Cause Analysis

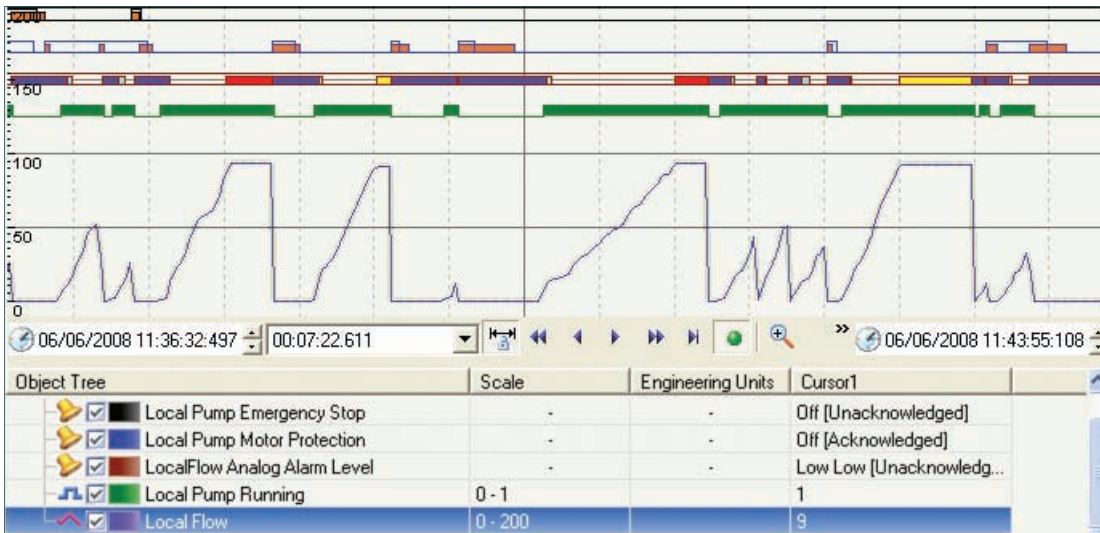
When a process upset or disturbance occurs, finding the root cause can be time-consuming. In the past, the process engineer had to compare trend data from the screen with alarm logs. With Process Analyst, all the engineer has to do is simply add any pen (analog, digital, alarm) that could have contributed to the process upset to the display. Each process change can then be easily compared as alarms occur, enabling sophisticated analysis of the process upset.

Sequence of Events

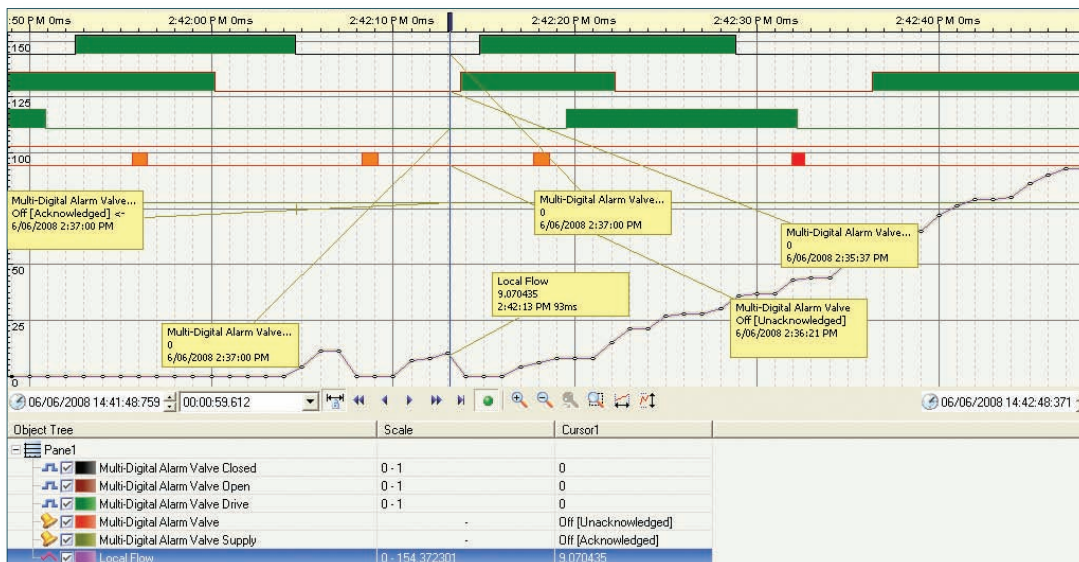
With SCADA systems, the data is distributed around a wide area. Typically, the RTUs collect the data at millisecond resolution and send it to CitectSCADA every time it is polled. Process Analyst displays historical alarms and trends to millisecond accuracy, making it easy to determine the sequence of events.

Compare Different Batches

With Process Analyst, it is easy to compare different batches in a single integrated view. Simply place all the variable tags, alarms and state changes for a batch unit on one pane, and the same set on a separate pane. Then the operator simply has to scroll one of the panes through time. Any differences in the batch execution will immediately be visible.



The typical view with digital and analog data on the same screen



Sequence of event analysis with a set of Microsoft time-stamped trend and alarm data

Event Analysis

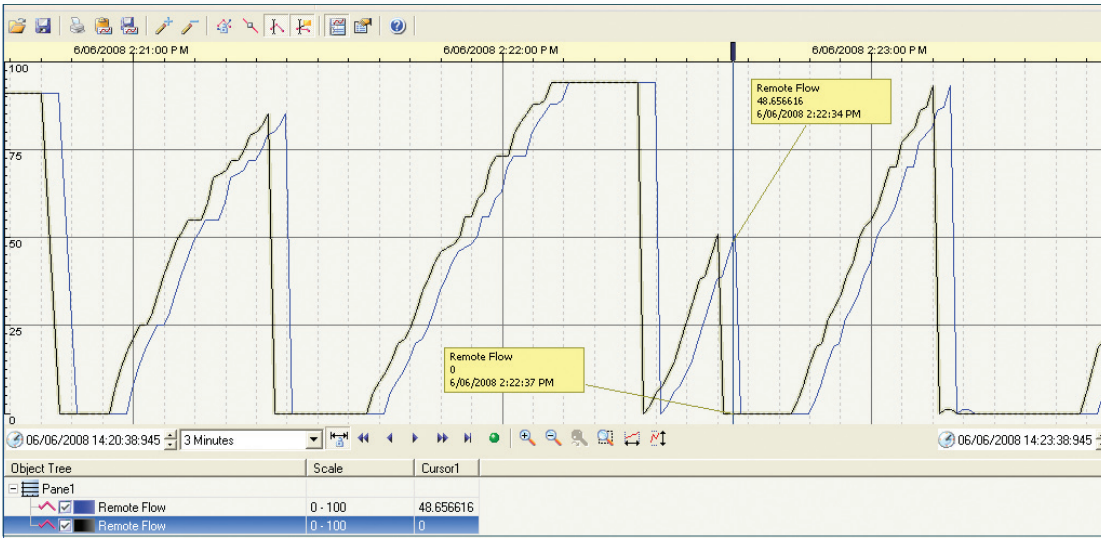
Analyzing abnormal events can be a challenge with a typical HMI/SCADA system because of the difficulty in comparing all the data involved in the event. Process Analyst makes this process simpler by providing a single interface for the data. In short, Process Analyst gives you the complete picture in one place.

As well as providing an almost limitless amount of possible information that can be displayed, Process Analyst also allows for the removal of data once it is considered irrelevant. The data can either be hidden or removed completely. The option to hide data is very useful as the

analysis process may involve numerous scenarios. A hidden pen can be restored with the click of a button.

For some analysis, the required data may not be available directly from the SCADA systems. For this reason, Process Analyst allows the addition of user-defined information, either as a custom pen or as additional data for the existing pens displayed. The result is a "total production" pen, which combines a number of existing pens or the addition of lab results to the Process Analyst view. It also allows meta information (such as batch ID or product) to add definition to the operator's screen.

Customizable displays let you see what is important to you



For an operator, the value of any display is their ability to understand, as rapidly as possible, exactly what is happening with the process. Key to this is displaying the data in an optimal way.

Operator Guidance: Set of pens with one pen leading on into the future

Operator Guidance

The constant drive to maximize productivity without sacrificing quality means that control systems are being increasingly relied upon to guide operators. These control systems set the key variables that ensure optimal results.

Process Analyst's customization interface provides the flexibility to code the variables to your specific needs, thus showing the operator your target values. For some sites and operators, a typical display would be a rolling graph; for others, it may be a graph that writes from the middle to the edge of the screen and then jumps to start in the middle again. The extensive customization interface in Process Analyst makes it possible to create the best interface for your operators.

Another common requirement is the ability to stack data which would otherwise be difficult for the operator to see. Digital data from system or device status provides additional information to the operator until they start to overlap into a mess at the bottom of the view. Process Analyst allows this data to be stacked to provide a clear display.

The customization tool also makes it possible to dynamically assign information or configuration at runtime. Background colors can be varied to support operator stations affected by natural light; pens can be set to represent only devices which are currently in service, or Process Analyst can be dynamically selected by clicking on values on the screen.

Upgrade with Citect support

Citect Support Gold membership gives you access to the latest Citect technology and expertise wherever and whenever you need it. It ensures that you receive the maximum return on your automation investment by helping you benefit from Citect's latest innovations.

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