# ProcessBook 3.0
## ActiveView 3.0

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**OSISOFT USERS CONFERENCE 2004**

DISCOVER YOUR PORTAL TO PERFORMANCE

# ProcessBook Enhancements

- For the User

- For Building and Managing Displays

- For Integration with RtPortal

- For Application Development

# Enhancements for the User

- Client / Server time per display
- Trend enhancements
- Module Relative Displays
- Display of data for Time and String Tags
- Showing the Questionable, Annotated, and Substituted data flags
- Engineering units (UOM)
- XY Plot

# Time Zone Setting

- One PI Server; clients in different time zone
- Setting is per display
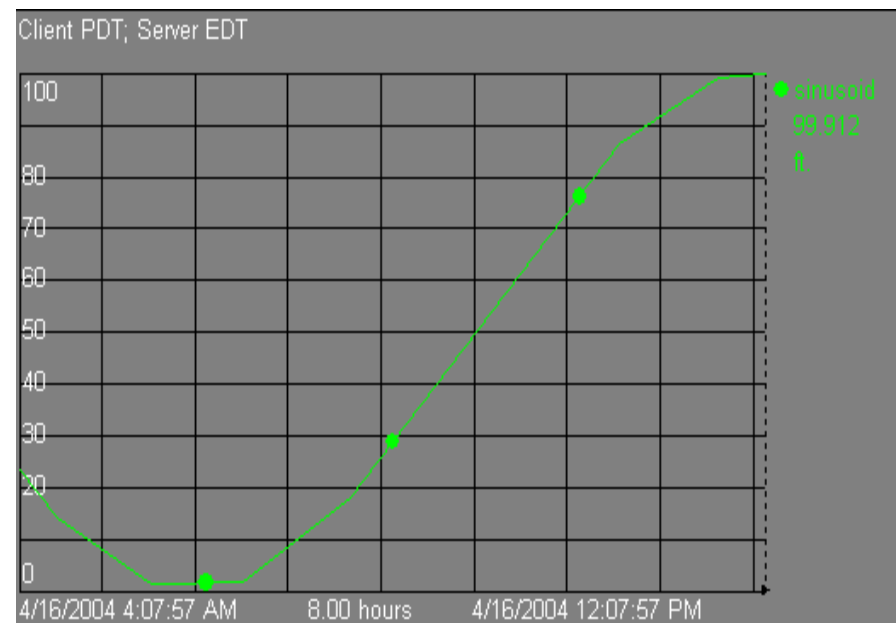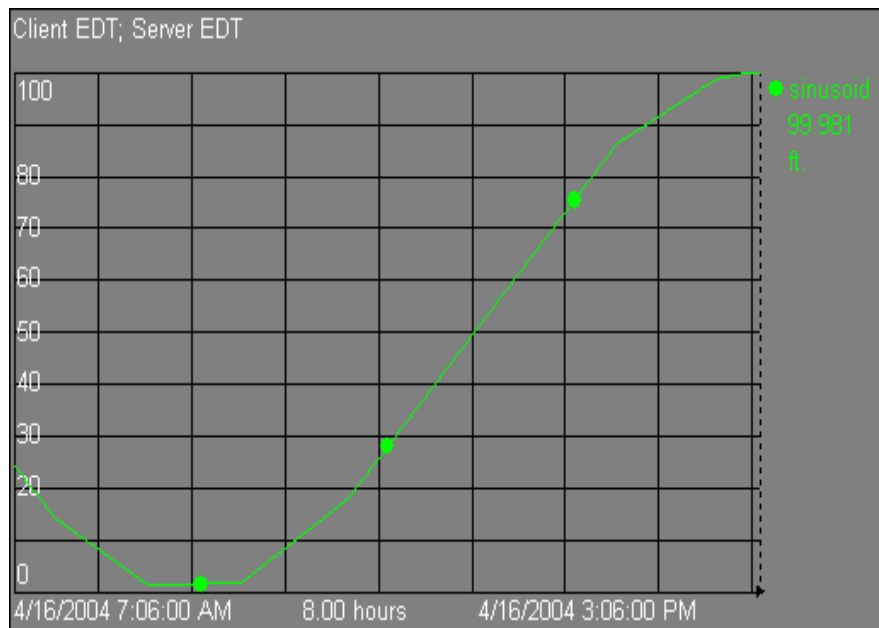
# Trend Enhancements

- Maximum number of traces is configurable

- Icons on top of trend

- Sub-second resolution

- Easier dataset manipulation

# Module Relative Display Add-In

- Define a dynamic symbol once

- Change what it references dynamically

- Provided with ProcessBook 3.0

- Uses IContextDataResolver interface

# Demo of Enhanced User Features

# X-Y Plot Analysis

- Data Cursor via mouse and arrow keys
- Zoom and un-Zoom
- Linear Regression by Least Squares
- Statistics and raw data tables
- Ad-hoc trend
- Supports automation
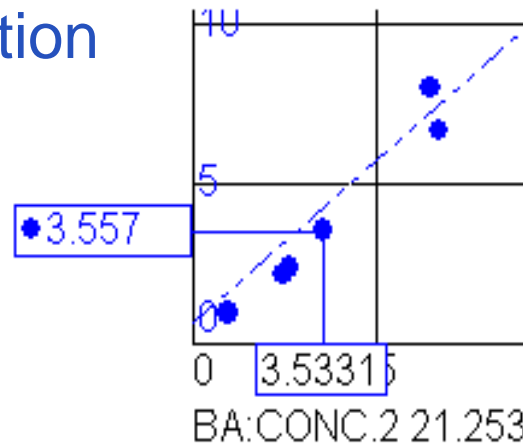
# X-Y Plot Data Sources

Plot Numbers or Strings from:

- Recorded Values in PI

- Interpolated Values from PI

- Calculations or Summaries from PI

- Relational Database Queries

- Custom Datasets

# X-Y Pairing methods

- X Data is recorded or interpolated data
- Y Data may be:
  - Paired with X data event by Time
    - Synchronize: query for Y using X times
    - Match: pair by time, exactly
    - Match or Previous: pair by time or use event just earlier
    - Match or Next: pair by time or use event just after
  - Paired with X data event by index:
    - Recorded: possibly time shifted
    - Interpolated: possibly time shifted

# X-Y Plot Demo
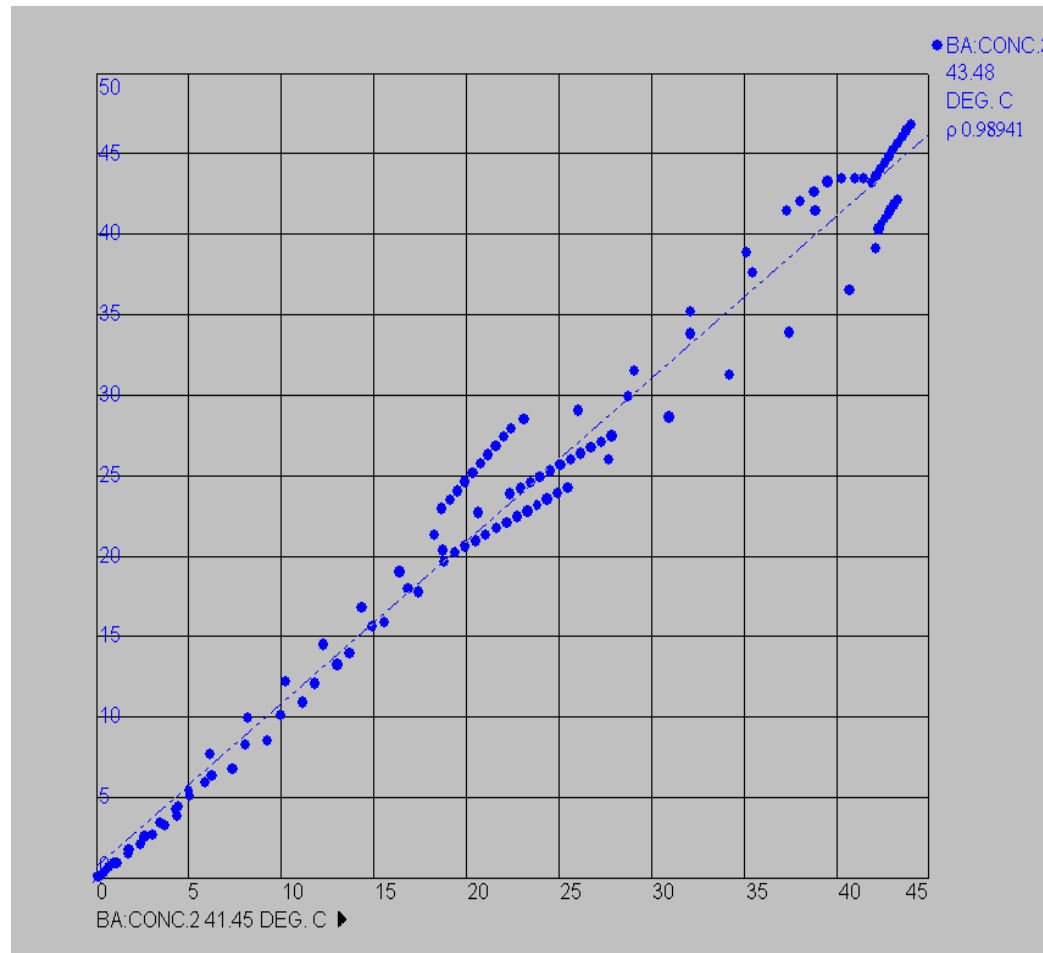
# Building and Managing Displays

- More powerful Links

- Build displays in Layers

- Connect your Symbols

- Troubleshooting using the new error icon and status dialog

# More Powerful Links

- Links can now be configured to use relative paths first
- No special distinctions between different path types (DOS, UNC, URL)
- Support for .SVG file types in links
- SharePoint Server Support

# Layers

- Logically group/display symbols
- Layer properties
  - Active
  - Visible
  - Locked
  - Status bar

# Connect your Symbols

- Connectors between symbols
- Connectors move with connected symbols
- Attachments can be added to connectors and move with the connector
- Symbols can be "spot lighted" to show connected symbols

# Attachments

- Connector attachments



- Symbol attachments



Main Distillation Column
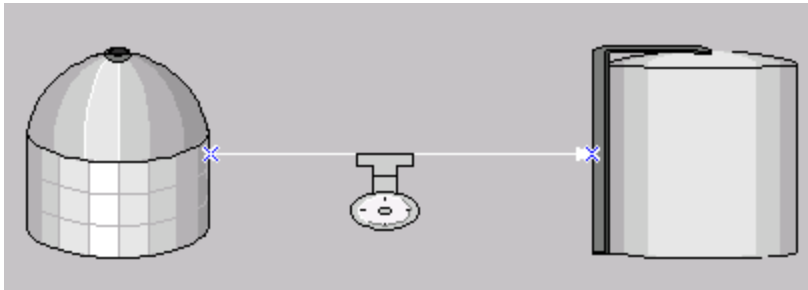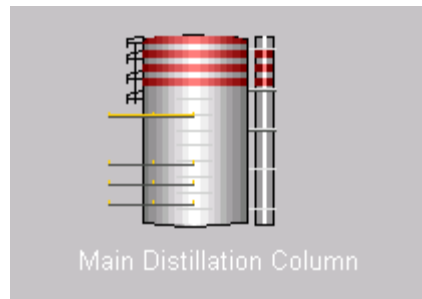
# Troubleshooting your Display

- Status dialog 
- Moving away from error dialogs to updating the Status dialog
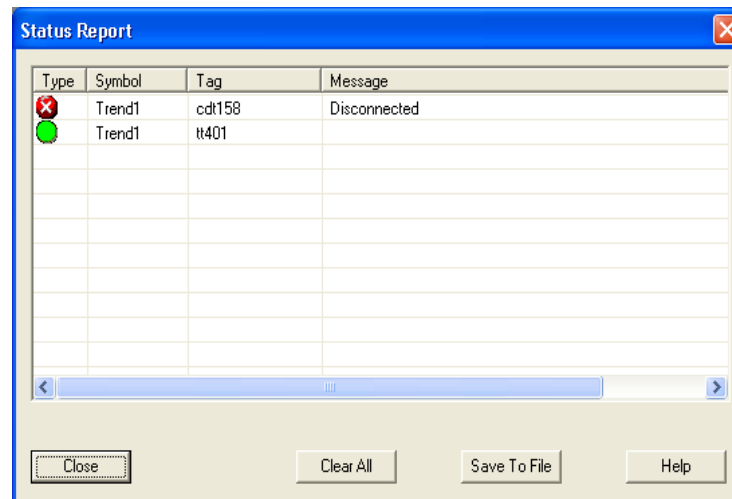
# RtPortal Integration

- SVG is now a first class file type. You can save directly to SVG and load directly from SVG

- ProcessBook supports direct editing of displays on a properly configured SharePoint Server

- SVG add-in now supports the XY Plot, Layers, Connectors and NamedValues

# Demo

# Enhancements for Application Developers

- **Named Values**
  - Display
  - Symbol

- **New Custom Dataset Interface**
  - IDataProvider3
  - Provide enhanced user interface control
  - Integrated with PISDK

- **New Data Context Interface**
  - Implemented with IContextDataResolver
  - Add-ins can be developed to provide context to displays.
    - Modules
    - Batches

- **.Net Tips for Developers**

# Custom Dataset

- Only need to implement 1 interface, IDataProvider3

- Fully integrated with the PI-SDK; no more ADO recordsets

- Customizable column selection and placeholder dialogs

- Supports multi-state and bar symbols

# .Net Add-ins

- Lessons learned
  - The devil is in the details
    - Reference counting
      - Your new best friend
        » Marshal.ReleaseComObject(dp)
    - Obtain a reference at every level
      - bad
        » Symbol sym = pbApp.ActiveDisplay.Symbols(1)
      - good
        » Display disp = pbApp.ActiveDisplay
        » Symbol sym = disp.Symbols(1)
        » Marshal.ReleaseComObject(disp)
        » Marshal.ReleaseComObject(sym)

- Will provide a .Net template add-in

# ActiveView 3.0

- Installation/Download enhancements
- Support for new ProcessBook features
  - Layers
  - Module Database Access