



CLEARWATER
PAPER

DCS Alarm & Event Integration with ProcessBook

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Introduction-Clearwater Paper

- Clearwater Paper – New company formed in 2008, spun off from Potlatch Corporation.
- Pulp & Paperboard Division: 2 Pulp Mills – Lewiston, ID & McGee, AR. Products include paper cup, food packaging, etc.
- Consumer Products: Located in Lewiston, ID & Las Vegas, NV. Tissue paper, napkins, paper towels, etc.
- Lewiston, ID P&P facility: Produces 1500 TPD bleached pulp from 12 Batch Digesters, 2 Continuous Digesters, 2 Paperboard Machines
- Generate 65MW from 2 steam turbines
- Steam produced from 1 hog fuel boiler, 2 gas boilers and 2 recovery boilers

Introduction-Cont.

- Process Control Engineer responsible for entire DCS infrastructure & PI for Pulp & Paper facility in Lewiston, ID.
- DCS systems consist of 21 Fisher Provox IFC controllers, 27 DeltaV controllers, 2 ABB AC450.
- 2 PI servers ~50000 points, 6 OPC interfaces

Overview

- “DCS Logger” - Alarms, operator changes, tuning changes from DCS are stored in SQL server.
- PI Server collects mostly analog signals, few discrete.
- Needed a way to visualize both to assist in troubleshooting & loop tuning.

DCS Logger

- Web-based application to view everything that happens in the DCS world.
- Provox – Serial to ethernet
- DeltaV – Access database
- Applications write data to SQL server
- Programmed in-house

DCS Message Report

From: 10/15/2009 08:21

Report Date: 11/10/2009

To: 11/10/2009 08:21

Total Messages: 1000

<u>Address</u>	<u>MsgDate</u>	<u>Content</u>	<u>Tag</u>	<u>Type</u>
@3-4	10/15/2009 2:08:55 PM	15-OCT-2009 14:08:55 @3-4 ID: IT: DA:@3-4 BY:OPERATE ST:1 TAG: FIC6500 11DIG STM F PPA: DIG 11 MODE CHANGED FROM: RSP TO MAN	FIC6500	Oper Change
@3-5	10/15/2009 2:06:52 PM	15-OCT-2009 14:06:52 @3-5 ID: IT: TAG: CI4222 SLAKER CND PPA: CAUSTIC PPA HIGH ACTIVATED PV = 10199 EXPECTED VALUE = 0 mMHO	CI4222	Activation
@3-5	10/15/2009 2:06:11 PM	15-OCT-2009 14:06:11 @3-5 ID: IT: TAG: LI4131 WLPFW CALC M PPA: CAUSTIC PPA HIGH ACTIVATED PV = 105.67 EXPECTED VALUE = 0.00 %LVL	LI4131	Activation
@5-4	10/15/2009 2:06:08 PM	15-OCT-2009 14:06:08 @5-4 ID: IT: DA:@5-4 BY:OPERATE ST:4 TAG: FIC7685 2PO SHWR S PPA: 2PO WASH PPA SET POINT CHANGED FROM: 425.0000 TO 450.0000 GPM	FIC7685	Oper Change
@5-4	10/15/2009 2:06:05 PM	15-OCT-2009 14:06:05 @5-4 ID: IT: DA:@5-4 BY:OPERATE ST:4 TAG: FIC7648 2PO SHWR N PPA: 2PO WASH PPA SET POINT CHANGED FROM: 425.0000 TO 450.0000 GPM	FIC7648	Oper Change
@5-4	10/15/2009 2:05:18 PM	15-OCT-2009 14:05:18 @5-4 ID: IT: TAG: I7990 3PR HYD PMP PPA: 1PO WASH PPA XMTRLO ACTIVATED PV = -19.6 EXPECTED VALUE = 0.0 %	I7990	Activation
@5-4	10/15/2009 2:05:17 PM	15-OCT-2009 14:05:17 @5-4 ID: IT: TAG: I7990 3PR HYD PMP PPA: 1PO WASH PPA LOW ACTIVATED PV = -11.8 EXPECTED VALUE = 0.0 %	I7990	Activation
@5-4	10/15/2009 2:04:52 PM	15-OCT-2009 14:04:52 @5-4 ID: IT: TAG: I7990 3PR HYD PMP PPA: 1PO WASH PPA LOW DEACTIVATED PV = -4.6 EXPECTED VALUE = 0.0 %	I7990	Deactivation
@5-4	10/15/2009 2:04:51 PM	15-OCT-2009 14:04:51 @5-4 ID: IT: DA:@5-4 BY:OPERATE ST:4 TAG: O16M5515 3PR HYD PMP PPA: 1PO WASH PPA SET POINT CHANGED FROM: START TO STOP	O16M5515	Oper Change
@5-4	10/15/2009 2:04:51 PM	15-OCT-2009 14:04:51 @5-4 ID: IT: TAG: O16M5515 3PR HYD PMP PPA: 1PO WASH PPA FAILED DEACTIVATED PV = STOP SP = STOP MODE = MAN	O16M5515	Deactivation

DCS Message Report

From: 10/14/2009 6:26

Report Date: 11/5/2009

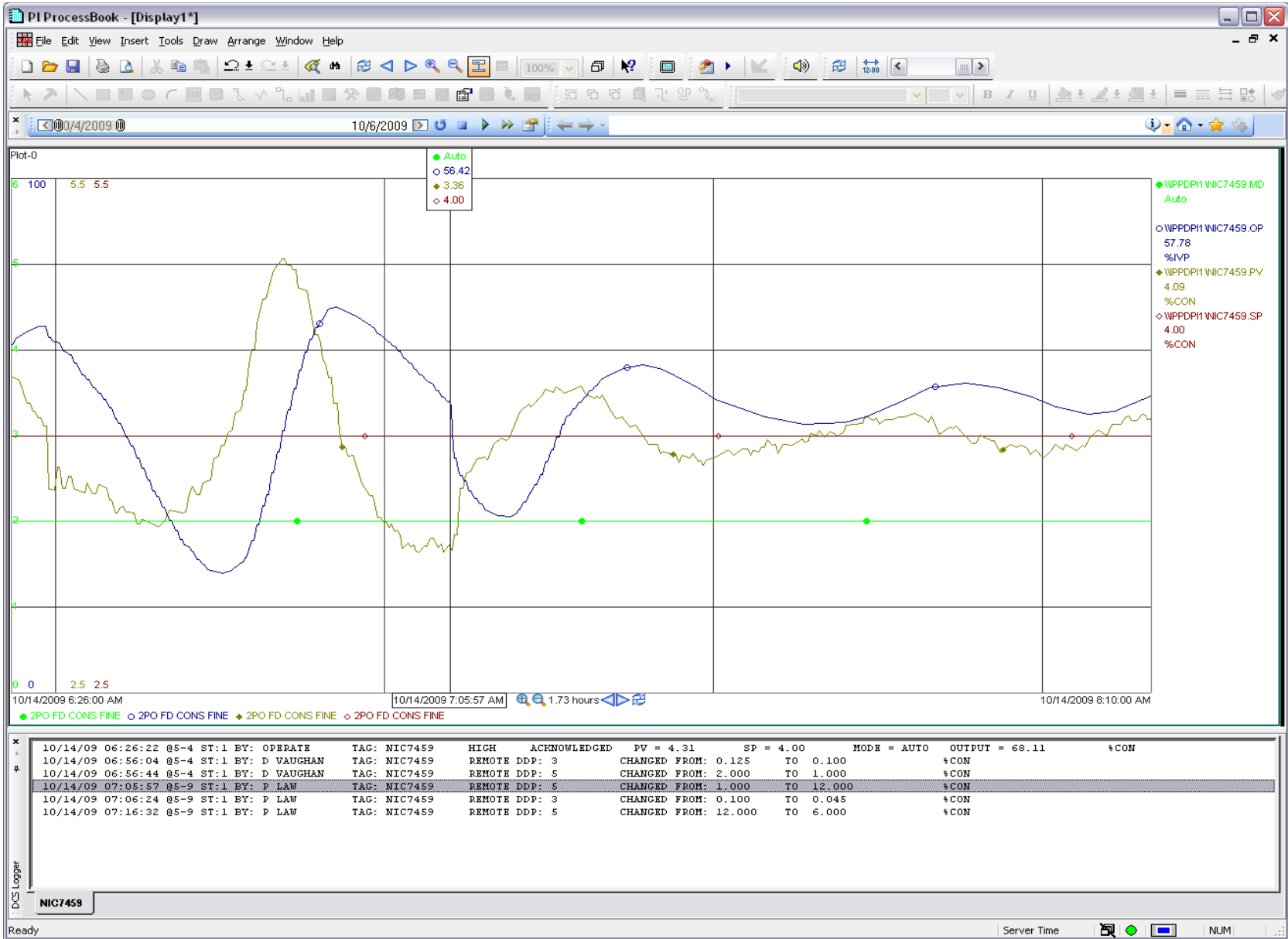
To: 10/14/2009 08:10

Total Messages: 6

<u>Address</u>	<u>MsgDate</u>	<u>Content</u>	<u>Tag</u>	<u>Type</u>
@5-9	10/14/2009 7:16:32 AM	14-OCT-2009 07:16:32 @5-9 ID: IT: DA:@5-9 BY:P LAW ST:1 TAG: NIC7459 2PO FD CONS PPA: 2PO WASH PPA REMOTE DDP: 5 CHANGED FROM: 12.000 TO 6.000 %CON	NIC7459	DDP
@5-9	10/14/2009 7:06:24 AM	14-OCT-2009 07:06:24 @5-9 ID: IT: DA:@5-9 BY:P LAW ST:1 TAG: NIC7459 2PO FD CONS PPA: 2PO WASH PPA REMOTE DDP: 3 CHANGED FROM: 0.100 TO 0.045 %CON	NIC7459	DDP
@5-9	10/14/2009 7:05:57 AM	14-OCT-2009 07:05:57 @5-9 ID: IT: DA:@5-9 BY:P LAW ST:1 TAG: NIC7459 2PO FD CONS PPA: 2PO WASH PPA REMOTE DDP: 5 CHANGED FROM: 1.000 TO 12.000 %CON	NIC7459	DDP
@5-4	10/14/2009 6:56:44 AM	14-OCT-2009 06:56:44 @5-4 ID: IT: DA:@5-4 BY:D VAUGHAN ST:1 TAG: NIC7459 2PO FD CONS PPA: 2PO WASH PPA REMOTE DDP: 5 CHANGED FROM: 2.000 TO 1.000 %CON	NIC7459	DDP
@5-4	10/14/2009 6:56:04 AM	14-OCT-2009 06:56:04 @5-4 ID: IT: DA:@5-4 BY:D VAUGHAN ST:1 TAG: NIC7459 2PO FD CONS PPA: 2PO WASH PPA REMOTE DDP: 3 CHANGED FROM: 0.125 TO 0.100 %CON	NIC7459	DDP
@5-4	10/14/2009 6:26:22 AM	14-OCT-2009 06:26:22 @5-4 ID: IT: DA:@5-4 BY:OPERATE ST:1 TAG: NIC7459 2PO FD CONS PPA: 2PO WASH PPA HIGH ACKNOWLEDGED PV = 4.31 SP = 4.00 MODE = AUTO OUTPUT = 68.11 %CON	NIC7459	Acknowledge

ProcessBook Integration

- VBA in ProcessBook to query event information from SQL server
- V3 ProcessBook introduced DockWindows
- DockWindows provided an easy way to integrate this data



Details

- Click on Custom Button in Toolbar to get data
- Click on an event in DCS Logger window adds Trend Cursor at the event time
- Each tag creates a separate tab in DCS Logger window

Thanks

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