



FAMOS v17

What's New in PdP & Rules

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PdP Enhancements in v17

- New/Updated Display and Navigation (One display with built in tabs to Facilitate System Review)
- Tree Based navigation to any PdP Model (with filtering to expedite selections)
 - Filterable to Expedite Selection, including new Category and Component Assignments
 - Filter models across all servers / databases
 - Models displayed by unit and model name with visual alarm indication, and total of acknowledged and unacknowledged alarms
 - Colored coded icons to indicate status
- Enhanced Point Summary
 - Fixed columns for Point Name, Description and Units for improved horizontal scrolling.... other columns can be reordered by drop an drag
 - Display DAS Historian Tag Name in addition to Sensor Name (e.g. PI Tag)
 - Acknowledge alarms from Point Summary
 - Point Quality from DAS indicated in Point Summary
- Improved Cataloging of Model and Point Assessments
 - Assignment / Review of Assessment of Model (e.g. Needs Tuning, Nuisance Alarm, OK....)
 - Addition of Model level notes in addition to Point Notes
 - Tab provides sortable/filterable table to review all Point and Model notes on all units across fleet
- Enhanced charting
 - Scroll and Zoom
 - Data Balloons show synchronized values at placement of cursor across charts
 - On 8 Point and X-Y plot, choose sensors across servers

The PdP Display

Now One Display with Several Regions – separated by “splitters” that allow resizing the regions when desired

The screenshot displays the PdP software interface, which is divided into several functional regions:

- Header:** A table listing various data points with columns for Name, Description, Unit, DAD Value, Actual, Prediction, Residual, Variance, Res High, Res Low, Pt Act, In Alarm, and Alarm.
- Point Summary:** A detailed view of a specific data point, showing its current status and historical data.
- Charts & Reports:** A section containing multiple line graphs and reports, such as 'WTG04 WIND TURBINE' and 'WTG04 REACTIVE POWER', showing trends over time.
- Unit Model Tree:** A hierarchical tree view on the left side of the interface, showing the structure of the system being monitored.
- Notes & Settings:** A panel at the bottom right for configuring alerts and settings for specific data points.

The interface is designed for real-time monitoring and analysis of power plant data, with a focus on wind turbine performance.

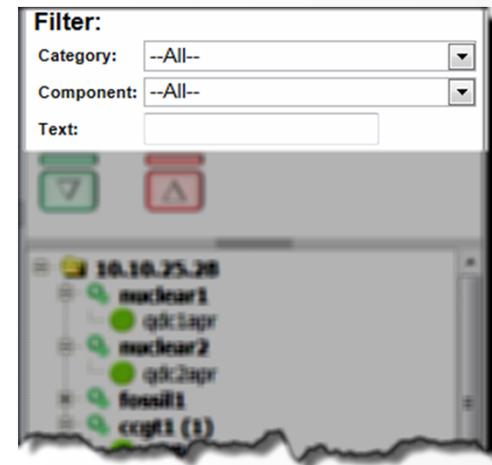
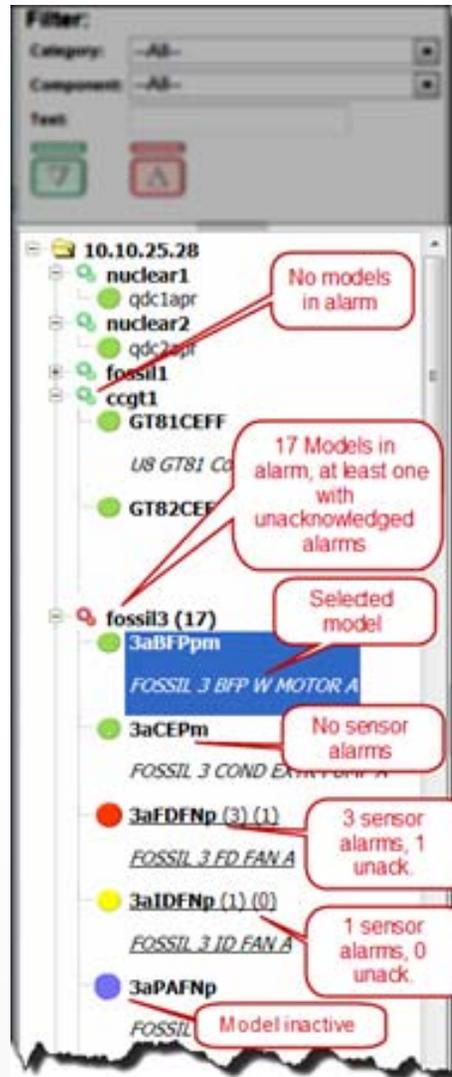
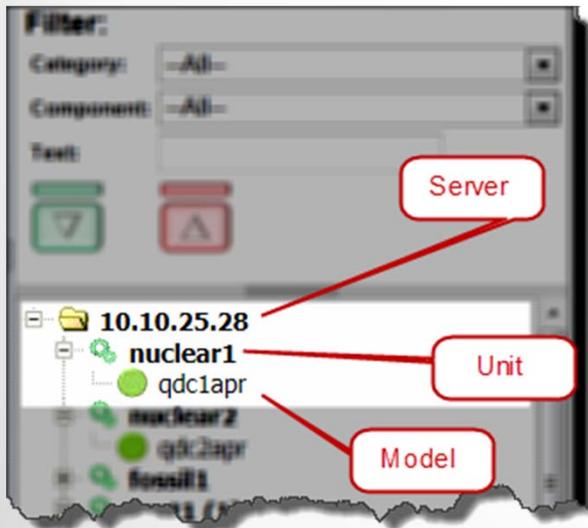
Model Info



Dynamic Statusing

Filter Models to Be Displayed Across Fleet

Across Fleet



Model Info



Model	3aBFPpm
Unit	fossil3
Description	FOSSIL 3 BFP W MOTOR A
Model Health	0.971
Model Status	NORMAL
Total Points	12
Abnormal Points	0
Alarms X out of Y	32 out of 36
Alarm on	By Point
Processing Rate (seconds)	300
Validation Parameter	0.950000
Cutoff Point	BDPS-3SJ06 BPF 3A IB MTR BRG (FDPS-3SJ06)
Cutoff Value	122.4614
High Cutoff	10000
Low Cutoff	100
Category	PUMP
Component	3 BFP W MOTOR A
Assessment	Marginal -PdP
Model Notes	Date: 4/19/2013 1:49 PM User: Dieter New model note

NEW

Select From User Defined List

The most recent Model Note Added

Point Summary



Point and Model Notes

Model	PN	Sensor	Description	Unit	DAS Value
31HPFWHp					
Unit					
Description	31 HP FWH				
Model Health	0.976				
Model Status	ABNORMAL				
Total Points	13				
Abnormal Points	1				
Alarms X out of Y	3 out of 4				
Alarm on	By Point				
Processing Rate (seconds)	120				
Validation Parameter	0.900000				
Cutoff Point	312801 U3 GROSS MW				
Cutoff Value	234.0753				
High Cutoff	440				
Low Cutoff	108				
Category	Category 1				
Component	Component 1				
Assessment	OK				
Date:	4/16/2013				
Time:	11:01 AM				
User:	dietler				
Model Note:	model note old				

Filtering

PN	Sensor	Description	Unit	Y	DAS Value	Actual	Prediction
			deg				
	3TI0103	U3 DRP FROM 1 FWH TEMP	DEG F		381.172	381.709	376.8
	3TI0101	U3 EXT TO 1 FWH TEMP	DEG F		564.309	565.143	564.1
A	3TI0102	U3 FW FROM 1 FWH TEMP	DEG F		434.114	433.598	430.4
A	3TI0105	U3 FW TO 1 HTR TEMP	DEG F		376.500	376.500	371.9
	3TI0801	U3 ECON IN TEMP	DEG F		433.547	433.547	430.3
A	3TI1204A	U3 A BFP SUCTION TEMP	DEG F		328.195	328.195	327.5
	3TI1204B	U3 B BFP SUCTION TEMP	DEG F		333.656	333.656	331.1
A	3DR2001	U3 FWH 1 DRP APPROACH	DEG F		3.187		

Sorting

PN	Sensor	Description	Unit	Y	DAS Value	Actual	Prediction
			deg				
	3TI0103	U3 DRP FROM 1 FWH TEMP	DEG F		381.172	381.709	376.8
	3TI0101	U3 EXT TO 1 FWH TEMP	DEG F		564.309	565.143	564.1
A	3TI0102	U3 FW FROM 1 FWH TEMP	DEG F		434.114	433.598	430.4
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A	3TI1204A	U3 A BFP SUCTION TEMP	DEG F		328.195	328.195	327.5
	3TI1204B	U3 B BFP SUCTION TEMP	DEG F		333.656	333.656	331.1

Can export Grid to Excel, csv, html or xml

PN	Sensor	Description	Unit	DAS Value	Actual	Prediction	Residual	Variance	Res. High	Res. Low	Pt. Act.	In Alarm	Alarm Active	Var. Limi
	WTG01-CURRENTA	WTG01-PHASE AMPS A	AMPS	1,104.531	1,104.531	1,140.382	-35.852	0.4						
	WTG01-CURRENTB	WTG01-PHASE AMPS B	AMPS	1,150.393	1,150.393	1,156.325	-5.932	0.1	50	-50	Yes			(V)
	WTG01-CURRENTC	WTG01-PHASE AMPS C	AMPS	1,141.092	1,141.092	1,135.723	5.369	0.1	50	-50	Yes			(V)
	WTG01-VOLTAGEA	WTG01-PHASE VOLTAGE A	V	619.132	619.132	619.451	-0.319	0.1	3	-3	Yes			(V)
	WTG01-VOLTAGEB	WTG01-PHASE VOLTAGE B	V	620.032	620.032	620.342	-0.310	0.1	3	-3	Yes			(V)
	WTG01-VOLTAGEC	WTG01-PHASE VOLTAGE C	V	621.465	621.465	618.866	2.599	0.8	3	-3	Yes	No	Yes (V)	
	WTG01-TEMPERATURE	WTG01-TEMPERATURE	DEGC	66.487	66.487	64.078	2.409	0.4	3	-3	Yes	No	Yes (V)	
	WTG01-G1TEMP	WTG01-GENERATOR 1 PHA...	DEGC	68.340	68.340	63.551	4.789	0.8	3	-3	Yes	No	Yes (V)	
	WTG01-G2TEMP	WTG01-GENERATOR 2 PHA...	DEGC	65.000	65.000	63.470	1.530	0.3	3	-3	Yes	No	Yes (V)	
	WTG01-CABTOPBO...	WTG01-TOP BOX CABINET...	DEGC	11.430	11.430	10.130	1.300	0.7	3	-3	Yes	No	Yes (V)	
	WTG01-BTMCAPESEC...	WTG01-BOTTOM CAPACITO...	DEGC	18.240	18.240	30.951	-12.711	7.731			Yes	Yes	Yes (V)	
	WTG01-BTMCNTSE...	WTG01-BOTTOM CONTROL...	DEGC	19.000	19.000	17.914	1.086	0.5			Yes	No	Yes (V)	
	WTG01-BOTPWSE...	WTG01-BOTTOM POWER S...	DEGC	24.136	24.136	25.362	-1.226	0.7			Yes	No	Yes (V)	

Drop and Drag to Reorder Columns

Fixed Columns to Support Horizontal Scrolling

Sensor in Alarm

Violated Residual Threshold for X of Y

Sensor in Alarm

Alarm Active and set to alarm on Variance

Violated Variance Limit for X of Y

Scrolling →

Charts & Reports - Enhanced Charting



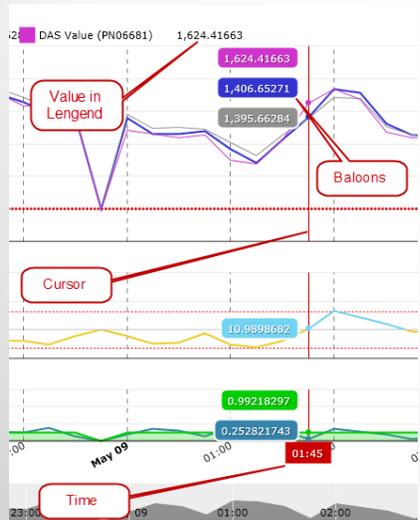
Tabs to Access Charts And Reports



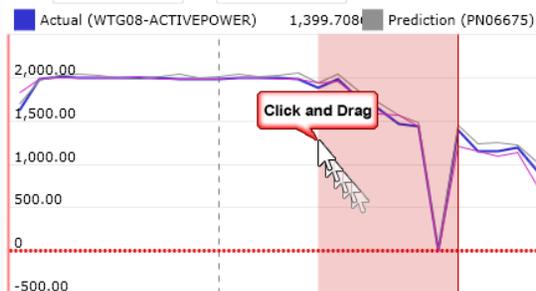
Mouse Click Toggle Display of Lines



Mouse Hover shows cursor / values



Click and Drag to Zoom

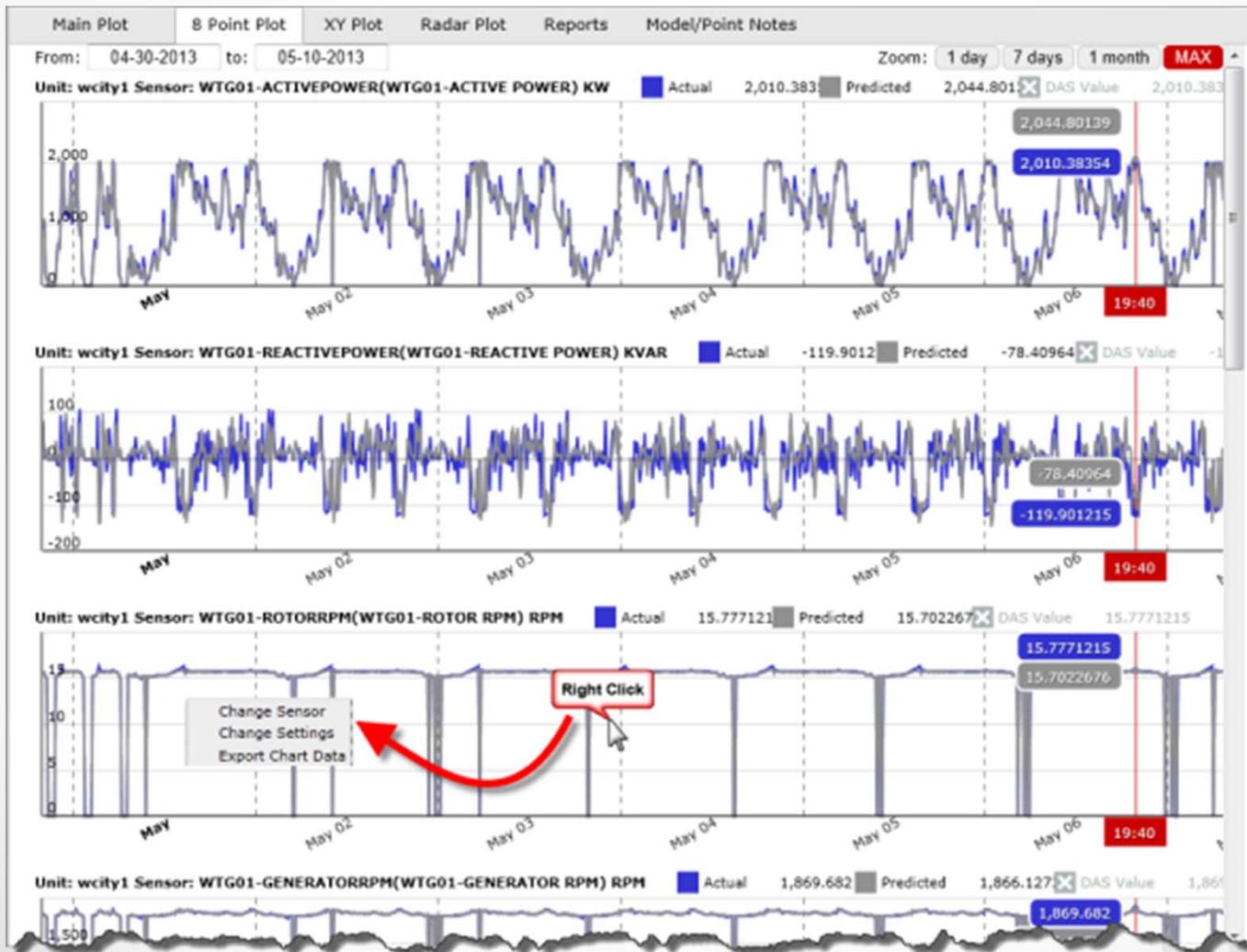


Quick way to Zoom In and Out

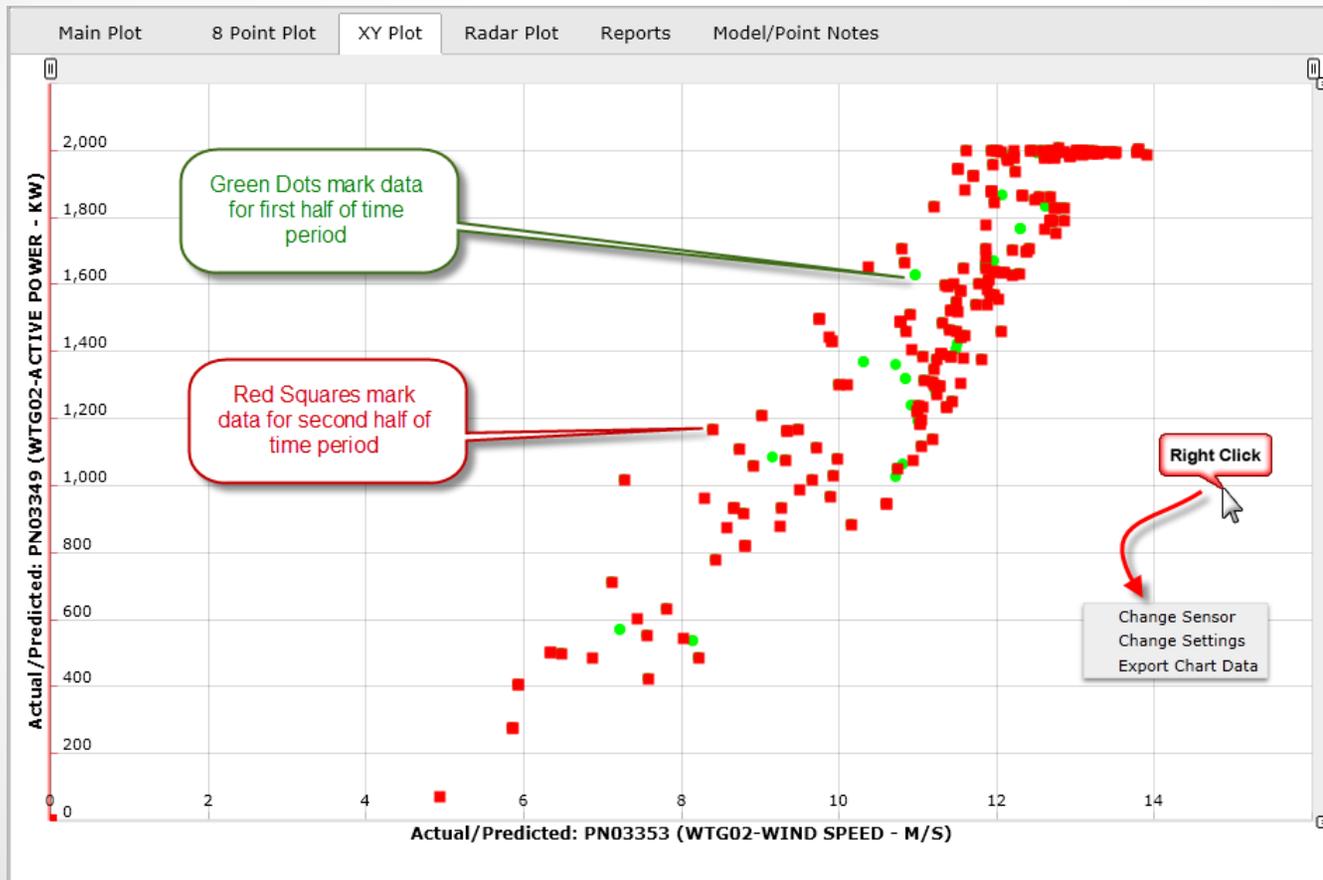


Charts & Reports – 8 Point Plot

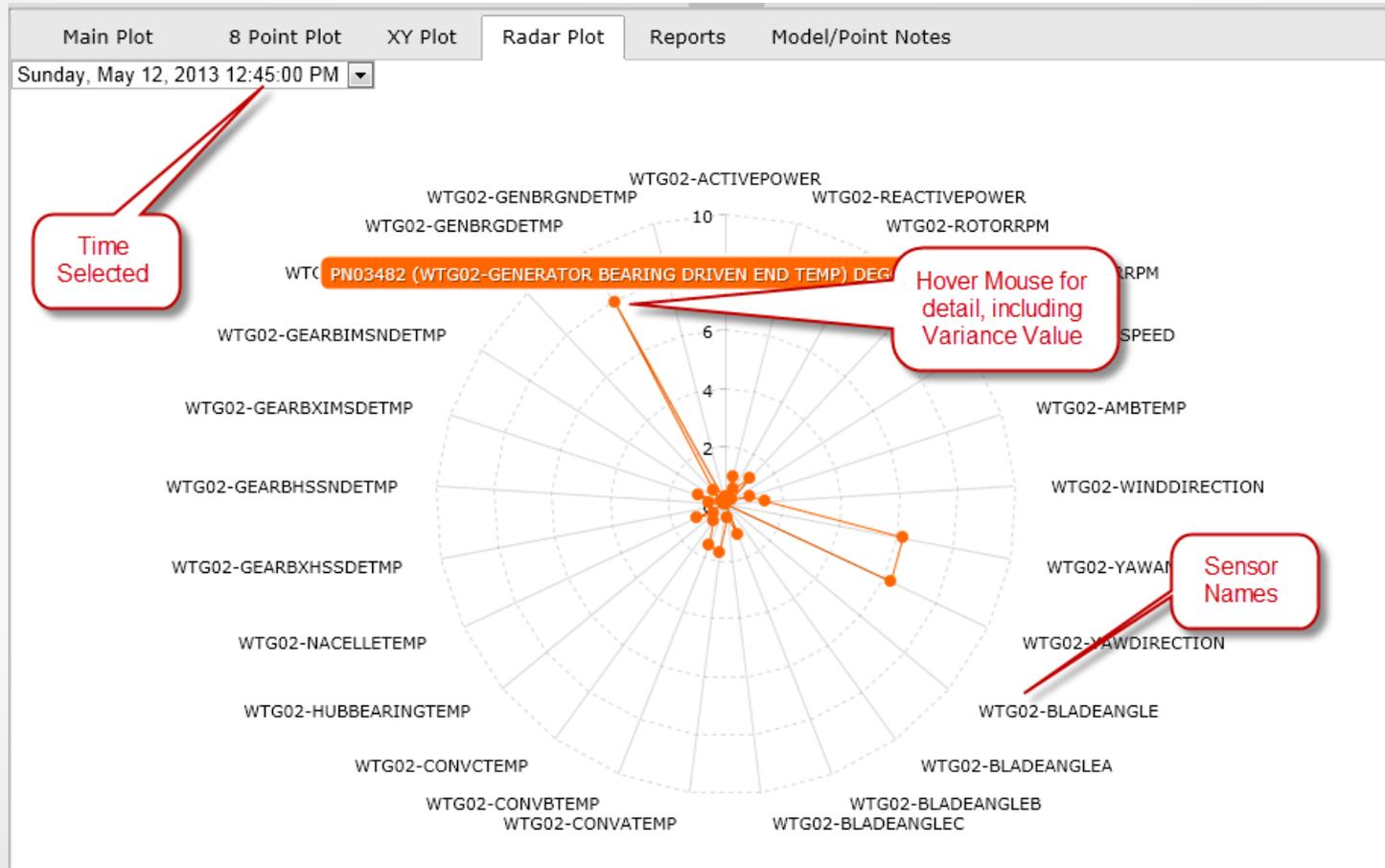
Similar Functionality on 8 Point Plot... Right Click to Change Sensors or Export Data



New X – Y Plot



New Radar Plot



Point and Model Note Summary

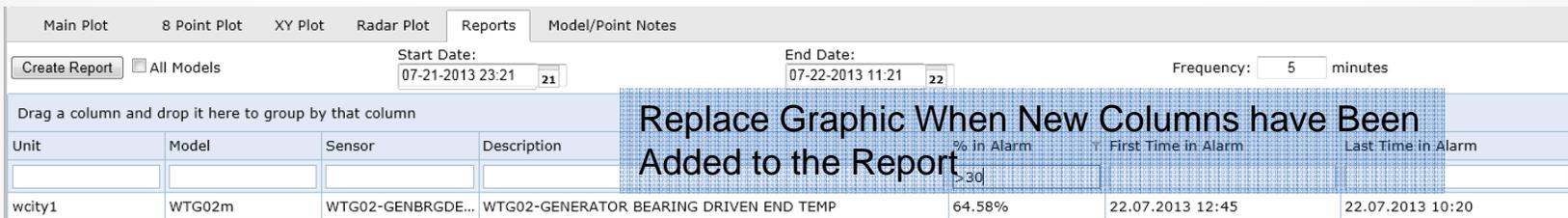
- Review Point and Model Notes Across Entire Fleet
- Group, Filter, Sort to Customize Data Grid to User Preference

The screenshot shows a software interface with a data grid. The grid has columns for Date, Server, Unit, Model, Sensor, User, and Note. The data is grouped by Unit (wcity1 and wcity2) and further grouped by Model (e.g., WTG02m, WTG01e, WTG09m, WTG09e, WTG10m, WTG05m, WTG07e, WTG04e, WTG09e, WTG10m). Annotations highlight 'Drag and Drop Columns to Group' and 'Sort and Filter'.

Date	Server	Unit	Model	Sensor	User	Note
Unit: wcity1 (6)						
Model: WTG02m (3)						
5/7/2013 11:08 AM	10.10.25.29	wcity1	WTG02m		J. Herzau	Monitoring Gen Bearing Temp.
5/13/2013 11:22 AM	10.10.25.29	wcity1	WTG02m		My User Name	My new model note
5/7/2013 11:06 AM	10.10.25.29	wcity1	WTG02m	WTG02-GENBRGDET...	J. Herzau	Lubricant change mid-April 2013. Seeing spikes in temperature as WT
Model: WTG01e (3)						
Model: WTG09m (1)						
Model: WTG09e (2)						
Model: WTG10m (3)						
Model: WTG05m (2)						
6/3/2013 3:07 PM	10.10.25.29	wcity1	WTG05m	WTG05-YAWANGLE	JSH	Additional note
6/3/2013 3:07 PM	10.10.25.29	wcity1	WTG05m	WTG05-YAWDIRECTI...	JSH	Additional note
Unit: wcity2 (5)						
Model: WTG07e (2)						
Model: WTG01e (2)						
Model: WTG04e (2)						
Model: WTG09e (2)						
6/3/2013 2:44 PM	10.10.25.29	wcity2	WTG09e	WTG09-ACTIVEPOWER	J. Herzau	Another test note
6/3/2013 2:51 PM	10.10.25.29	wcity2	WTG09e	WTG09-CURRENTA	J. Herzau	Another test note
Model: WTG10m (2)						
6/3/2013 3:05 PM	10.10.25.29	wcity2	WTG10m	WTG10-YAWDIRECTI...	JSH	Additional note
6/3/2013 3:05 PM	10.10.25.29	wcity2	WTG10m	WTG10-WINDDIRECT...	JSH	Additional note

Reports – Ad Hoc and AutoReport Generated

- Create an Ad Hoc Report for the Selected Model or All Model in the Selected Unit for the Desired Time period and Sample Frequency
- Group, Sort, and Filter Records in the Data Grid to Review Efficiently
- View Similar Data for the Reports Stored on the Server by AutoReport



Start Date: 07-21-2013 23:21 21 End Date: 07-22-2013 11:21 22 Frequency: 5 minutes

Drag a column and drop it here to group by that column

Unit	Model	Sensor	Description	% in Alarm	First Time in Alarm	Last Time in Alarm
wcity1	WTG02m	WTG02-GENBRGDE...	WTG02-GENERATOR BEARING DRIVEN END TEMP	64.58%	22.07.2013 12:45	22.07.2013 10:20

AutoReport Enhancements in v17

- Report can display a link to any external file (open a PI display or ProcessBook, *.pdf....). A separate link can be configured for each model.
- The report not includes the PI Server and PI Tag Names for sensors in the report
- The report is expanded to include data from the current value table at the time of the report ... Actual, Predicted, Residual, Variance

Models and Sensors in Abnormal Mode
Unit: bufbear

Model	Sensor	PI Tag	Description	Link	Percent of Time in Alarm	First Time in Alarm	Last Time in Alarm	Last Time in Alarm	Current Value	Predicted	Residual	Variance
WTG06e	WTG06-BTMCAPSECTMP	\\weitylpi .BB.1.SZ.S88.WTG06.R.BottomCapSectionTemp	WTG06-BOTTOM CAPACITOR PANEL TEMP	\\weityl.srv D:\SCIENTECH\REPORTS\TestingTrend\PDI	82.35	03/13/13 15:15:00	03/14/13 03:40:00	03/14/13 03:40:00	21.000	27.466	-6.466	4.455
WTG01e	WTG01-BOTPWSECTMP	\\weitylpi .BB.1.SZ.S88.WTG01.R.BottomPowerSectionTemp	WTG01-BOTTOM POWER SECTION TEMP	\\weityl.srv D:\SCIENTECH\REPORTS\TestingTrend\PDI	32.03	03/13/13 21:35:00	03/14/13 01:35:00	03/14/13 01:35:00	37.000	28.476	8.524	5.939
WTG08m	WTG08-AMTEMP	\\weitylpi .BB.1.SZ.S88.WTG08.R.AmbTemp	WTG08-AMBIENT TEMPERATURE	\\weityl.srv D:\SCIENTECH\REPORTS\TestingTrend\PDI	44.44	03/13/13 21:50:00	03/14/13 03:35:00	03/14/13 03:35:00	10.000	15.158	-5.158	3.121

Hyperlink to the Point Summary for the PdP Model

Hyperlink to the Main Plot for the Sensor

Hyperlink - User Configurable in FAMOS Architect

Data from the Current Value Table at the time the Report Ran

Rules Enhancements in v17

- New Rules Display – no separate Rule Monitor Client
 - Review all rules from all units in fleet on one Rules Display
 - All fleet components organized in one tree, displaying server, unit, category, component, and rule tree -- with dynamic status indication
 - New outcome summary table displays historical indications from all rules across the system - with grouping, sorting, filtering to facilitate review
- New Rules Display Elements Created
 - Place Rule Category Tree on any custom display to show one unit or entire fleet categories/components/trees with dynamic status of each
 - Place a Decision Tree on any custom display to show one individual rule tree (*.sdt) continuously on display with dynamic status updates
 - Place a linked pair of Category/Decision trees on any custom display for interactive review of unit or system rules

Rules Display

Home Trend Utility Window
12-31-69 18:02:03

Rules

Start Date: 07-15-2013 13:50 | End Date: 07-22-2013 13:50

Unit: fossil3 | Category: Boiler | Component: FWH4

Unit	Server	Date	Unit	Category	Component	Tree	Message
▼ Unit: fossil3 (4)							
▶ Category: Boiler (1)							
▼ Category: Feedwater Heater (2)							
▼ Component: FWH4 (235)							
10.10.25.28		07/22/2013 13:03	fossil3	Feedwater Heater		FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve
10.10.25.28		07/22/2013 12:52	fossil3	Feedwater Heater		FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve
10.10.25.28		07/22/2013 12:31	fossil3	Feedwater Heater	FWH4	FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve
10.10.25.28		07/22/2013 10:39	fossil3	Feedwater Heater	FWH4	FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve
10.10.25.28		07/22/2013 10:29	fossil3	Feedwater Heater	FWH4	FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve
10.10.25.28		07/22/2013 10:08	fossil3	Feedwater Heater	FWH4	FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve
10.10.25.28		07/22/2013 08:14	fossil3	Feedwater Heater	FWH4	FOSSIL3_FWH4.sdt	Check for Stuck Isolation/Check Valve

Zoom in | Zoom out | Reset

Unit on Above Trip/Run Load

Throttle Temperature High

SH Spray Flow Low, Valve Position Low

Increase SH Spray Flow

Throttle Temperature Low

SH Spray Flow Low, Valve Position Not Low

Check Operation of SH Spray Valve

SH Spray Flow High

Reduce SH Spray Flows and Monitor Throttle Temp Recovery

SH Spray Flow Off

Validate SH Spray Flow Reading - P-Vald, Set SH clearmax

Background shaded when a Rule Tree is Selected from the Category Tree on the Left

Double Click on Elements to Show Details of Underlying Fault Tree Logic

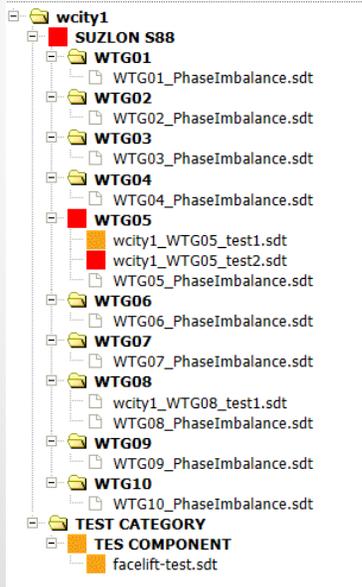
Colors Roll Up to Indicate Highest Severity Outcome

Historical Rule Outcomes

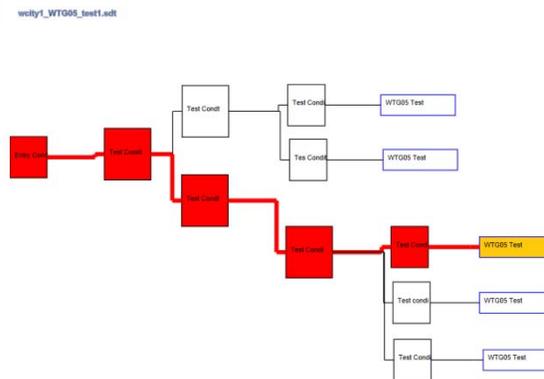
Group, Sort, Filter Outcomes

New Rule Display Elements

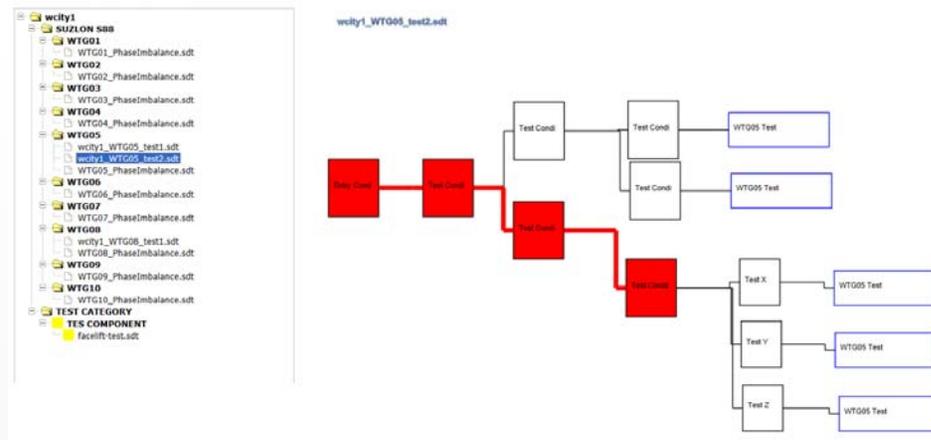
Place Rule Category Tree on any custom display to show one unit or entire fleet categories > components > trees with dynamic status updates of each



Place a Decision Tree on any custom display to show one individual rule tree (*.sdt) continuously on display with dynamic status updates



Linked ...



Demo



Questions

