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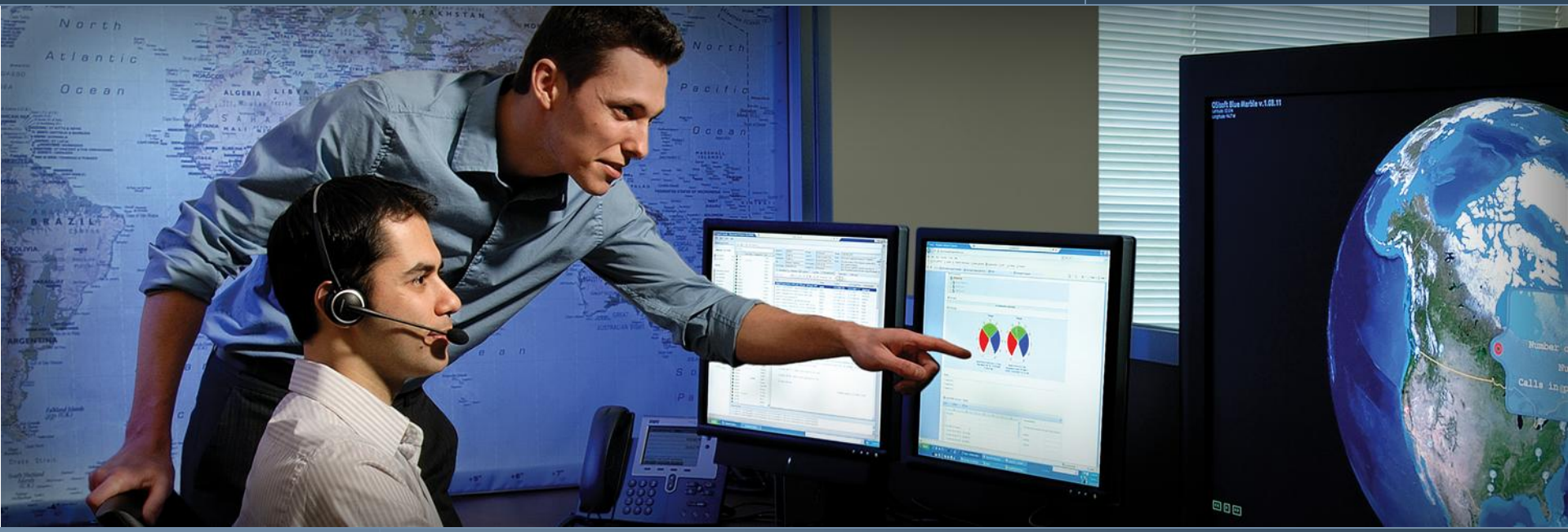
Regional Seminar Series



Bringing Mobility to PI Data at Dominion

Greg Kashmer
Sr. Software Systems Engineer
Dominion

September 22, 2009

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Who Am I ???

- Greg Kashmer, 1986 Clarkson University Graduate, BS in Mechanical Engineering
- 23 years service with Dominion
- 21 years primarily functioning as a Plant Engineer focused on plant performance
- Functioned as the plant PI Administrator (PI-POC)
- Long time PI End-User
- Recently moving to the IT Team serving as 1 of 2 FTE's supporting the PI systems in F&H
- Now responsible for supporting the operations of PI and PI related products
- Also responsible for researching and implementing new PI related products
- Our objective is to implement products and processes related to PI data that enables our PI users to be more "proactive" in critical business decisions

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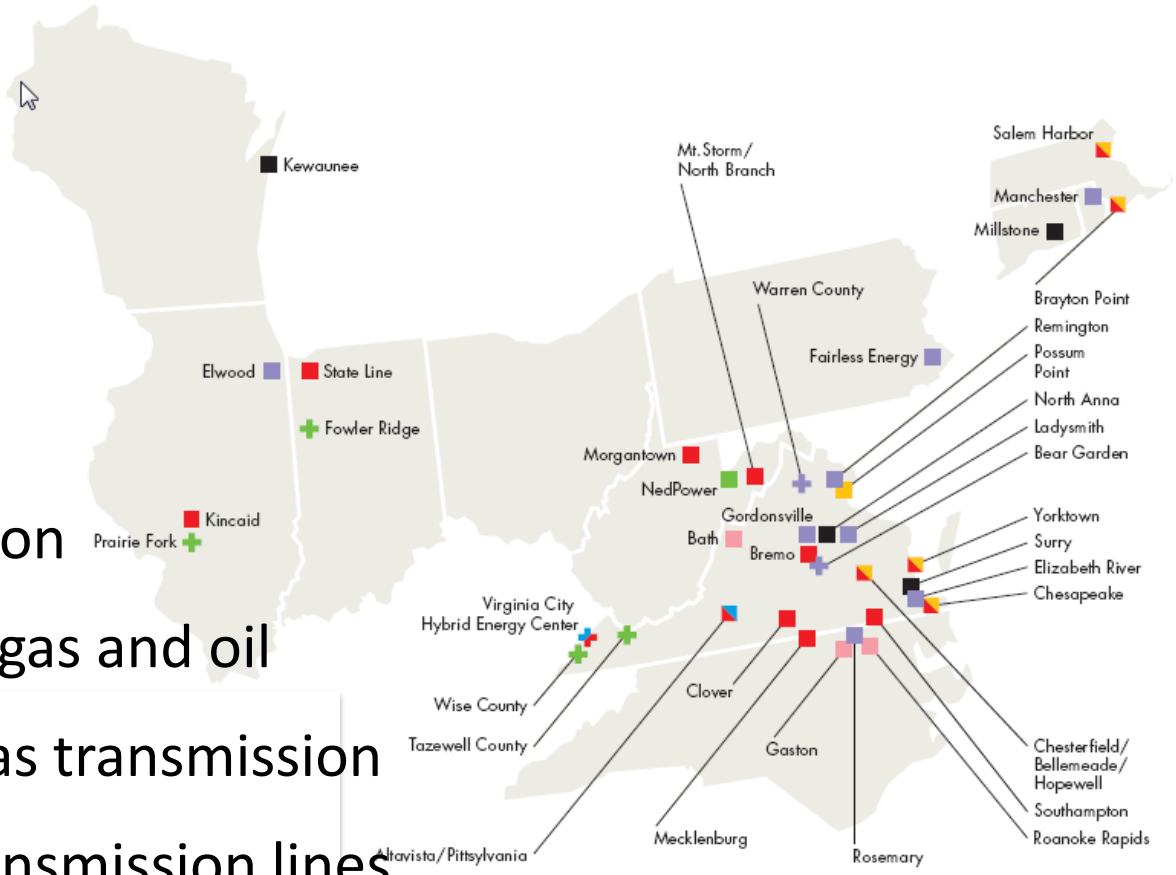
Dominion

Dominion
It all starts here.

- HQ in Richmond, VA
- Operating in 12 states
- 27,500 MW of generation
- 1.2 trillion ft^3 natural gas and oil
- 14,000 mi. of natural gas transmission
- 6,000 mi. of electric transmission lines
- 975 billion ft^3 of gas storage capacity



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Dominion - OSIsoft Footprint

- 23 PI Server installations in Dominion F&H
- 1 PI Server installation in Dominion Nuclear
  - OSIsoft PI in use since 1997
  - Smart client tools
    - ProcessBook & DataLink primarily.
  - Firm tool throughout F&H
  - rCAMM (PI Control Monitor)
  - PI Manual Logger
  - Topview Alerting
  - Transpara Visual KPI
  - Evaluating RT Webparts, PI to PI, PI-ACE

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Traditional PI data is available at your desk

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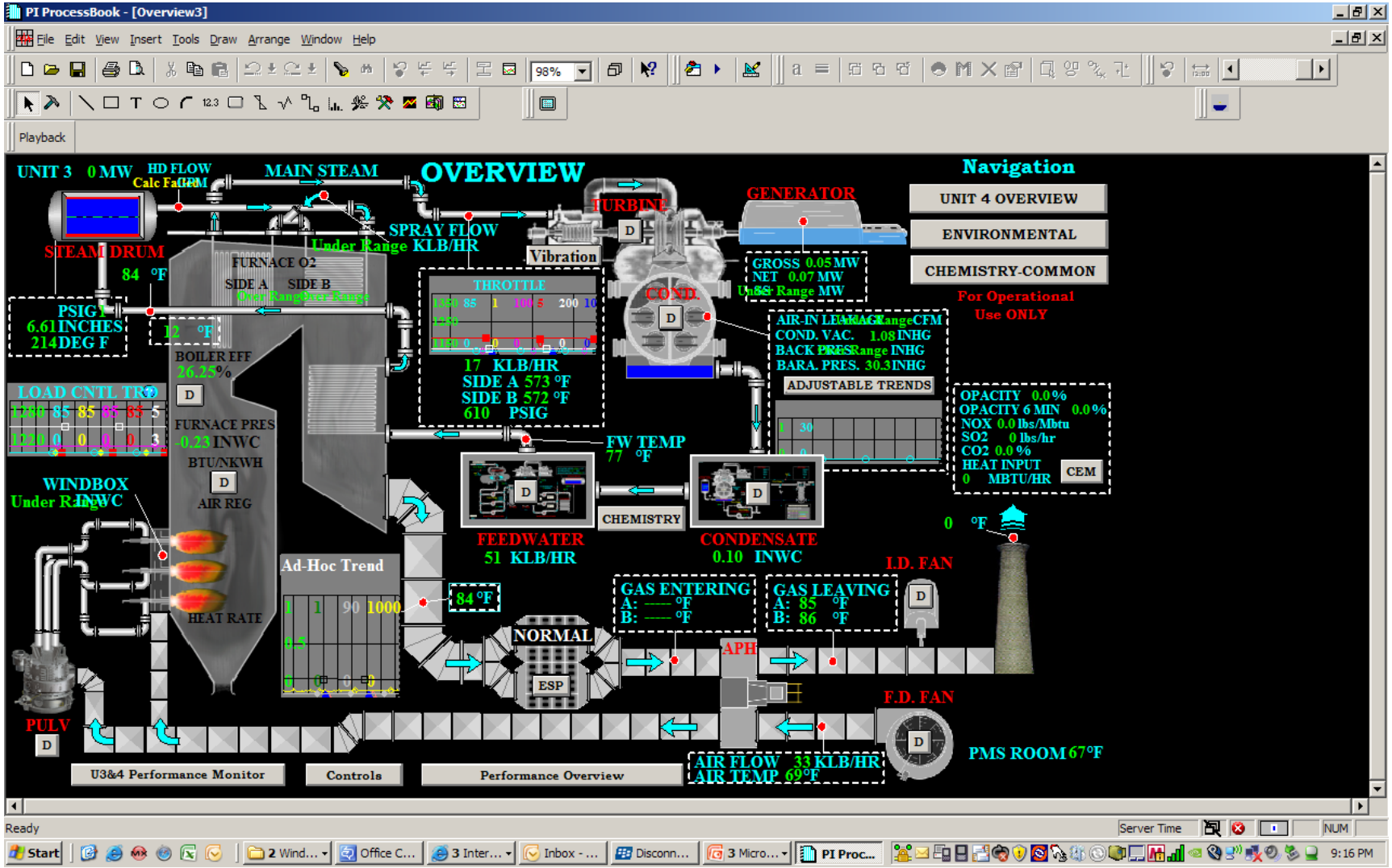
Screens like these (Processbook)



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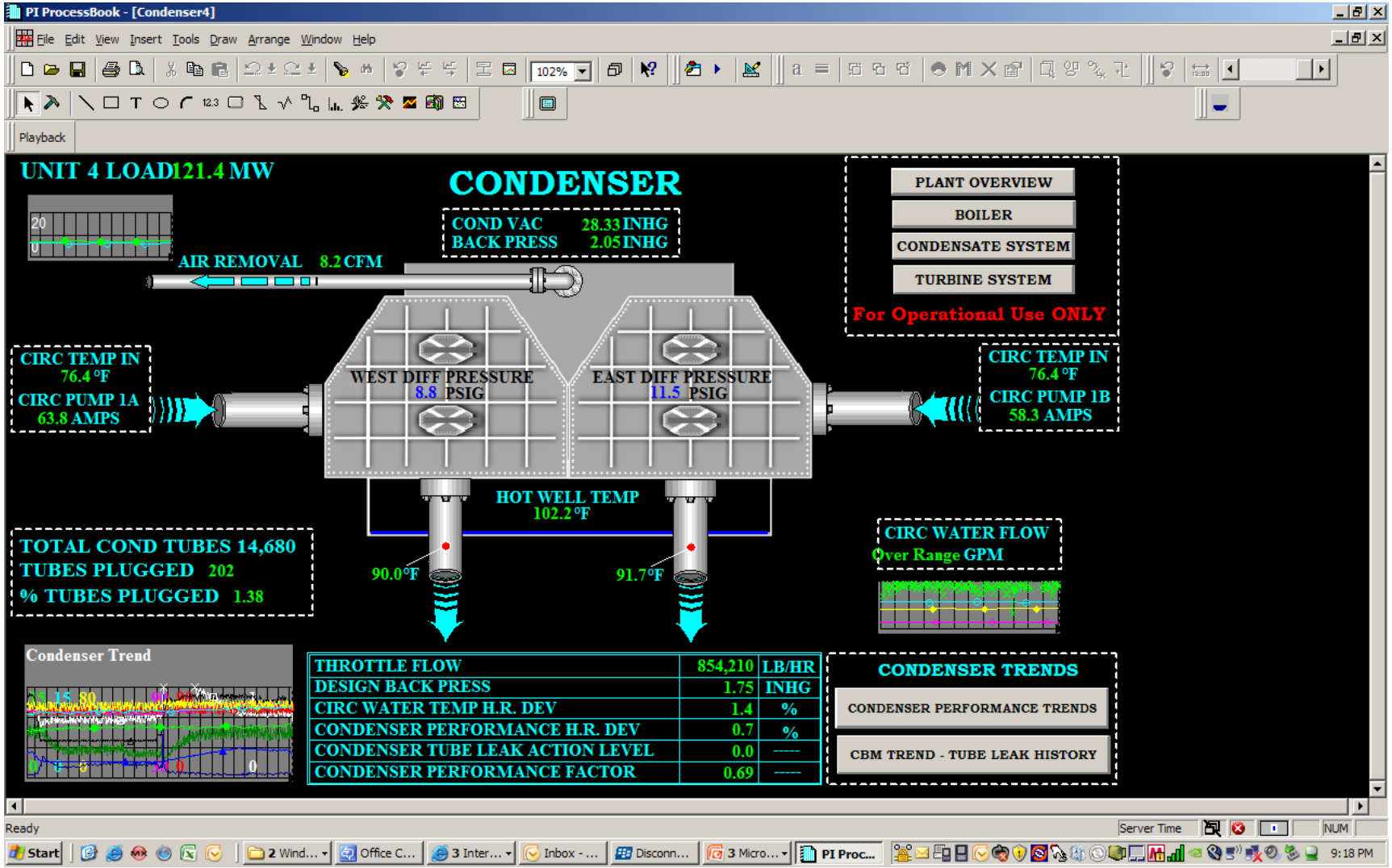
Or like this….(Processbook)



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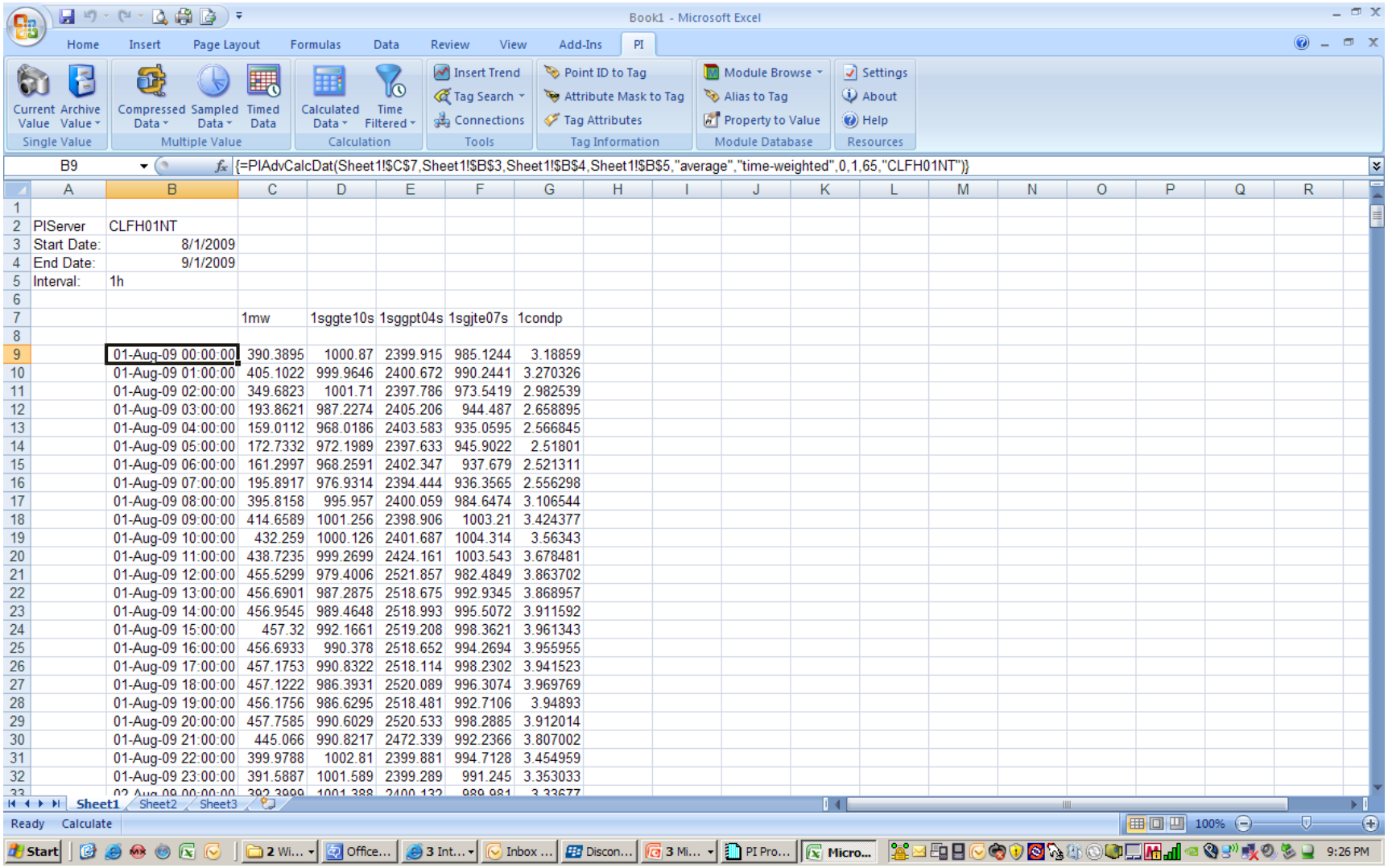
Or spreadsheets like this (Datalink)



	A	B	C	D	E	F	G
2	PIServer	CLFH01NT					
3	Start Date:	8/1/2009					
4	End Date:	9/1/2009					
5	Interval:	1h					
7			1mw	1sggte10s	1sgggpt04s	1sgjte07s	1condp
9		01-Aug-09 00:00:00	390.3895	1000.87	2399.915	985.1244	3.18859
10		01-Aug-09 01:00:00	405.1022	999.9646	2400.672	990.2441	3.270326
11		01-Aug-09 02:00:00	349.6823	1001.71	2397.786	973.5419	2.982539
12		01-Aug-09 03:00:00	193.8621	987.2274	2405.206	944.487	2.658895
13		01-Aug-09 04:00:00	159.0112	968.0186	2403.583	935.0595	2.566845
14		01-Aug-09 05:00:00	172.7332	972.1989	2397.633	945.9022	2.51801
15		01-Aug-09 06:00:00	161.2997	968.2591	2402.347	937.679	2.521311
16		01-Aug-09 07:00:00	195.8917	976.9314	2394.444	936.3565	2.556298
17		01-Aug-09 08:00:00	395.8158	995.957	2400.059	984.6474	3.106544
18		01-Aug-09 09:00:00	414.6589	1001.256	2398.906	1003.21	3.424377
19		01-Aug-09 10:00:00	432.259	1000.126	2401.687	1004.314	3.56343
20		01-Aug-09 11:00:00	438.7235	999.2699	2424.161	1003.543	3.678481
21		01-Aug-09 12:00:00	455.5299	979.4006	2521.857	982.4849	3.863702
22		01-Aug-09 13:00:00	456.6901	987.2875	2518.675	992.9345	3.868957
23		01-Aug-09 14:00:00	456.9545	989.4648	2518.993	995.5072	3.911592
24		01-Aug-09 15:00:00	457.32	992.1661	2519.208	998.3621	3.961343
25		01-Aug-09 16:00:00	456.6933	990.378	2518.652	994.2694	3.955955
26		01-Aug-09 17:00:00	457.1753	990.8322	2518.114	998.2302	3.941523
27		01-Aug-09 18:00:00	457.1222	986.3931	2520.089	996.3074	3.969769
28		01-Aug-09 19:00:00	456.1756	986.6295	2518.481	992.7106	3.94893
29		01-Aug-09 20:00:00	457.7585	990.6029	2520.533	998.2885	3.912014
30		01-Aug-09 21:00:00	445.066	990.8217	2472.339	992.2366	3.807002
31		01-Aug-09 22:00:00	399.9788	1002.81	2399.881	994.7128	3.454959
32		01-Aug-09 23:00:00	391.5887	1001.589	2399.289	991.245	3.353033

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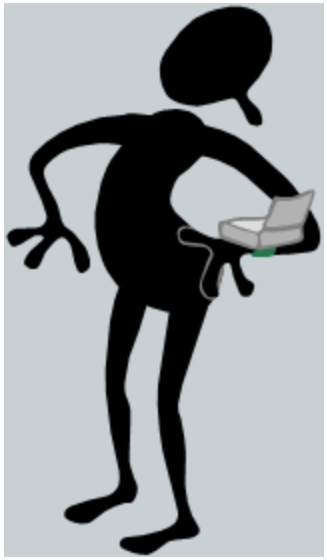
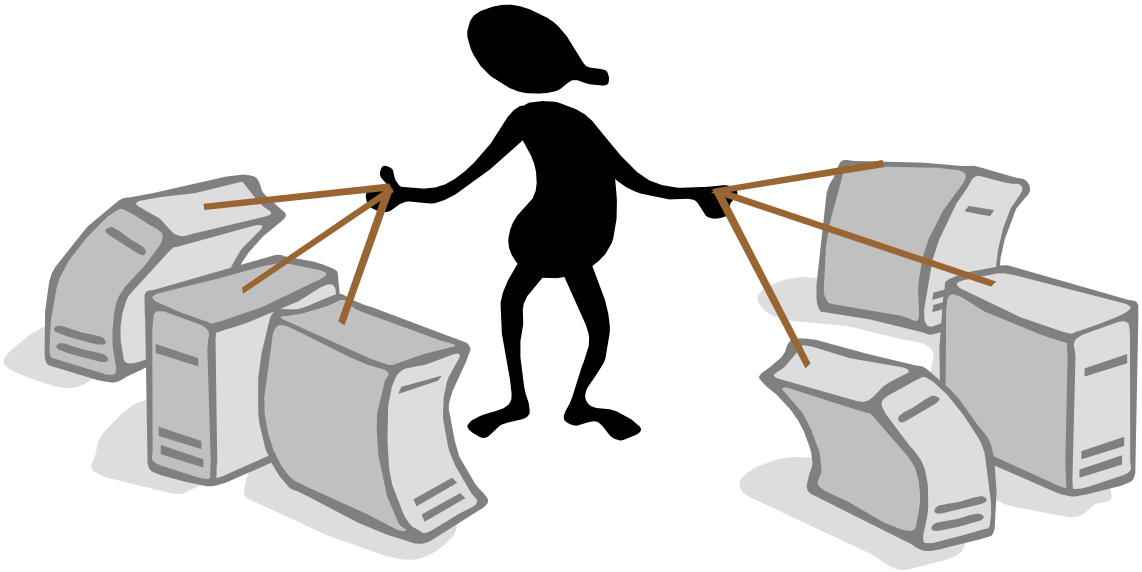
Technology has now allowed us to bring data to our fingertips





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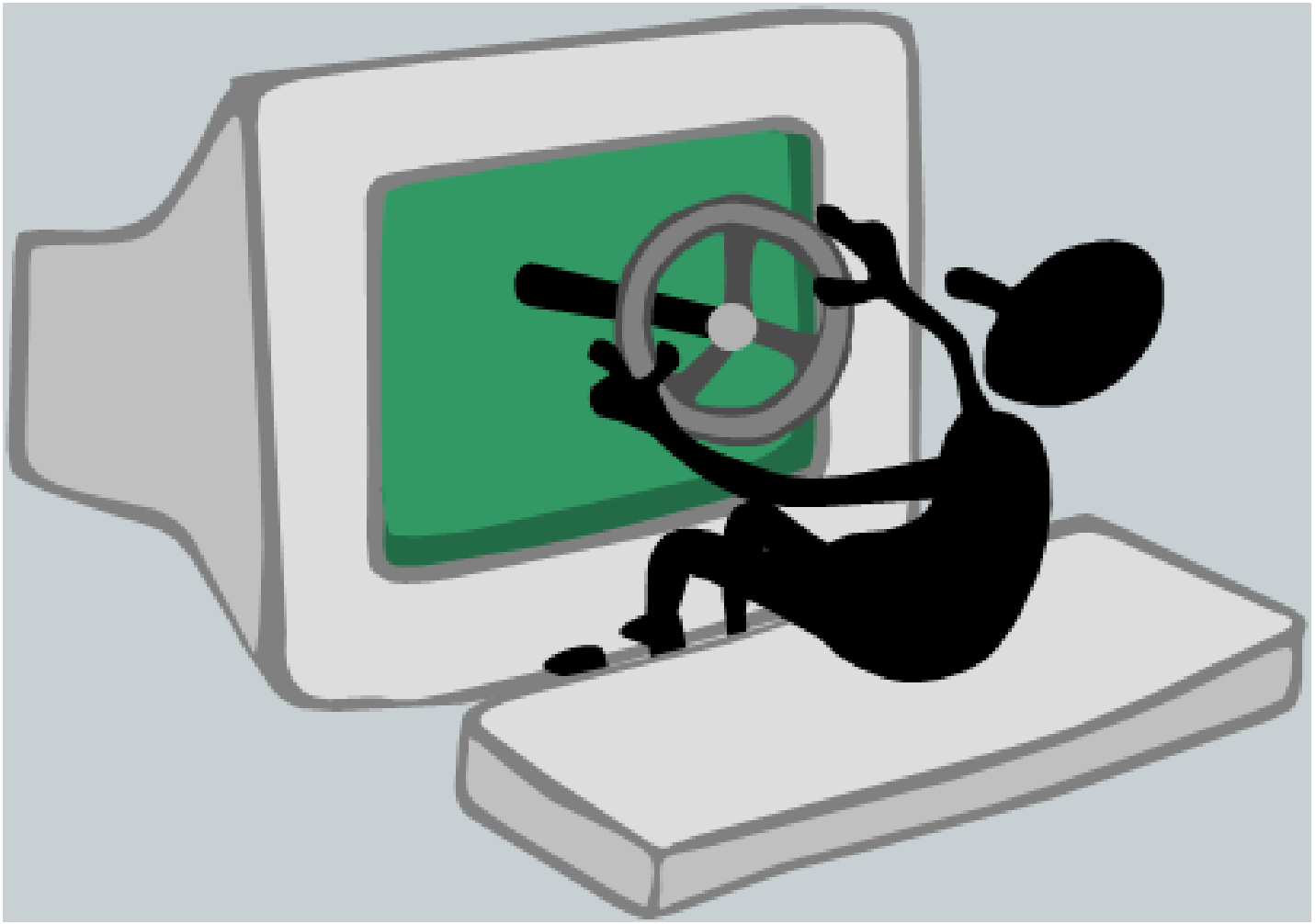
Now instead of driving to our data……



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Or instead of being brought to your PC in the middle of the night….

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Let’s bring the data to you…mobile PI data!

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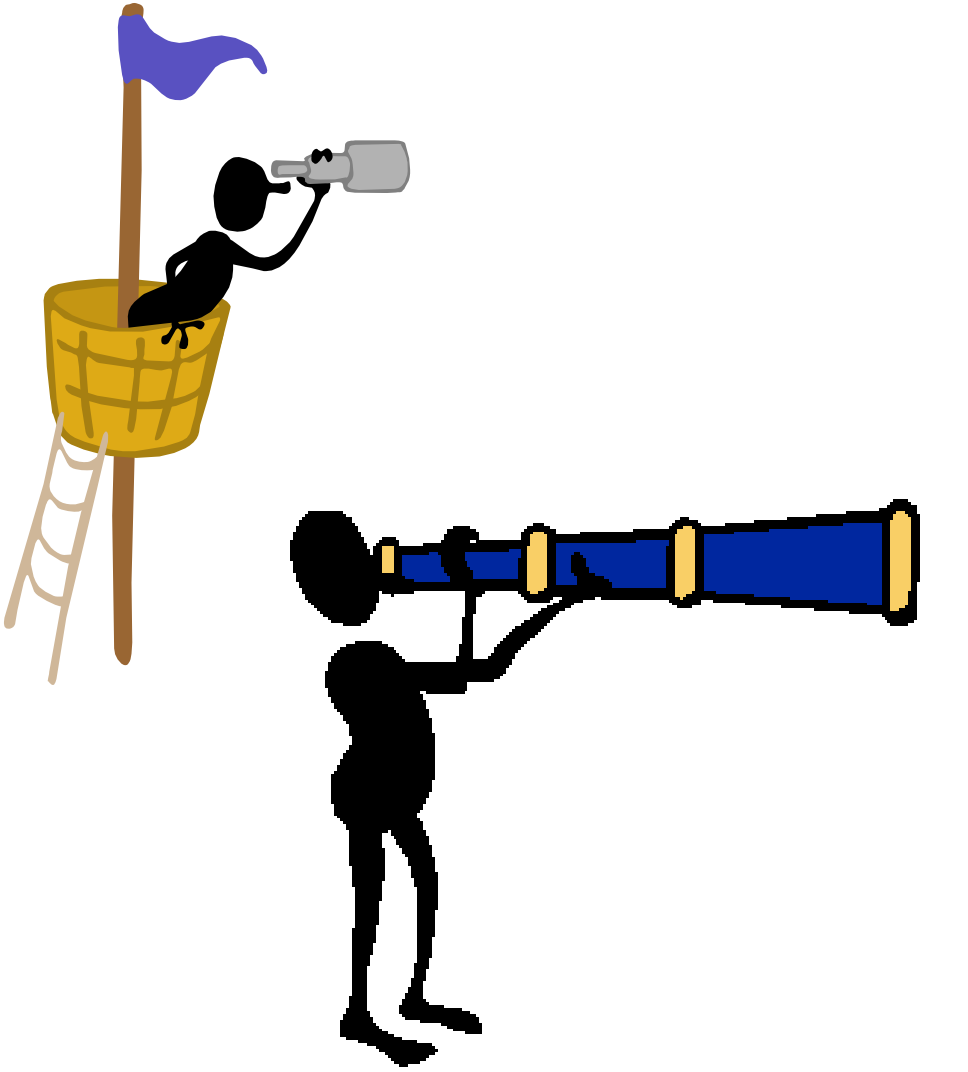
Mobile PI data brings visibility of information anywhere….



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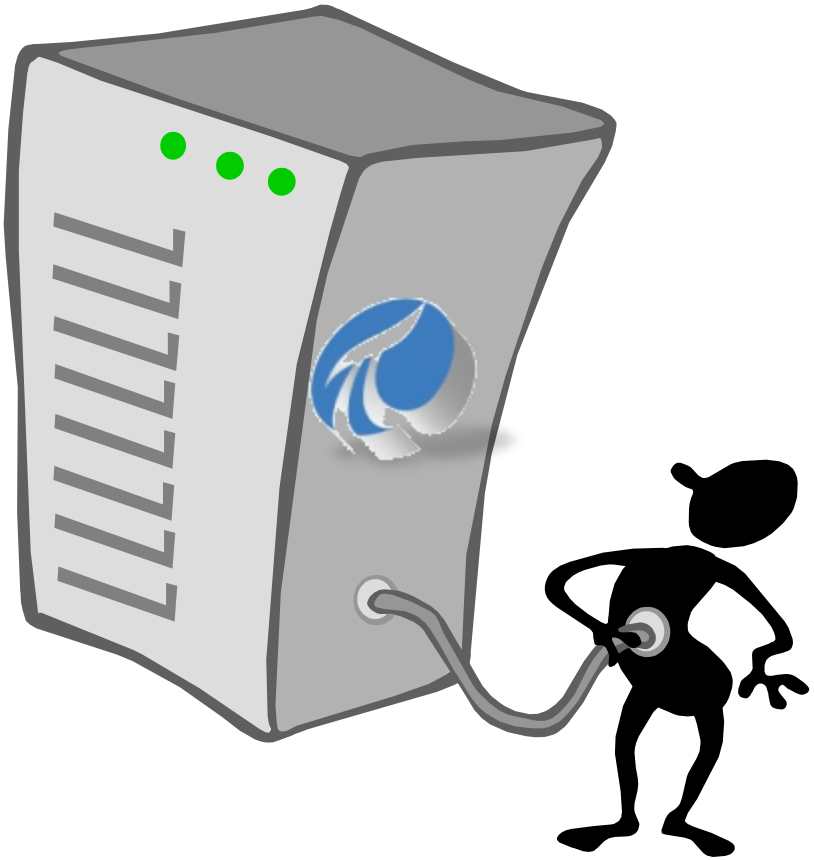
We No longer need to be plugged in at our work location to get information



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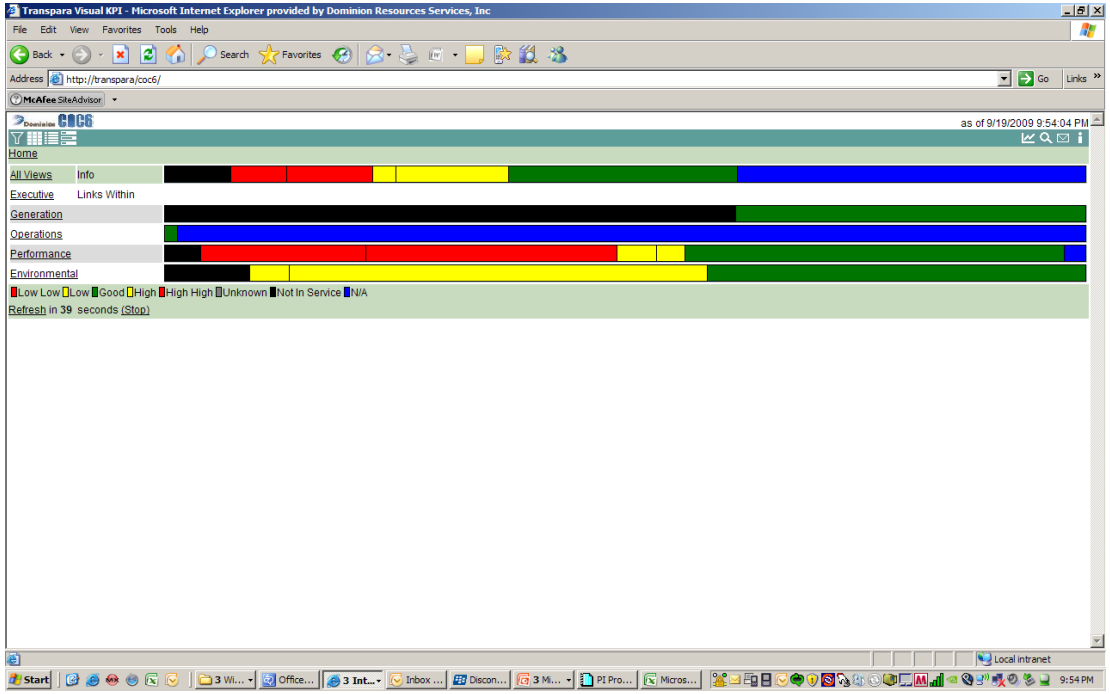
How is Dominion accomplishing this?

Transpara™

NOW YOU KNOW.



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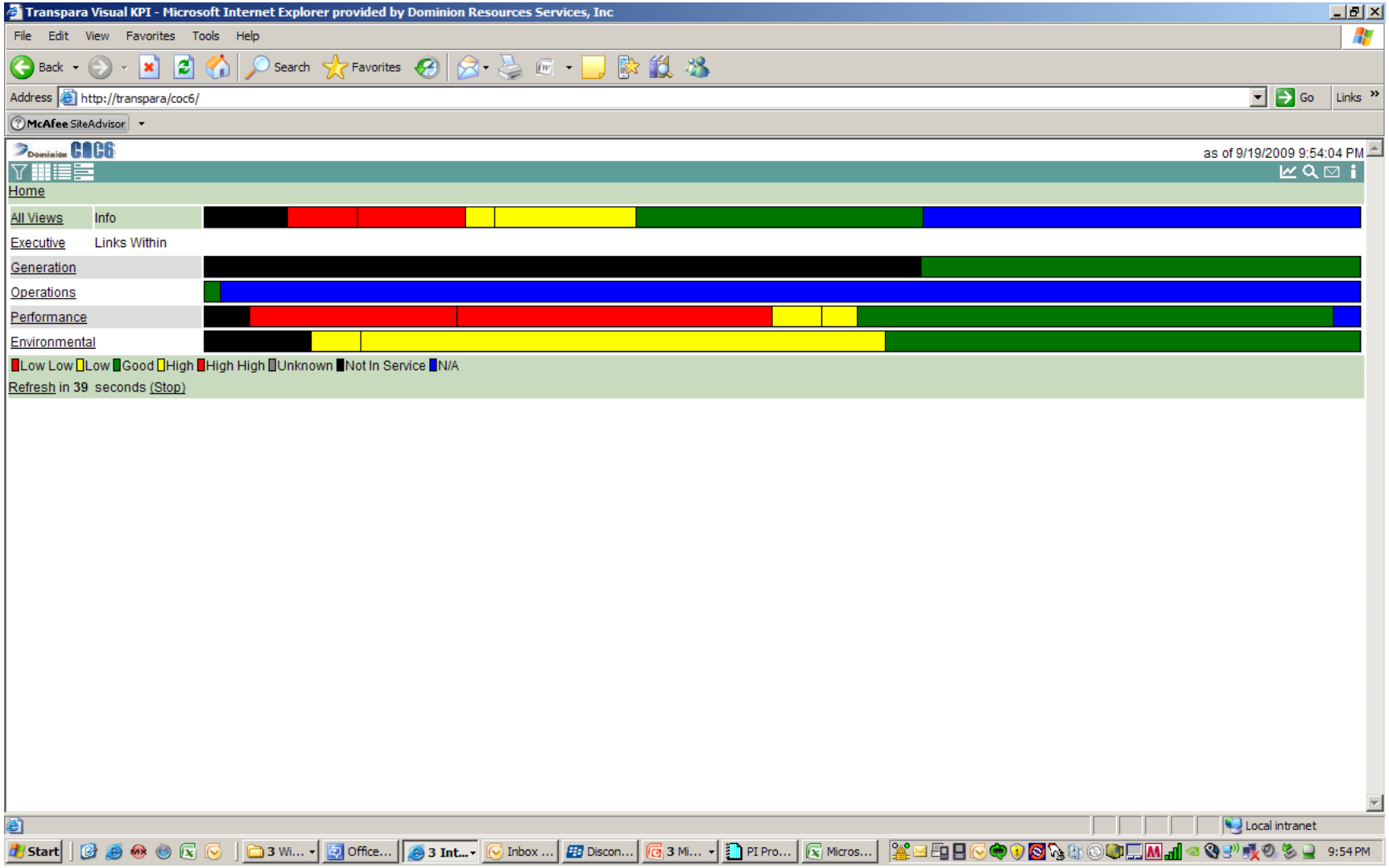
Web-based distribution, Internet Explorer



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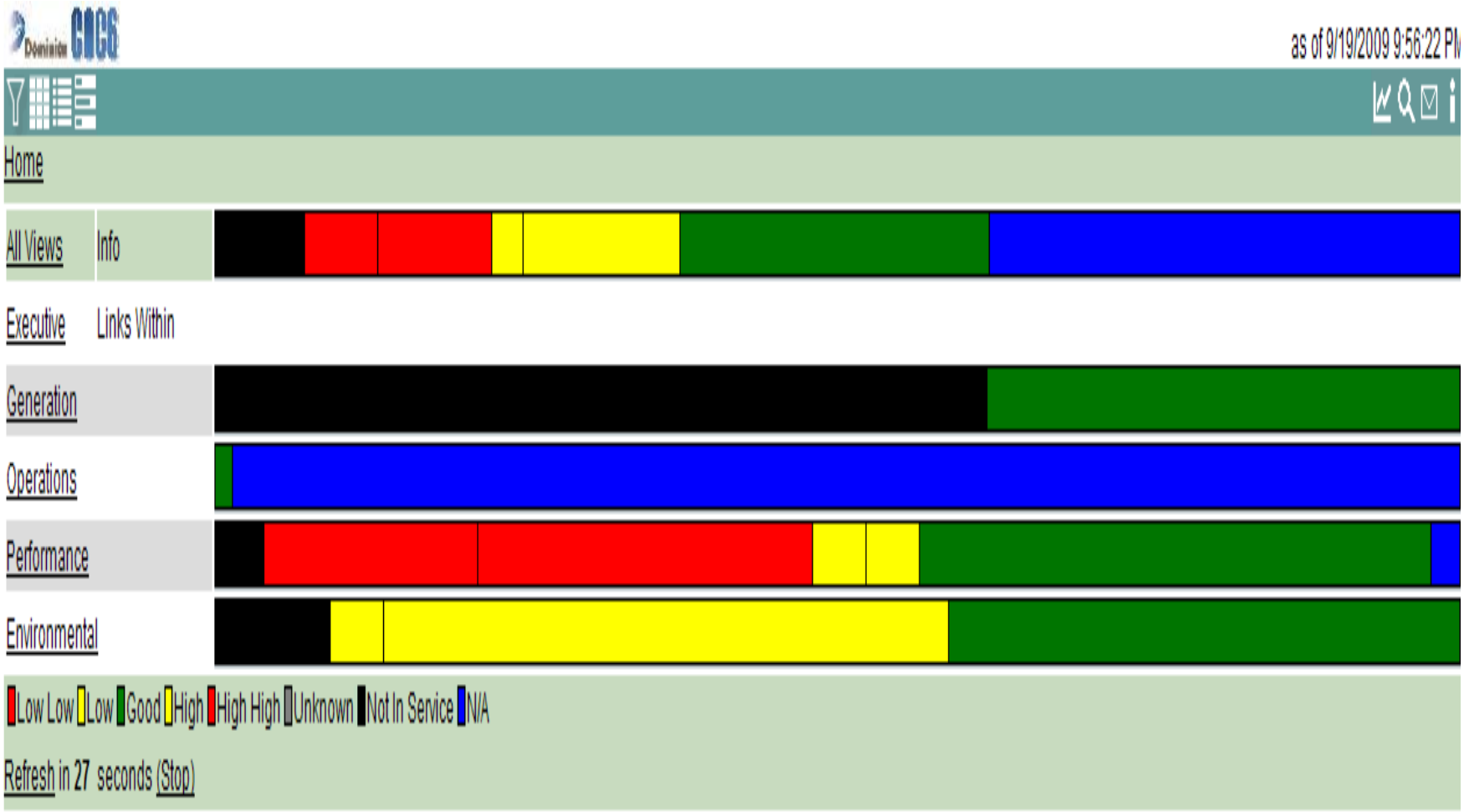
Accomplished thru Views & Scorecards

- Various Views



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Information such as Unit Net Generation

Information like this…..

DomNet Saturday, Sep 19, 2009 Index | Directory | Advanced Search Search

Dominion - Virginia Power Generation Summary

Per Unit Generation
As of **09/19/09** at **22:02**

Values are displayed in **NET** MW's

- » Generation Summary
- » NUG Summary
- » Peaker CT's
- » Zonal Load Forecast
- » Unit Outage Schedule
- » VAR Reserves
- » Monthly Peaks

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Bellemeade	0							
Bremo			0	69				
Buggs (Mecklenburg)	0	0						
Chesapeake	0	61	98	165				
Chesterfield			0	0	200	402	199	213
Clover	374	387						
Hall Branch (Altavista)	0							
Hurt (Pittsylvania)	65							
Mount Storm	527	475	401					
North Branch	0							
Polyester (Hopewell)	0							
Possum Point			0	0	0	246		
Rosemary	0							
South Anna (Gordonsville)	0	114						
Southampton	0							
Yorktown	0	0	0					
North Anna	912	908						
Surry	798	807						
Darbytown	0	0	0	0				

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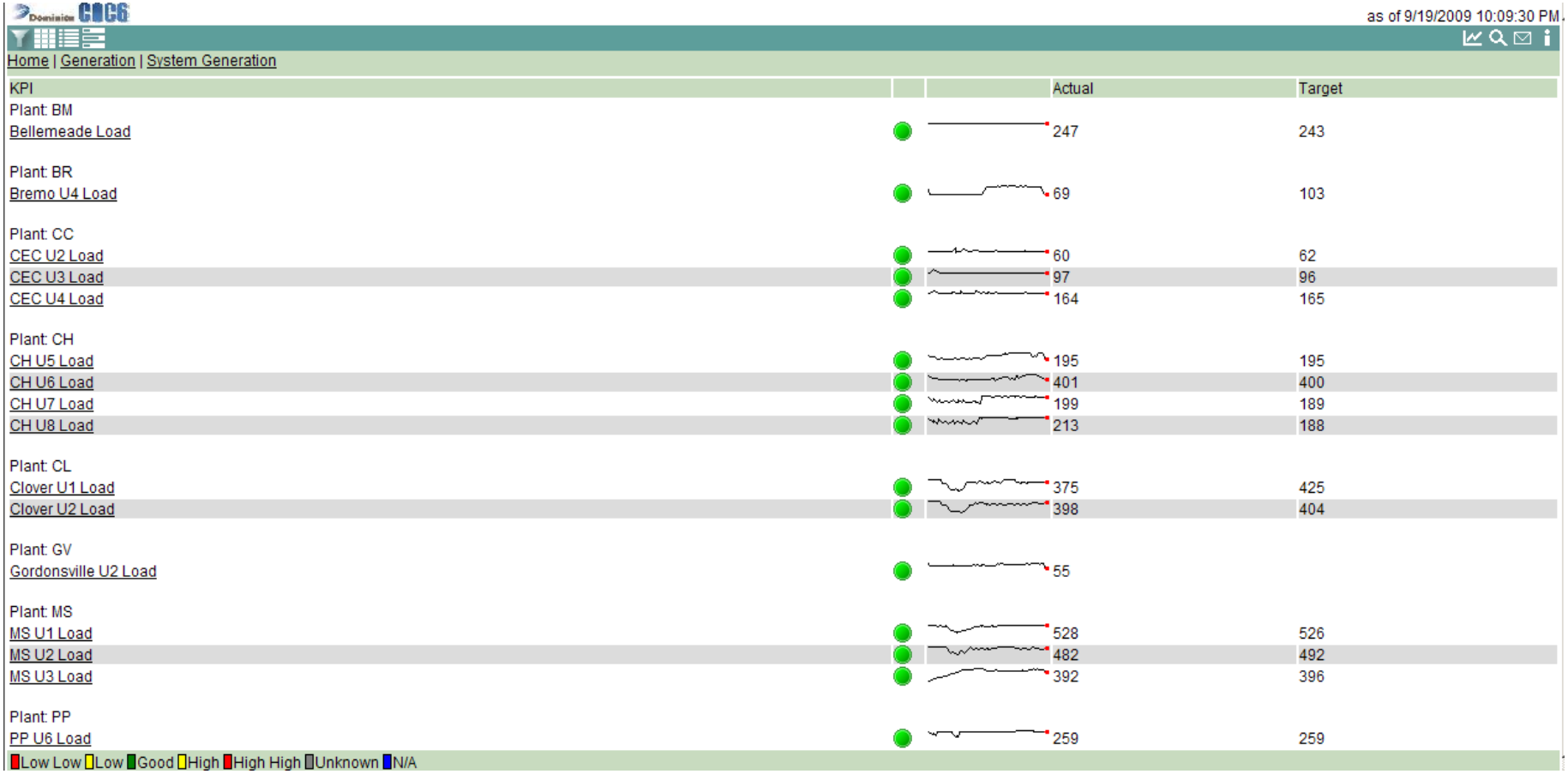
Can be delivered like this….(List)



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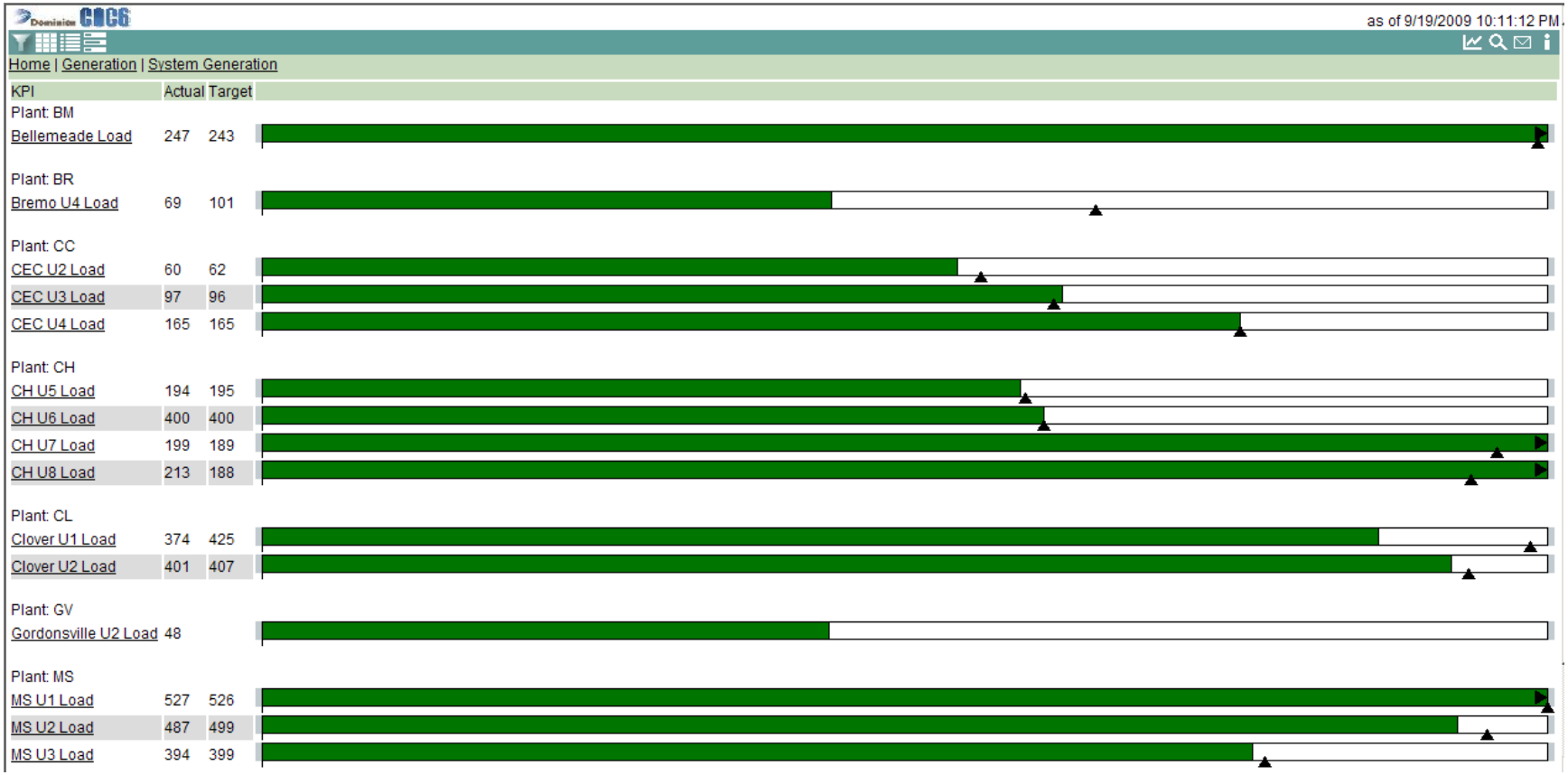
Or in a different view like this (Bars)



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But, not only IE web browser…how about BB

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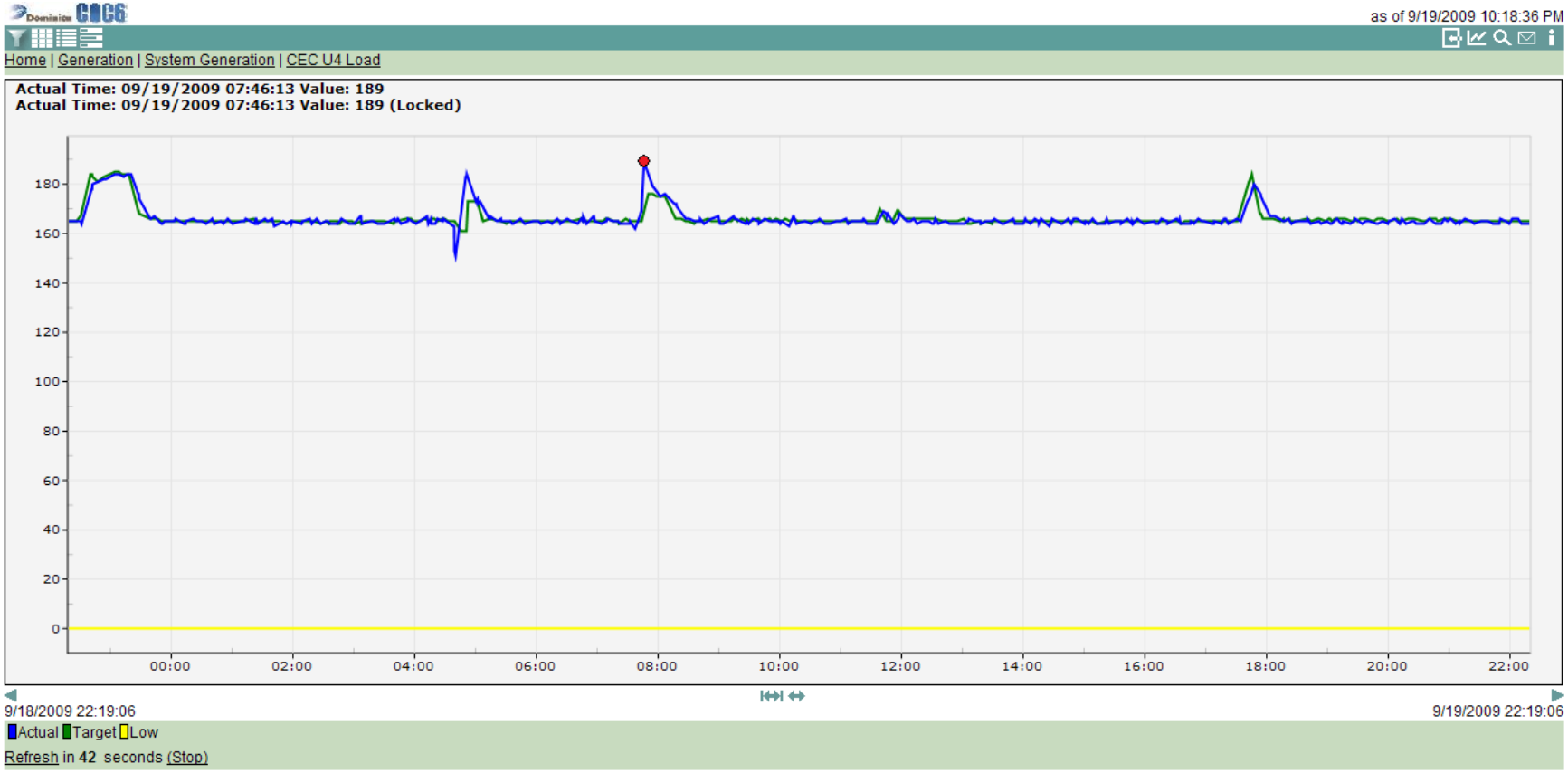
We can trend in IE (similar to Processbook).



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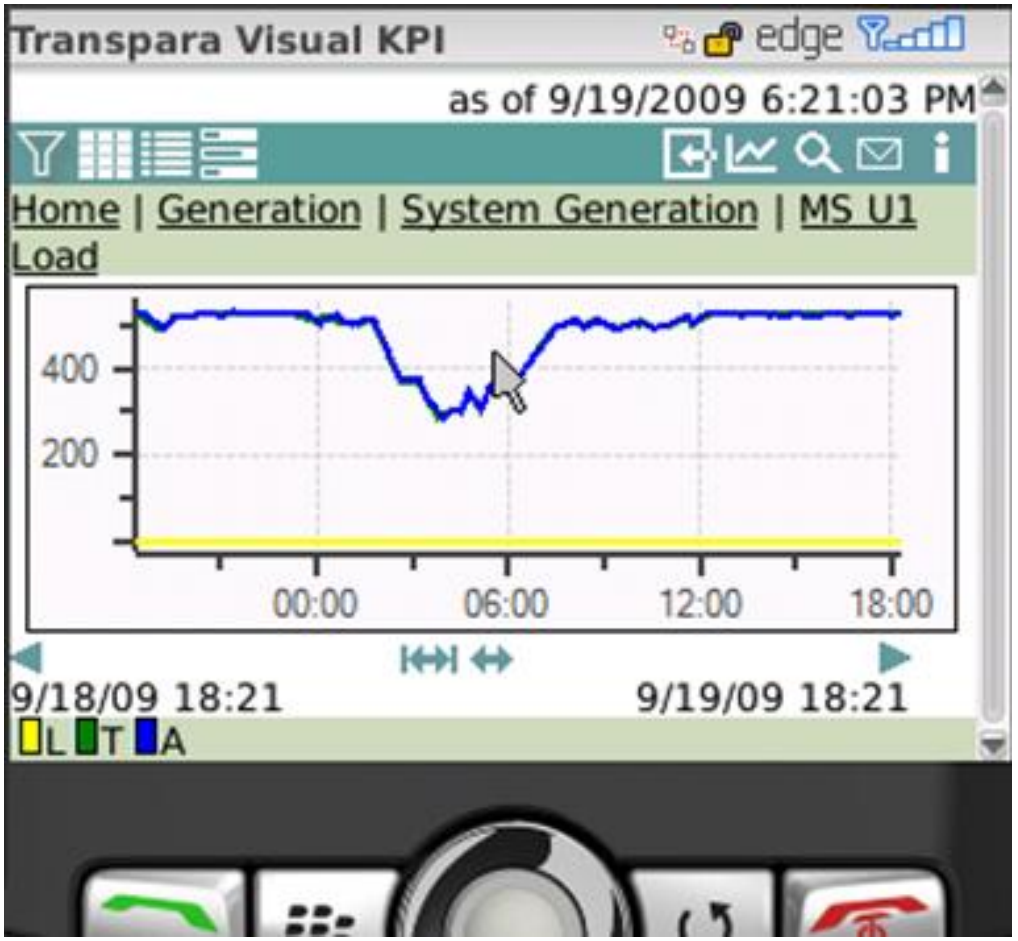
Or on the Blackberry device too !



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How Dominion Implemented

- High Level Pilot Program
  - Began in the 4th Quarter 2008
  - Focus on providing PI data to mobile devices
  - Focus group was Dominion Sr. VP F&H
- Purchased a small number of Client Licenses
  - 1st Quarter 2009
  - Initial focus will be on 'Serving' PI data
  - Growth may include other data connectors to capture more robust KPI's
- Full Implementation plan scheduled July 2009
- Delivered in 'Waves' (Top → Downward)
  - VP's – System and Merchant
  - Director's , Station & Support – System and Merchant
  - Manager's – Operation, Maintenance, Support Teams

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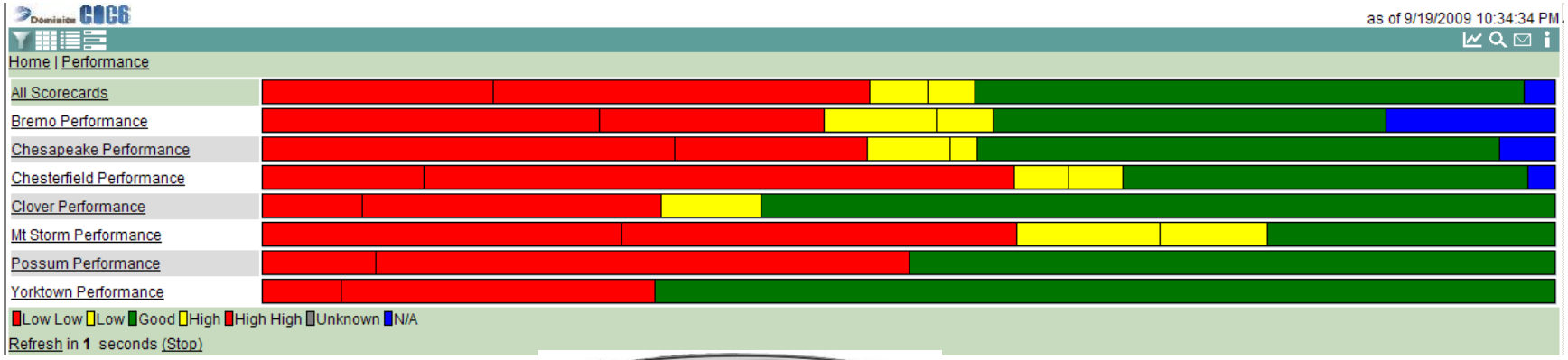
KPI (Key Performance Indications) delivery



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Color Indications for catching ‘the eye’

Home | Performance | Clover Performance

KPI			Actual	Target
Unit: 1				
Clover U1 Load			374	425
Throttle Press			2,499	2,400
Throttle Temp			1,002	1,000
Reheat Temp			996.8	1,000
SH Spray			26,005	0
RH Spray			0	0
%O2			3.084	3.5
APH Gas Inlet Temp			654.4	643.6
Exit Gas Temp			291.7	290
APH Air Inlet Temp			91.29	120.3
Station Power			24,908	25,373
Back Press			3.029	2.888
Unit Heatrate			9,878	

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Security

- Dominion utilizes AD (Active Directory) Group Membership to securely distribute information appropriately.
- Dominion follows and abides by FERC Code of Conduct policies and distributes the information by COC groupings. Separation must exist between our regulated and non-regulated business units and these groupings secure this.

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Authentication on the BB

- Both Desktop and Blackberry devices require authentication to access

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Demo/Questions/Closure

- Take 5-10 minutes to demonstrate the Transpara product
  - Desktop thru Internet Explorer
  - Blackberry Simulator

- Questions

- Closure

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Thank you

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