

OPC Servers and Clients in PHENIX

Stephen Boose and John Haggerty
Brookhaven National Laboratory

May 23, 2003



OPC Servers

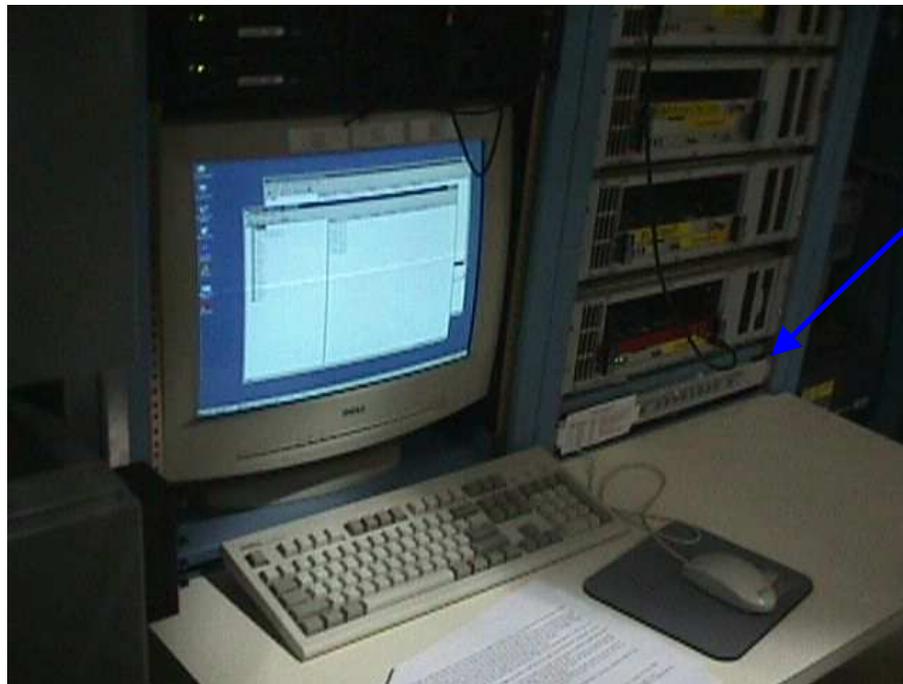
- There are two OPC ("OLE for Process Control") server machines, phoncs6 and phoncs8. They are under the table in the Rack Room, rack PRR1.2.



May 23, 2003

Console for OPC Servers

- The two OPC servers share a single keyboard, video, and mouse by a Raritan KVM switch—phoncs6 and phoncs8 are channels 3 and 4 on that switch.



KVM switch

Fiber Optic Transceiver

- The RS-485 serial ports from the OPC servers are converted to optical fiber and transmitted to the collision hall. The fiber optic transceivers are in the back of rack PRR1.3.



May 23, 2003

OPC Client Machine

- The most important OPC clients are run on phoncs12 in the corner of the Control Room. The actual machine is under the table.



May 23, 2003

Troubleshooting

- The most common problem is that the client machine loses contact with the OPC servers, and some or all of the windows are grayed out instead of displaying their cheerful colors. Try rebooting phoncs12 first. Start it up again as log in as user phoncs.
- If there is still a problem, reboot one or the other of the OPC servers. The OPC server is likely to be started automatically in the background if the client machine is up. Check by looking at the Task Manager (right click on the taskbar to bring it up).

Machine		Serves
phoncs6	OPC B	NMT, NMI, SMT, SMI
phoncs8	OPC A	CM, EC, WC

Task Manager on OPC Server

- The Task Manager should look like this (phoncs6 on the left, phoncs8 on the right). Make sure there is one and only one copy of the server, **Adamopc.exe**, running.

Image Name	PID	CPU	CPU Time	Mem Usage
Adamopc.exe	724	02	2:14:37	3,820 K
atipfax.exe	740	00	0:00:00	2,244 K
Cryptserv.exe	452	00	0:00:00	1,980 K
csrss.exe	168	00	0:00:29	1,608 K
Dwx32.exe	824	00	0:04:35	2,436 K
explorer.exe	292	00	0:00:01	1,088 K
GENREG~2.EXE	732	00	0:00:00	2,248 K
I_view32.exe	1156	00	0:00:00	2,632 K
lsass.exe	228	00	0:00:20	1,448 K
mstask.exe	524	00	0:00:00	1,764 K
regsvc.exe	508	00	0:00:00	812 K
security.exe	916	00	0:00:00	3,928 K
services.exe	216	00	0:00:06	5,384 K
smss.exe	140	00	0:00:00	344 K
SPOOLS.V.EXE	416	00	0:00:00	2,456 K
svchost.exe	368	00	0:00:14	2,604 K
svchost.exe	468	00	0:00:00	4,832 K
System	0	00	0:00:29	212 K
System Idle Process	0	98	115:25:54	16 K
taskmgr.exe	444	00	0:00:00	1,740 K
winlogon.exe	188	00	0:00:00	2,140 K
winmgmt.exe	568	00	0:00:01	172 K

Processes: 22 | CPU Usage: 3% | Mem Usage: 64928K / 633600K

Image Name	PID	CPU	CPU Time	Mem Usage
Adamopc.exe	264	03	3:35:29	5,184 K
CSRSS.EXE	164	01	0:01:28	1,688 K
explorer.exe	768	02	0:00:01	1,600 K
HPFMOBJL.EXE	876	00	0:00:00	4,048 K
I_view32.exe	1036	00	0:00:00	2,812 K
LSASS.EXE	224	00	0:00:07	1,060 K
mstask.exe	640	00	0:00:00	3,204 K
OpEnum.exe	900	00	0:00:03	3,732 K
RADEXECD.EXE	508	00	0:00:00	1,292 K
RADSCHED.EXE	536	00	0:00:00	1,240 K
RADSTGMS.EXE	552	00	0:00:00	2,948 K
RDRVLX.EXE	576	00	0:20:14	1,804 K
regsvc.exe	628	00	0:00:00	856 K
SERVICES.EXE	212	00	0:00:01	5,384 K
SMSS.EXE	136	00	0:00:00	360 K
sposlv.exe	432	00	0:00:00	3,676 K
svchost.exe	400	00	0:00:13	3,652 K
svchost.exe	472	00	0:00:00	5,952 K
System	8	00	0:01:15	212 K
System Idle Process	0	94	113:07:03	16 K
taskmgr.exe	1016	00	0:00:00	2,192 K
WINLOGON.EXE	184	00	0:00:00	2,224 K
WinMgmt.exe	684	00	0:00:02	152 K

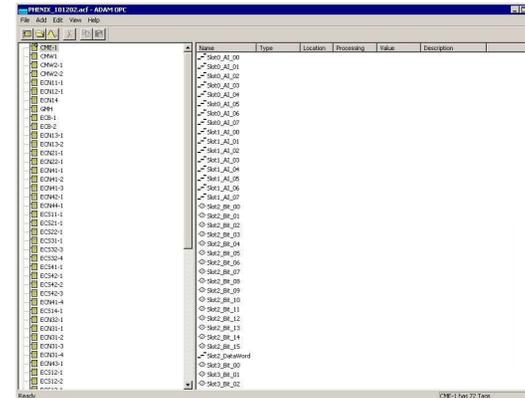
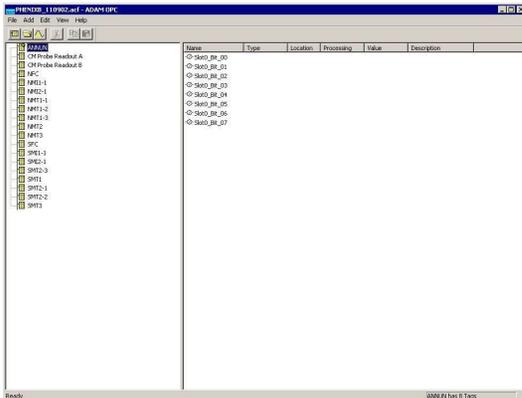
Processes: 23 | CPU Usage: 7% | Mem Usage: 72776K / 633516K

Starting from Scratch 1/4

- If the simple troubleshooting didn't work, the best thing to do is to start everything up from the very beginning. To do this, first shut down all the clients, like this:
 - Shut down phoncs12, the OPC client. Don't reboot it, shut it down for now
 - (Optional) Shut down phoncs3, a machine running an OPC logger. Phoncs3 is the Windows NT PC on the run control table

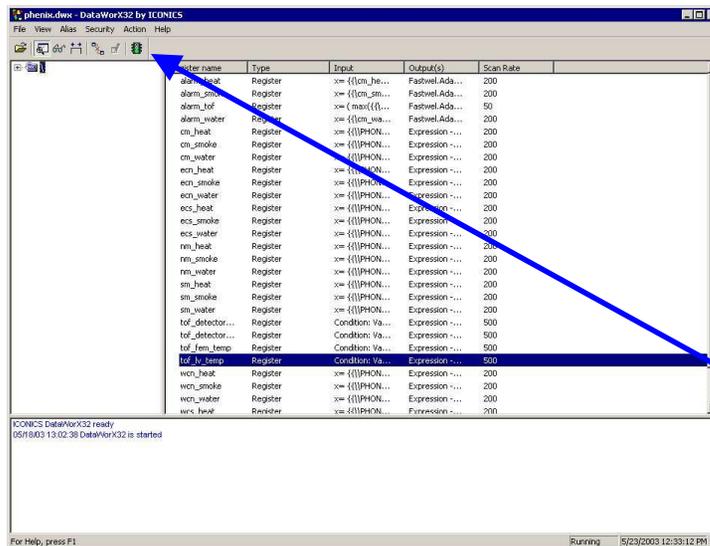
Starting from Scratch 2/4

- Now shut down and restart the OPC servers, like this:
 - Restart both OPC server machines phoncs6 and phoncs8
 - When they come up, log on as phoncs if it asks
 - Before starting anything, check that the OPC server is not running with the task manager (look for Adamopc.exe). If one or more is running, kill it with the "End Process" button in the Task Manager.
 - Start the OPC server by double clicking on the "ADAM OPC Server" shortcut on the desktop, which should bring up windows that look like this:



Starting from Scratch 3/4

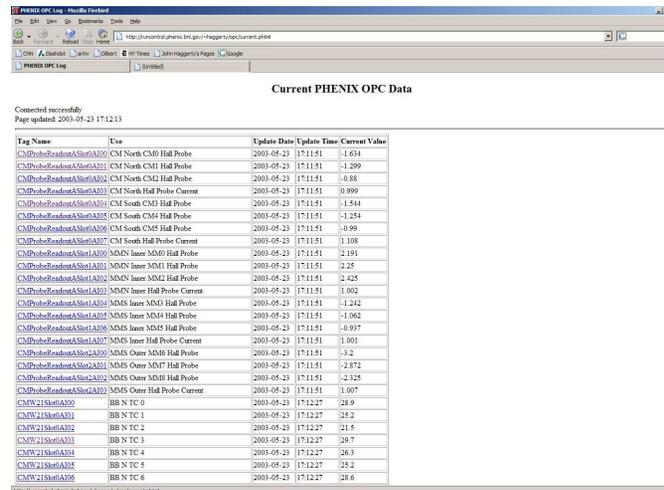
- On phoncs6, you need to make sure DataWorX is running. This is an OPC client process which scans the OPC data for alarm conditions. Four of the alarms reported to the Ronan panel in the Control Room come from this program.
- When you restart phoncs6, it should appear on the desktop, otherwise double click the "DataWorX" icon on the desktop, which should bring up a window that looks like this:



Click this traffic light so that it is green

Looking at Logged Data

- Some of the OPC data is logged to a MySQL database by a Perl script running on phoncs3
- You can look at the logged data on web here:
<http://runcontrol.phenix.bnl.gov/~haggerty/opc/current.phtml>
- You can click on the "Tag Name" and look back at the history.



Connected successfully
Page updated: 2003-05-23 17:12:13

Tag Name	Use	Update Date	Update Time	Current Value
CMProbeReadoutASherA100	CM North CM0 Hall Probe	2003-05-23	17:11:51	-1.634
CMProbeReadoutASherA101	CM North CM1 Hall Probe	2003-05-23	17:11:51	-1.299
CMProbeReadoutASherA102	CM North CM2 Hall Probe	2003-05-23	17:11:51	-0.888
CMProbeReadoutASherA103	CM North Hall Probe Current	2003-05-23	17:11:51	0.999
CMProbeReadoutASherA104	CM South CM3 Hall Probe	2003-05-23	17:11:51	-1.544
CMProbeReadoutASherA105	CM South CM4 Hall Probe	2003-05-23	17:11:51	-1.243
CMProbeReadoutASherA106	CM South CM5 Hall Probe	2003-05-23	17:11:51	-0.989
CMProbeReadoutASherA107	CM South Hall Probe Current	2003-05-23	17:11:51	1.108
CMProbeReadoutASherA100	MDN Inner MD0 Hall Probe	2003-05-23	17:11:51	2.191
CMProbeReadoutASherA101	MDN Inner MD1 Hall Probe	2003-05-23	17:11:51	2.25
CMProbeReadoutASherA102	MDN Inner MD2 Hall Probe	2003-05-23	17:11:51	2.424
CMProbeReadoutASherA103	MDN Inner Hall Probe Current	2003-05-23	17:11:51	1.002
CMProbeReadoutASherA104	MDS Inner MD3 Hall Probe	2003-05-23	17:11:51	-1.242
CMProbeReadoutASherA105	MDS Inner MD4 Hall Probe	2003-05-23	17:11:51	-1.062
CMProbeReadoutASherA106	MDS Inner MD5 Hall Probe	2003-05-23	17:11:51	-0.997
CMProbeReadoutASherA107	MDS Inner Hall Probe Current	2003-05-23	17:11:51	1.001
CMProbeReadoutASherA108	MDS Outer MD6 Hall Probe	2003-05-23	17:11:51	-3.2
CMProbeReadoutASherA101	MDS Outer MD7 Hall Probe	2003-05-23	17:11:51	-2.872
CMProbeReadoutASherA102	MDS Outer MD8 Hall Probe	2003-05-23	17:11:51	-2.325
CMProbeReadoutASherA103	MDS Outer Hall Probe Current	2003-05-23	17:11:51	1.007
CMW21ASherA100	BB N TC 0	2003-05-23	17:12:27	25.9
CMW21ASherA101	BB N TC 1	2003-05-23	17:12:27	25.2
CMW21ASherA102	BB N TC 2	2003-05-23	17:12:27	21.5
CMW21ASherA103	BB N TC 3	2003-05-23	17:12:27	20.7
CMW21ASherA104	BB N TC 4	2003-05-23	17:12:27	26.3
CMW21ASherA105	BB N TC 5	2003-05-23	17:12:27	25.2
CMW21ASherA106	BB N TC 6	2003-05-23	17:12:27	28.6

May 23, 2003



13