

Graphical Monitoring and Management of Cray Supercomputers

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XTGUI

- Client/Server application
- Server runs on SMW
- Client runs on SMW or any network attached computer system

Software Distribution

- The xtgui client and server software is distributed with the SMW software release. Both the xtgui server and client are normally installed on the SMW.
- The xtgui server automatically starts with the rest of the CRMS daemons. The xtgui client may be run on the SMW, or downloaded and operated from a remote system.
- To package the xtgui for remote download, run the script:
`/opt/cray/bin/packagextgui`

XTGUI Server

- Started with other CRMS daemons
- Obtains status of all XT components from CRMS state manager
- Listens for CRMS events
- Sends each client a copy of XT component status upon client startup

XTGUI Server

- Forwards selected CRMS events to clients
- Responds to client requests
- Monitors selected log files on the SMW, sending new entries to clients
- Runs xtcli commands on behalf of clients

Log Files

- Server startup/error log:
 - /opt/craylog/xtguiserver.out
 - Contains server operational status messages.
- Server application log:
 - /opt/craylog/RsmsJServer.log.mmddy
 - Contains copy of significant xtgui client related events, such as xtcli commands executed on behalf of clients

Properties Files

- `/opt/cray/etc/RsmsJServerProperties.txt`
- Contains entries to configure various server options
- Example:
 - `# The buffer size (number of lines to read) used when "tailing" server`
 - `#log files.`
 - `server.watchedFileBufferSize=200`
 - `# The frequency with which log files are examined for new data`
 - `server.watchedFileLatencyMilliseconds=5000`

Security

- Two modes of server/client interaction:
 - Standard mode:
 - Any network attached xtgui client may connect
 - SMW only mode:
 - Connections from xtgui clients running on SMW
- Controlled by “SMWOnly” option in server startup script

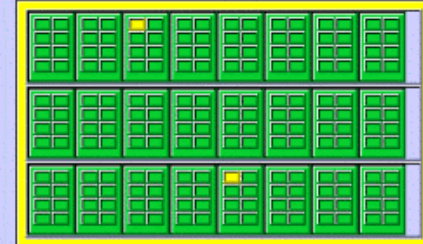
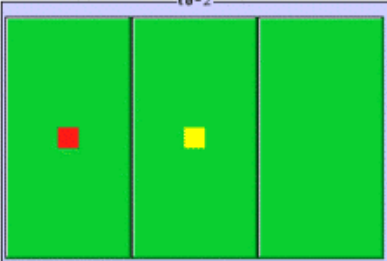
Security

- Password level access control and encrypted data communications from remote sites may be accomplished by using a combination of ssh and vncserver plus vncviewer
 1. Run vncserver on secure workstation or SMW
 2. Ssh into secure site from remote location
 3. Use vncviewer to run the xtgui on secure platform
 4. Xtgui application will display on the remote system

Cabinets

Cabinet: c1-0

t0-2



Ready Not Ready Selected Empty Warning Alert

Component Detail Error List Event Log Console Log

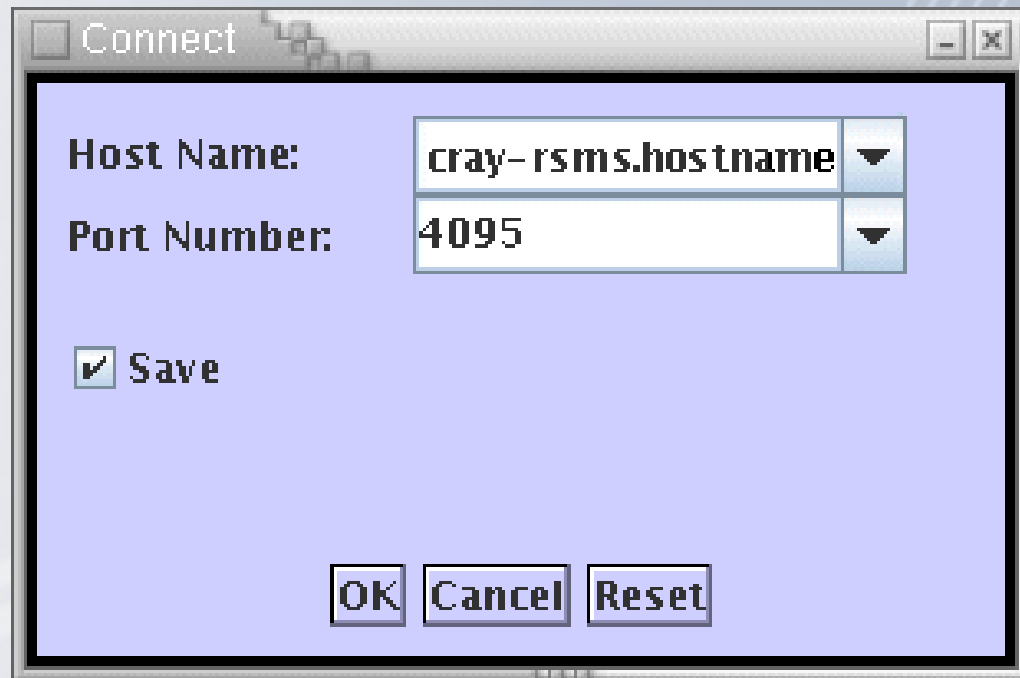
Type	Arch	Name	State	Flags	Service	Row	Column	Section	Partition	Status Message
Cabinet		c1-0	ready	warn	No	0	1	t0-2		Cabinet Fan RPM Fault
Blade	OP	c1-0c0s4	ready	noflags	No	0	1	t0-2	p0	Success
CPU	OP	c1-0c0s4n3	ready	noflags	No	0	1	t0-2	p0	Success
Seastar	OP	c1-0c0s4s3	ready	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s3i5	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s3i4	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s3i3	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s3i2	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s3i1	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s3i0	on	noflags	No	0	1	t0-2	p0	Success
CPU	OP	c1-0c0s4n2	ready	noflags	No	0	1	t0-2	p0	Success
Seastar	OP	c1-0c0s4s2	ready	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s2i0	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s2i5	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s2i4	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s2i3	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s2i2	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s2i1	on	noflags	No	0	1	t0-2	p0	Success
CPU	OP	c1-0c0s4n1	ready	noflags	No	0	1	t0-2	p0	Success
Seastar	OP	c1-0c0s4s1	ready	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s1i4	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s1i3	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s1i2	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s1i1	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s1i0	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s1i5	on	noflags	No	0	1	t0-2	p0	Success
CPU	OP	c1-0c0s4n0	ready	warn	No	0	1	t0-2	p0	Success
Seastar	OP	c1-0c0s4s0	ready	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s0i5	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s0i4	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s0i3	on	noflags	No	0	1	t0-2	p0	Success
Seastar Link	OP	c1-0c0s4s0i2	on	noflags	No	0	1	t0-2	p0	Success

XTGUI Client

- Color-coded visual representation of all major XT system components, clearly illustrating their current status
- Supports all xtcli commands, except “boot”
- Runs on any workstation with network access to the SMW
- May be operated in “view only” mode, where no XT configuration actions are allowed
- Scales from small to very large systems

Starting The Application

- If the application is started with a host name argument, then it will attempt to contact the xtgui server on that host, at the default port (4095)
- If no host name argument is provided, a connection screen is shown:



Six Major Views

- System Map
- Cabinet Detail
- Component Detail
- Error List
- Event Log
- Console Log

Major Views

Configuration Menus

System Map

Cabinet Map

Key

Detail

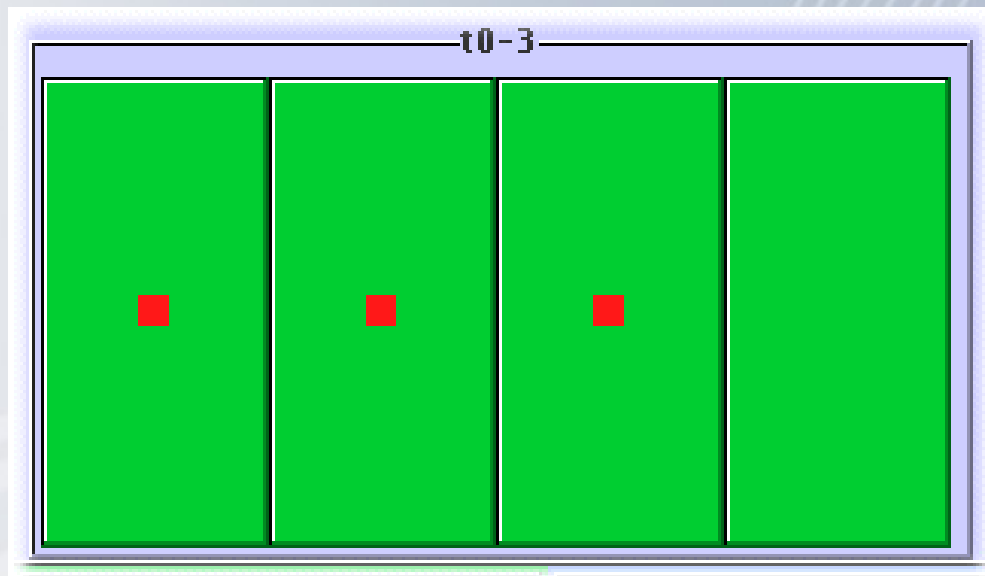
The screenshot displays the 'mgui' application window with a menu bar (File, Actions, Preferences, About) and a main content area. The main area is divided into several sections:

- System Map:** A large green area on the left with three red squares, representing a high-level view of the system.
- Cabinet Map:** A grid of smaller green squares on the right, representing individual cabinets. One cabinet is highlighted in yellow.
- Key:** A horizontal bar below the maps with color-coded boxes: Ready (green), Not Ready (blue), Selected (magenta), Empty (white), Warning (yellow), and Alert (red).
- Component Detail Table:** A table at the bottom showing detailed status for various components.

Type	Arch	Name	State	Alert Count	Flags	Service	Row	Column	Section	Partition	Time Stamp	Status Message
Cabinet		c0-0	ready	1	warn]	No	0	0	t0-3		10/30/06.23:43:33	Cabinet MicroController C...
Seastar	OP	c2-0c2s0s2	ready	1	alert]	No	0	2	t0-3	p0	10/31/06.12:29:50	seastar heartbeat fault
CPU	OP	c2-0c2s0n2	ready	2	warn/alert]	No	0	2	t0-3	p0	10/31/06.12:29:50	Alert on component as SS...
Seastar	OP	c0-0c2s1s1	ready	1	alert]	No	0	0	t0-3	p0	10/31/06.13:24:56	seastar heartbeat fault
Cabinet		c2-0	ready	1	warn]	No	0	2	t0-3		10/30/06.23:44:16	Cabinet Fan RPM Fault
CPU	OP	c0-0c2s1n1	ready	2	warn/alert]	No	0	0	t0-3	p0	10/31/06.13:24:56	Alert on component as SS...
Cabinet		c1-0	ready	1	warn]	No	0	1	t0-3		10/30/06.23:55:23	Cabinet Fan RPM Fault
Blade	OP	c1-0c2s3	ready	1	alert]	No	0	1	t0-3	p0	10/30/06.18:11:45	VERTY health check fault

System Map

- The system map is a two dimensional representation of the Cray XT cabinet layout
- Each rectangle represents one cabinet
- A warning or error condition on any component within a cabinet is indicated by a differentially colored rectangle within the cabinet representation



Component Detail

- Selecting a cabinet from the system map, or a blade from the cabinet detail map, causes the component detail tab to be filled with information on the selected object
- Selecting table column headers will cause the table to be sorted on the contents of that column

Component Detail										
Type	Arch	Name	State	Flags	Service	Row	Column	Section	Partition	Status Message
Cabinet		c0-0	ready	warn	No	0	0	t0-3		Cabinet MicroController Communications Fault
Blade	OP	c0-0c0s0	ready	noflags	Yes	0	0	t0-3	p0	Success
CPU	OP	c0-0c0s0n3	ready	noflags	Sdb	0	0	t0-3	p0	Success
Seastar	OP	c0-0c0s0s3	ready	noflags	Yes	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s3i2	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s3i1	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s3i0	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s3i5	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s3i4	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s3i3	on	noflags	No	0	0	t0-3	p0	Success
CPU	OP	c0-0c0s0n2	empty	noflags	Yes	0	0	t0-3	p0	Success
Seastar	OP	c0-0c0s0s2	ready	noflags	Yes	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s2i5	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s2i4	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s2i3	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s2i2	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s2i1	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s2i0	on	noflags	No	0	0	t0-3	p0	Success
CPU	OP	c0-0c0s0n1	empty	noflags	Yes	0	0	t0-3	p0	Success
Seastar	OP	c0-0c0s0s1	ready	noflags	Yes	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s1i5	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s1i4	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s1i3	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s1i2	on	noflags	No	0	0	t0-3	p0	Success
Seastar Link	OP	c0-0c0s0s1i1	on	noflags	No	0	0	t0-3	p0	Success

Component Detail

- Components may be selected with the left mouse button
- The right mouse button brings up a menu with the following options:

Clear Reserve	Create Nodelist	Diagnostics
Disable	Enable	Halt
Lock	Partition	Power Up
Power Down	Force Power Down	Reserve
Set Empty	Slot Up	Slot Down
Force Slot Down	View Console Output	

All menu options are context sensitive, so the chosen option will effect only those components on which such an operation is possible, given the type and state of the selected components.

Component Detail Menu Options

- When a menu option is chosen, the user is always shown a confirmation dialog prior to the action being performed

Component Detail								
Type	Arch	Name	State	Flags	Service	Row	Column	Se
Cabinet		c0-0	ready	noflags	No	0	0	t0
Blade			ready	noflags	Yes	0	0	t0
CPU				noflags	Sdb	0	0	t0
Seastar			ready	noflags	Yes	0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
CPU						0	0	t0
Seastar						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link						0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link				noflags	No	0	0	t0
CPU			empty	noflags	Yes	0	0	t0
Seastar			ready	noflags	Yes	0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link				noflags	No	0	0	t0
Seastar Link	OP	c0-0c0s0s110	on	noflags	No	0	0	t0
CPU	OP	c0-0c0s0n0	on	noflags	Boot	0	0	t0

Component Detail Menu Options

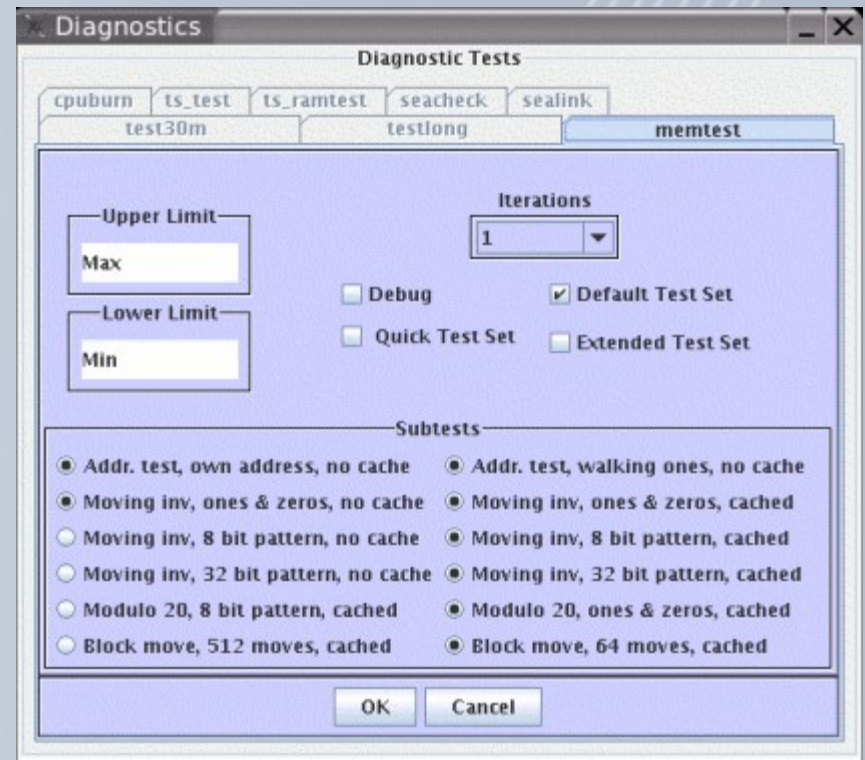
- Clear Reserve:
 - To release a reserved component and return it to normal operation
 - Once a component is reserved, it will not accept new jobs, but any jobs already running on the component are completed in an orderly fashion
- Create Nodelist
 - This option is similar to the Save Node List option on the File menu
 - The difference is that the File menu Save Node List option creates a list of all nodes in all cabinets in the system, while this option creates a list of only the selected nodes
 - Selecting a cabinet or blade adds all of their component nodes to the nodelist, while selecting individual nodes adds only the selected nodes to the nodelist
 - By default, this file is written to your home directory and has the name RsmsNodeList-MMDD-HHMM.SS.txt

Diagnostics Menu Options

- The list of diagnostic options includes:

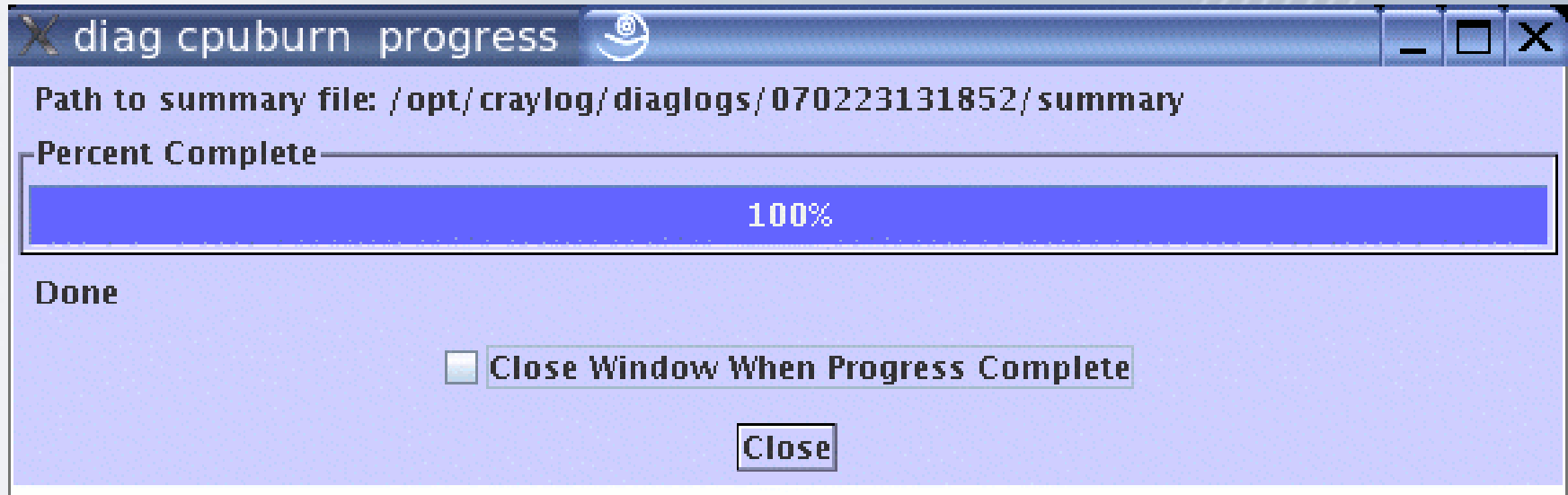
- cpuburn
- memtest
- seacheck
- sealink
- test30m
- testlong
- threadstorm test
- threadstorm ram test

- The diagnostic options offered will be dependent upon the type of selected components, as well as their current state



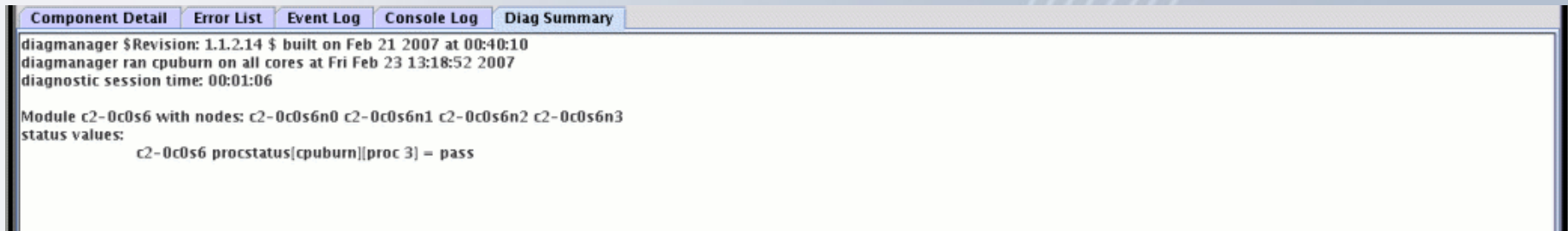
Diagnostics Operation

- A progress dialog window is shown during the course of the diagnostic test



Diagnostics Operation

- When the diagnostic test completes, a diagnostic summary tab is added to the xtgui display
- A right mouse click on this window will bring up a menu with the options to:
 - close tab
 - close all diagnostics tabs



The screenshot shows a window with a tabbed interface. The 'Diag Summary' tab is selected. The text in the window reads: 'diagmanager \$Revision: 1.1.2.14 \$ built on Feb 21 2007 at 00:40:10', 'diagmanager ran cpuburn on all cores at Fri Feb 23 13:18:52 2007', 'diagnostic session time: 00:01:06', 'Module c2-0c0s6 with nodes: c2-0c0s6n0 c2-0c0s6n1 c2-0c0s6n2 c2-0c0s6n3', 'status values:', and 'c2-0c0s6 procstatus[cpuburn][proc 3] = pass'.

```
Component Detail  Error List  Event Log  Console Log  Diag Summary
diagmanager $Revision: 1.1.2.14 $ built on Feb 21 2007 at 00:40:10
diagmanager ran cpuburn on all cores at Fri Feb 23 13:18:52 2007
diagnostic session time: 00:01:06

Module c2-0c0s6 with nodes: c2-0c0s6n0 c2-0c0s6n1 c2-0c0s6n2 c2-0c0s6n3
status values:
    c2-0c0s6 procstatus[cpuburn][proc 3] = pass
```

Detail Menu Options

Disable	If links, nodes, or Cray Seastar chips have hardware problems, you can mark the component as downed by the administrator and prevent its being allocated.
Enable	Re-enable a component and return it to normal operation.
Halt	Stop a component immediately. The component immediately ceases operation and any data or processes running on the component are lost.
Lock	Locks a component manually. Components are locked automatically when a command that can change their state is running. As the command is started, the state manager locks the component so that nothing else can affect the component's state while the command is running. When a manager is finished with a command, it unlocks the component automatically. If the manager for some reason fails to unlock the component, it can be unlocked manually using the Actions menu Show Locks option.

Detail Menu Options

Power Up	Power up a component. Power commands are hierarchical; that is, there are a number of ways to power up or power down a lower-level component. For example, to power up a node, you can power it up directly or power up a component of which it is a part.
Power Down	Power down a component. Powering down a cabinet powers down all components within the cabinet, including the L0 controllers.
Force Power Down	Force a power down of a component. If you choose this option, the power manager ignores the operational state of the components that are being acted upon.
Reserve	Reserve a component. Once a component is reserved, it will not accept new jobs, but any jobs already running on the component are completed in an orderly fashion.

Detail Menu Options

Set Empty	Set a selected component to the empty state. This is typically done when a component, usually a blade, is physically removed from the system. When a component is set to empty, the system ignores it and routes around it. To return a component to normal operation after it has been marked as empty -- for example, after a replacement blade has been installed , select the Enable option from the menu.
Slot Up	Power up all components on a blade.
Slot Down	Power down all components on a blade including the L0 controller.
Force Slot Down	Force the blade to power down regardless of operational state.

Detail Menu Option: View Console Output

- Display console log messages from selected nodes
- A right mouse click on this window will bring up a pop up menu with the options
 - 1) show filter targets
 - 2) close tab
 - 3) close all filter console

Component Detail	Error List	Event Log	Console Log	Filtered Console1
02/22/07.07:47:46 c1-0c1s6n0	0-	received final app termination, pid=3		
02/22/07.07:48:17 c1-0c1s6n0	0-	***** _cstart20, yod_pid=4797 rank=1 lognid=0 physnid=0xb8 pid=5		
02/22/07.07:48:17 c1-0c1s6n0	0-	***** _cstart20, yod_pid=4797 rank=0 lognid=0 physnid=0xb8 pid=2		
02/22/07.07:48:47 c1-0c1s6n0	0-	received final app termination, pid=2		
02/22/07.07:56:29 c1-0c1s6n0	0-	***** _cstart20, yod_pid=4855 rank=1 lognid=0 physnid=0xb8 pid=4		
02/22/07.07:56:29 c1-0c1s6n0	0-	***** _cstart20, yod_pid=4855 rank=0 lognid=0 physnid=0xb8 pid=3		
02/22/07.08:15:35 c1-0c1s6n0	0-	received final app termination, pid=3		
02/22/07.08:16:05 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5333 rank=1 lognid=0 physnid=0xb8 pid=5		
02/22/07.08:16:06 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5333 rank=0 lognid=0 physnid=0xb8 pid=2		
02/22/07.08:16:06 c1-0c1s6n0	d=0	physnid=0xb8 pid=2		
02/22/07.08:19:39 c1-0c1s6n0	0-	received final app termination, pid=2		
02/22/07.08:20:10 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5373 rank=1 lognid=0 physnid=0xb8 pid=4		
02/22/07.08:20:11 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5373 rank=0 lognid=0 physnid=0xb8 pid=3		
02/22/07.08:23:17 c1-0c1s6n0	0-	received final app termination, pid=3		
02/22/07.08:23:47 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5404 rank=1 lognid=0 physnid=0xb8 pid=5		
02/22/07.08:23:47 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5404 rank=0 lognid=0 physnid=0xb8 pid=2		
02/22/07.08:36:03 c1-0c1s6n0	0-	received final app termination, pid=2		
02/22/07.08:36:34 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5420 rank=1 lognid=0 physnid=0xb8 pid=4		
02/22/07.08:36:34 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5420 rank=0 lognid=0 physnid=0xb8 pid=3		
02/22/07.08:37:03 c1-0c1s6n0	0-	received final app termination, pid=3		
02/22/07.08:37:34 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5441 rank=0 lognid=0 physnid=0xb8 pid=5		
02/22/07.08:37:41 c1-0c1s6n0	0-	received final app termination, pid=5		
02/22/07.08:38:12 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5463 rank=1 lognid=0 physnid=0xb8 pid=3		
02/22/07.08:38:12 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5463 rank=0 lognid=0 physnid=0xb8 pid=2		
02/22/07.08:38:27 c1-0c1s6n0	0-	received final app termination, pid=2		
02/22/07.08:38:58 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5485 rank=0 lognid=0 physnid=0xb8 pid=4		
02/22/07.08:39:05 c1-0c1s6n0	0-	received final app termination, pid=4		
02/22/07.08:39:35 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5507 rank=1 lognid=0 physnid=0xb8 pid=5		
02/22/07.08:39:35 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5507 rank=0 lognid=0 physnid=0xb8 pid=2		
02/22/07.08:39:50 c1-0c1s6n0	0-	received final app termination, pid=2		
02/22/07.08:40:21 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5529 rank=0 lognid=0 physnid=0xb8 pid=3		
02/22/07.08:40:35 c1-0c1s6n0	0-	received final app termination, pid=3		
02/22/07.08:41:05 c1-0c1s6n0	0-	***** _cstart20, yod_pid=5551 rank=0 lognid=0 physnid=0xb8 pid=4		
02/22/07.08:41:20 c1-0c1s6n0	0-	received final app termination, pid=4		

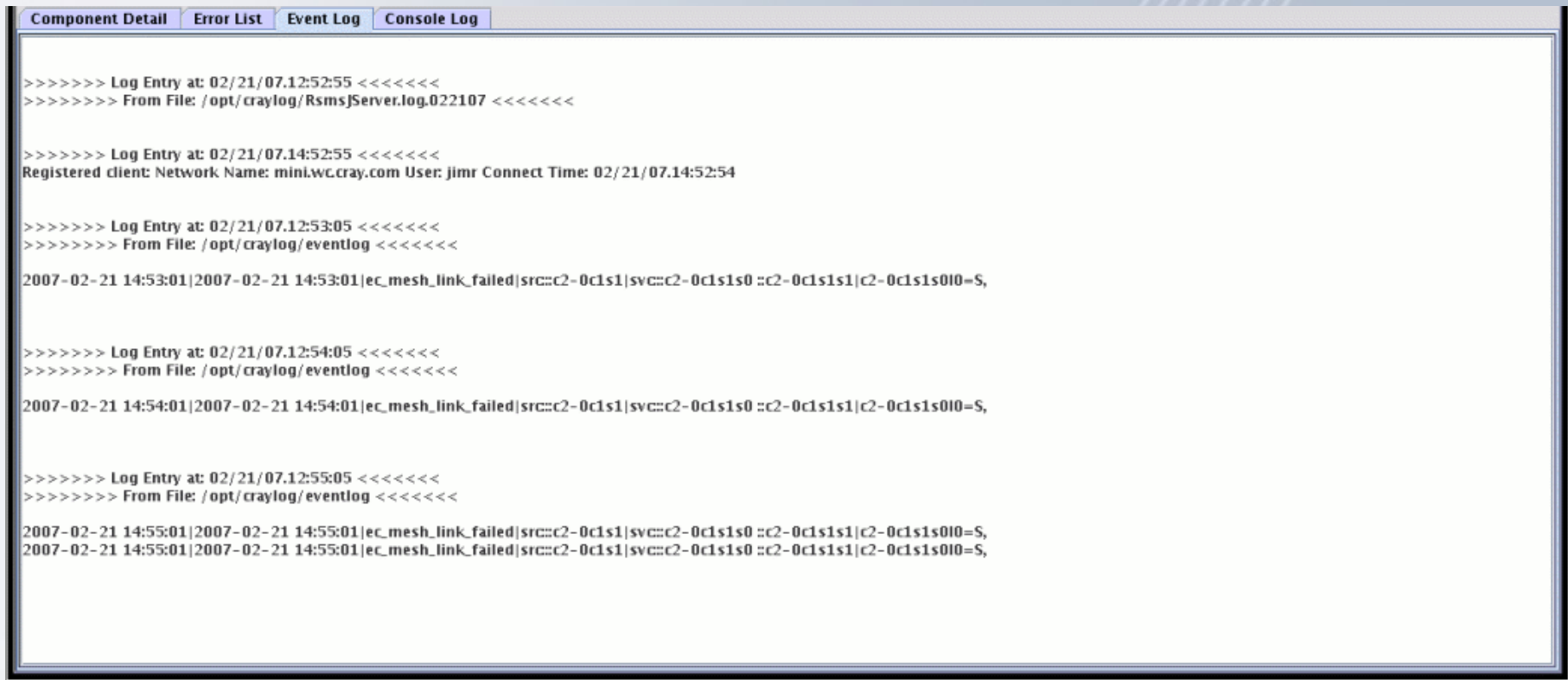
Error List

- All components with a current warning or alert status, are shown in the error list
- Selecting table column headers will cause the table to be sorted on the contents of that column
- Components may be selected with the left mouse button
- The right mouse button brings up a menu with the following options:
 - Clear Warning
 - Clear Alert

Component Detail													Error List	Event Log	Console Log
Type	Arch	Name	State	Alert Count	Flags	Service	Row	Column	Section	Partition	Time Stamp	Status Message			
CPU	OP	c1-0c0s4n0	on	1	warn	No	0	1	t0-2	unkn...	02/26/07.07:03:50	node health check ...			
Blade	OP	c1-0c2s2	disabled	30	warn alert	No	0	1	t0-2	unkn...	02/26/07.07:06:59	SSI write failed			
Seastar	OP	c1-0c2s2s3	off	28	alert	No	0	1	t0-2	unkn...	02/26/07.07:06:59	SSI write failed			
Seastar	OP	c1-0c2s2s2	off	28	alert	No	0	1	t0-2	unkn...	02/26/07.07:06:59	SSI write failed			
Seastar	OP	c1-0c2s2s1	off	28	alert	No	0	1	t0-2	unkn...	02/26/07.07:06:59	SSI write failed			
Seastar	OP	c1-0c2s2s0	off	28	alert	No	0	1	t0-2	unkn...	02/26/07.07:06:59	SSI write failed			
CPU	OP	c1-0c2s2n3	off	38	alert	No	0	1	t0-2	unkn...	02/26/07.07:07:36	vsel init failed			
CPU	OP	c1-0c2s2n2	off	38	alert	No	0	1	t0-2	unkn...	02/26/07.07:07:36	vsel init failed			
CPU	OP	c1-0c2s2n1	off	38	alert	No	0	1	t0-2	unkn...	02/26/07.07:07:36	vsel init failed			
CPU	OP	c1-0c2s2n0	off	36	warn alert	No	0	1	t0-2	unkn...	02/26/07.07:07:36	vsel init failed			
Cabinet		c0-0	ready	1	warn	No	0	0	t0-2		02/26/07.09:32:48	Cabinet Received U...			
Cabinet		c1-0	ready	1	warn	No	0	1	t0-2		02/26/07.07:04:07	Cabinet Fan RPM F...			

Event Log

- The event log displays recent information sent to the files that the xtgui server is configured to watch, as well as all commands executed by the xtgui server on behalf of the xtgui client



```
Component Detail Error List Event Log Console Log
>>>>>>> Log Entry at: 02/21/07.12:52:55 <<<<<<<<
>>>>>>> From File: /opt/craylog/RsmsJServer.log.022107 <<<<<<<<

>>>>>>> Log Entry at: 02/21/07.14:52:55 <<<<<<<<
Registered client: Network Name: mini.wc.cray.com User: jimr Connect Time: 02/21/07.14:52:54

>>>>>>> Log Entry at: 02/21/07.12:53:05 <<<<<<<<
>>>>>>> From File: /opt/craylog/eventlog <<<<<<<<

2007-02-21 14:53:01|2007-02-21 14:53:01|ec_mesh_link_failed|src::c2-0c1s1|svc::c2-0c1s1s0 ::c2-0c1s1s1|c2-0c1s1s0I0=S,

>>>>>>> Log Entry at: 02/21/07.12:54:05 <<<<<<<<
>>>>>>> From File: /opt/craylog/eventlog <<<<<<<<

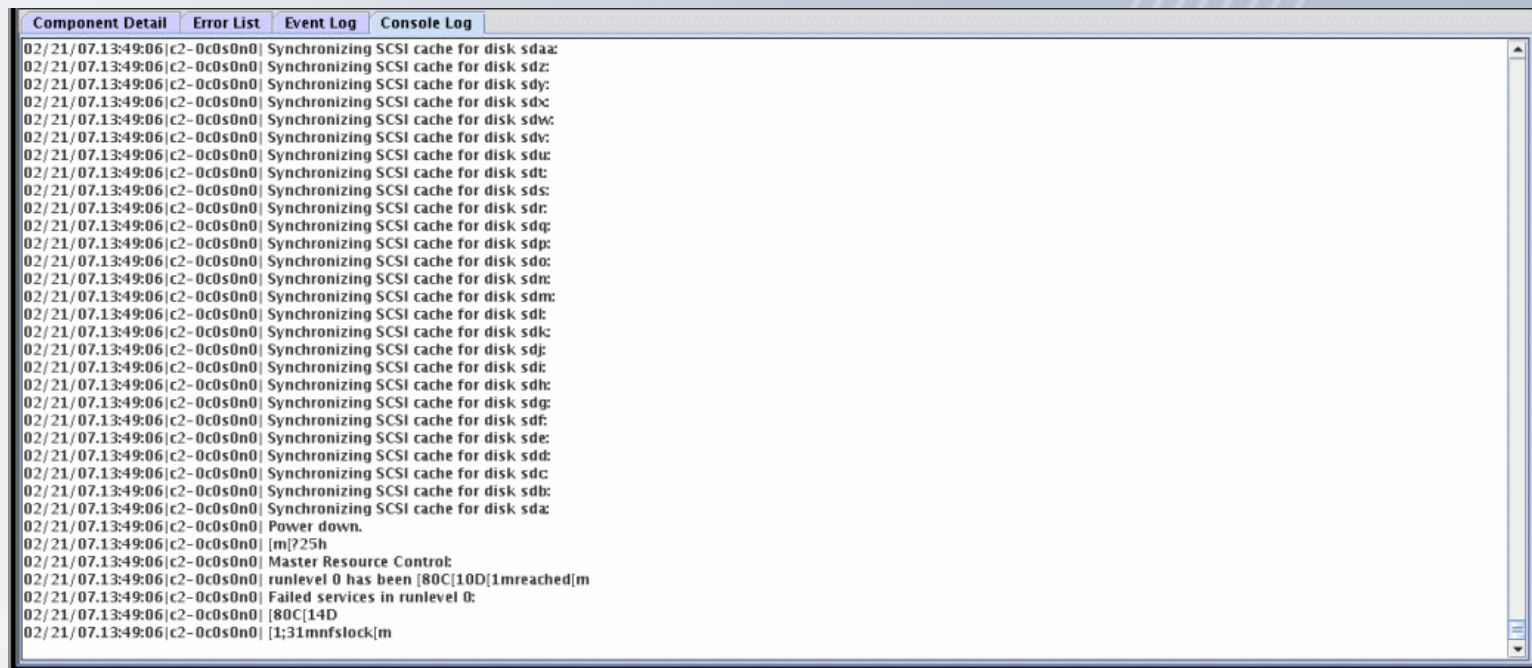
2007-02-21 14:54:01|2007-02-21 14:54:01|ec_mesh_link_failed|src::c2-0c1s1|svc::c2-0c1s1s0 ::c2-0c1s1s1|c2-0c1s1s0I0=S,

>>>>>>> Log Entry at: 02/21/07.12:55:05 <<<<<<<<
>>>>>>> From File: /opt/craylog/eventlog <<<<<<<<

2007-02-21 14:55:01|2007-02-21 14:55:01|ec_mesh_link_failed|src::c2-0c1s1|svc::c2-0c1s1s0 ::c2-0c1s1s1|c2-0c1s1s0I0=S,
2007-02-21 14:55:01|2007-02-21 14:55:01|ec_mesh_link_failed|src::c2-0c1s1|svc::c2-0c1s1s0 ::c2-0c1s1s1|c2-0c1s1s0I0=S,
```

Console Log

- The console log displays console log messages from all Cray XT nodes
- Display of console output from selected nodes may be accomplished through the “view console output” menu option on the component detail popup menu



The screenshot shows a window titled "Console Log" with a tabbed interface. The active tab is "Console Log". The window displays a list of system messages, each starting with a timestamp and a node identifier (c2-0c0s0n0). The messages include:

```
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdaa:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdz:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdy:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdc:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdw:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdv:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdu:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdt:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sds:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdr:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdq:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdg:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdp:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdo:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdn:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdm:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdl:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdk:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdj:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdi:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdh:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdg:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdf:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sde:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdd:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdc:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sdb:
02/21/07.13:49:06|c2-0c0s0n0| Synchronizing SCSI cache for disk sda:
02/21/07.13:49:06|c2-0c0s0n0| Power down.
02/21/07.13:49:06|c2-0c0s0n0| [m]?25h
02/21/07.13:49:06|c2-0c0s0n0| Master Resource Control:
02/21/07.13:49:06|c2-0c0s0n0| runlevel 0 has been [80C10D]1mreached[m]
02/21/07.13:49:06|c2-0c0s0n0| Failed services in runlevel 0:
02/21/07.13:49:06|c2-0c0s0n0| [80C]14D
02/21/07.13:49:06|c2-0c0s0n0| [1;31mnfslock[m]
```

Toolbar Menus

- Various actions and configuration options may be accessed by using the options on the toolbar menus in the upper left-hand corner of the XTGUI window. These menus and their options are:

File	Actions	Preferences
Save Node List	Show Components	General
Exit	Show Active Commands	Connection
	Show Boot Configuration	Partition Configuration
	Show Server Status	
	Import/Export Sections	
	Show Locks	

File Menu

■ Save Node List:

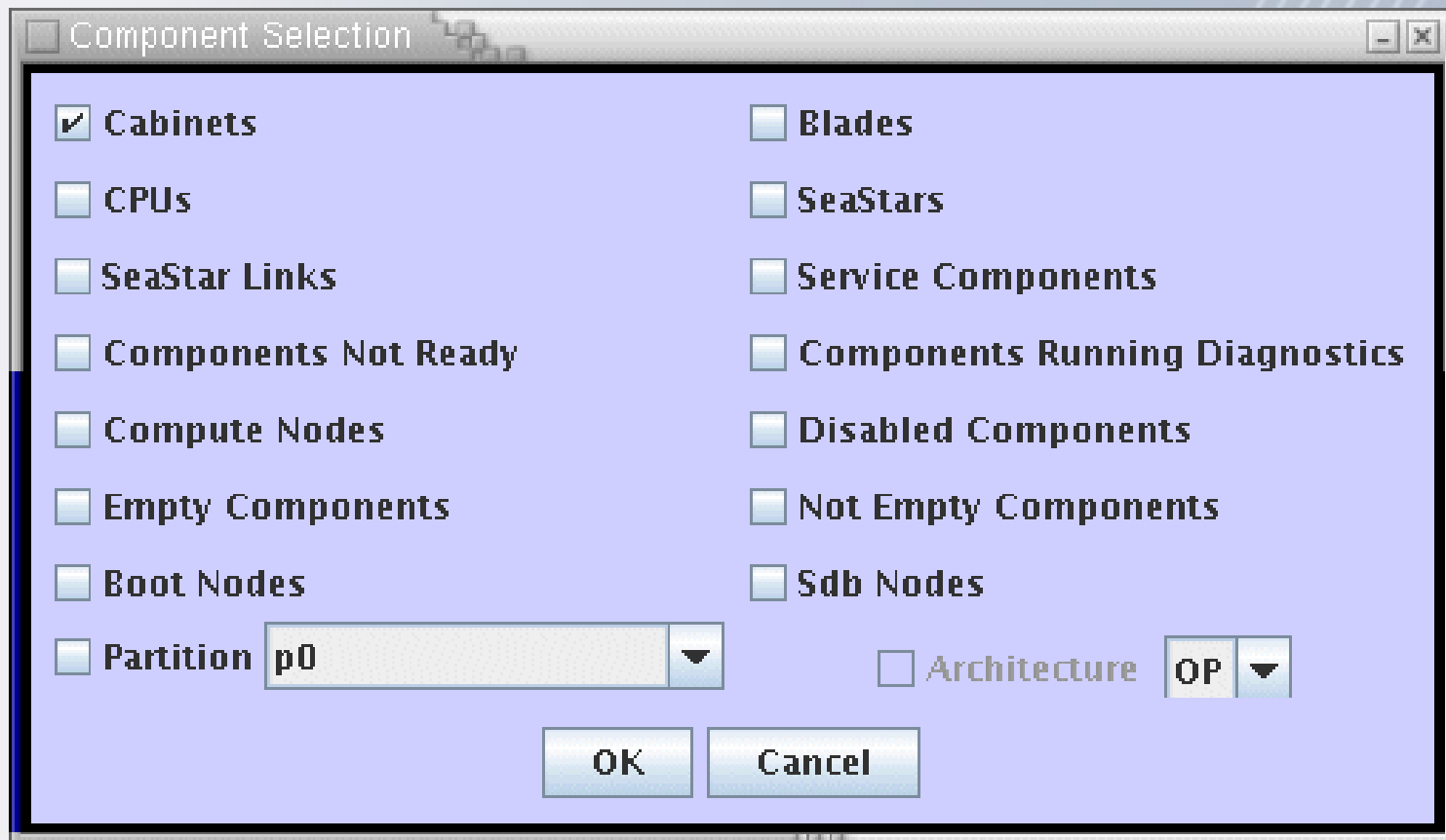
- Create a text file listing all CPUs in the system, marking each "n" for empty or disabled, "i" for service, "c" for compute. For example:
 - c0-0c0s0n0 i
 - c0-0c0s0n1 n
 - c0-0c0s0n2 n
 - c0-0c0s0n3 i
 - c0-0c0s1n0 c
 - c0-0c0s1n1 c
- This text file is saved in the users home directory and the naming convention is: RsmsNodeList-mmdd-hhmm.ss.txt

■ Exit:

- Exit the xtgui application.

Actions Menu: Show Components

- This option presents a dialog that allows the user to select physical or logical groupings of components:



Show Components

- If “Boot Nodes” was chosen
 - the cabinets containing boot nodes would be selected in the system map
 - the cabinet detail window would indicate which blades within a cabinet contained the boot nodes
 - the component detail table would be populated with boot node component records.

xtgui: bass-smw

File Actions Preferences Help

Cabinets: Selected View: Boot Nodes

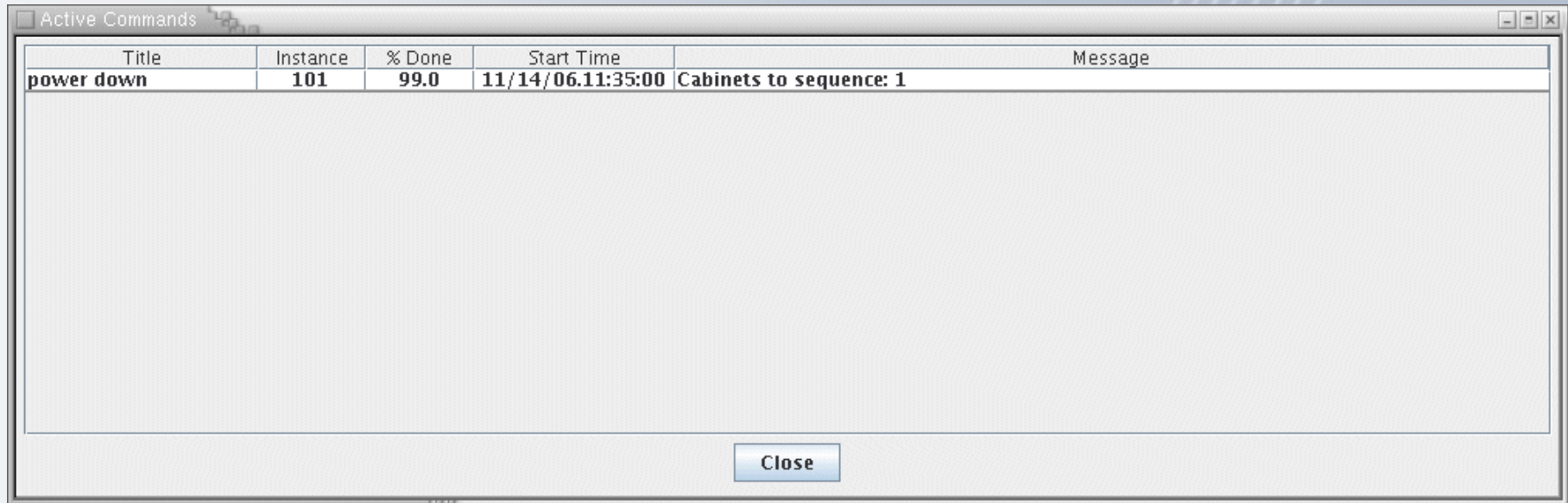
Cabinet: c0-0

Ready Not Ready Selected Empty Warning Alert

Type	Arch	Name	State	Flags	Service	Row	Column	Section	Partition	Status Message
CPU	OP	c0-0c0s0n0	on	noflags	Boot	0	0	t0-2	p0	Success
CPU	OP	c2-0c0s0n0	on	noflags	Boot	0	2	t0-2	p0	Success
CPU	OP	c0-0c0s0n0	on	noflags	Boot	0	0	t0-2	p0	Success
CPU	OP	c0-0c0s0n0	on	noflags	Boot	0	0	t0-2	p0	Success
CPU	OP	c0-0c0s0n0	on	noflags	Boot	0	0	t0-2	p0	Success

Actions Menu: Show Active Cmds

- This option displays a table of currently active commands that have been started by the xtgui client

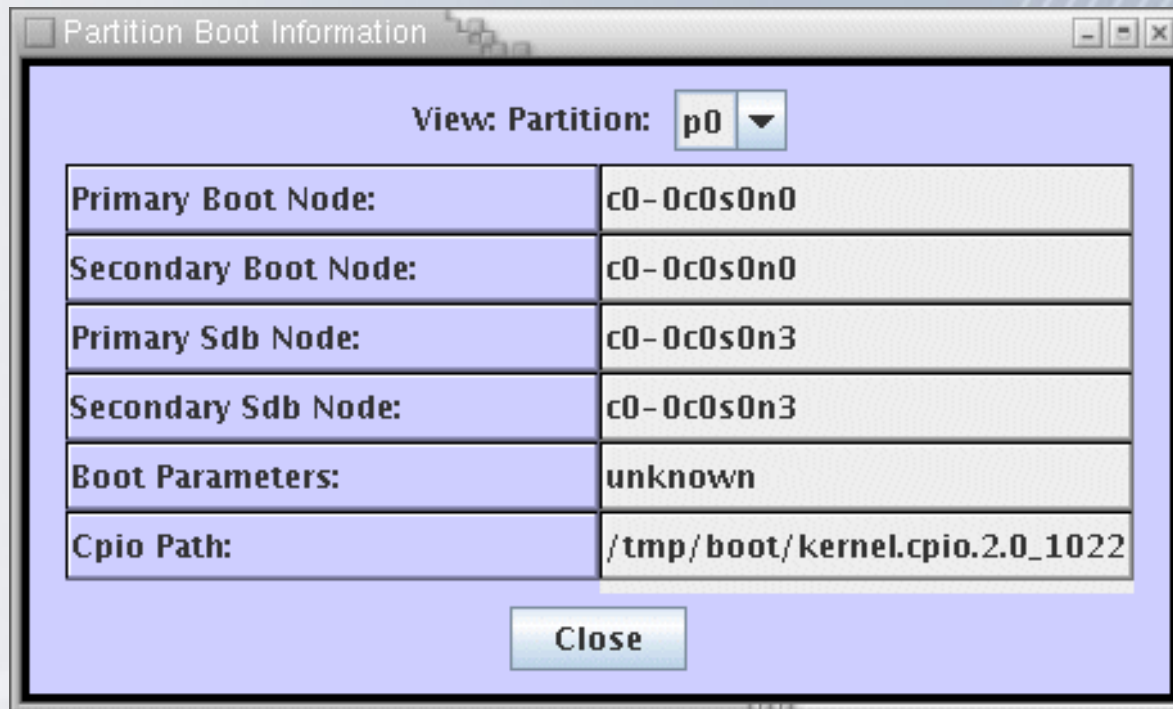


Title	Instance	% Done	Start Time	Message
power down	101	99.0	11/14/06.11:35:00	Cabinets to sequence: 1

Close

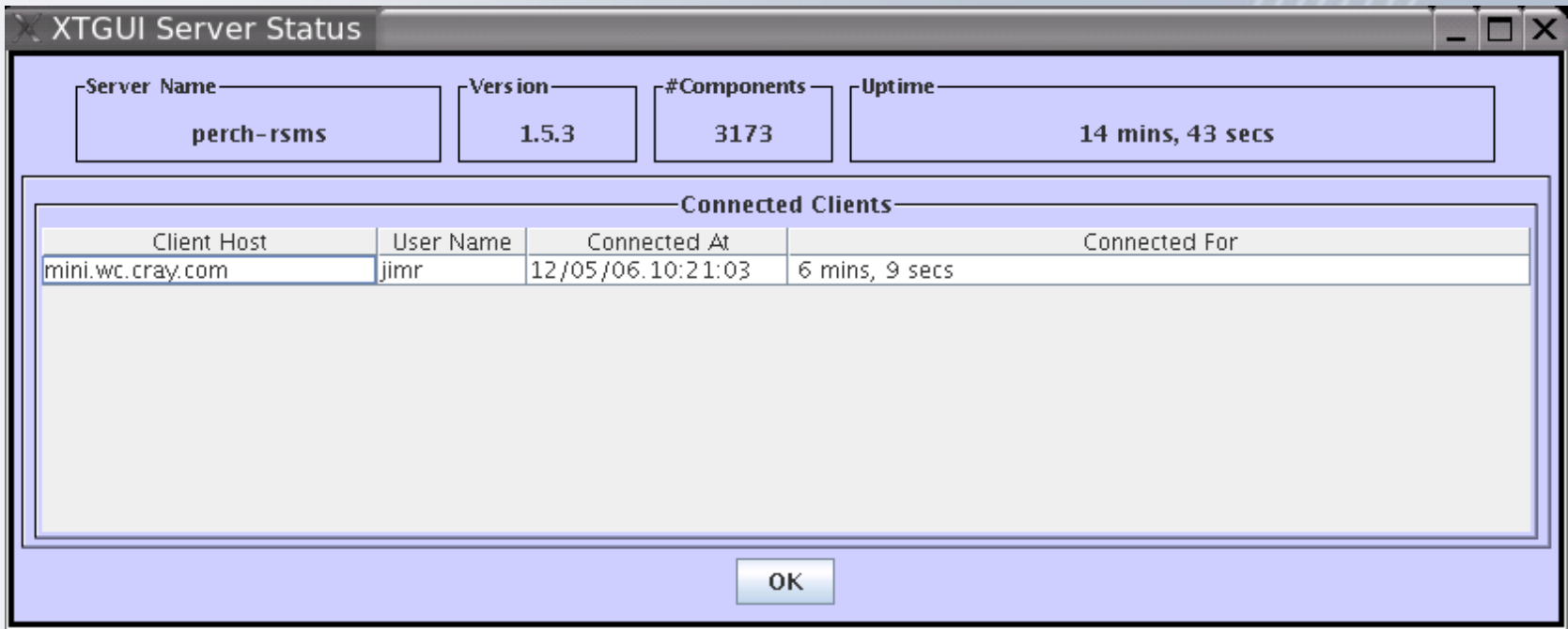
Actions Menu: Show Boot Configuration

- This option displays a dialog that provides way to show the boot configuration of all Cray XT partitions



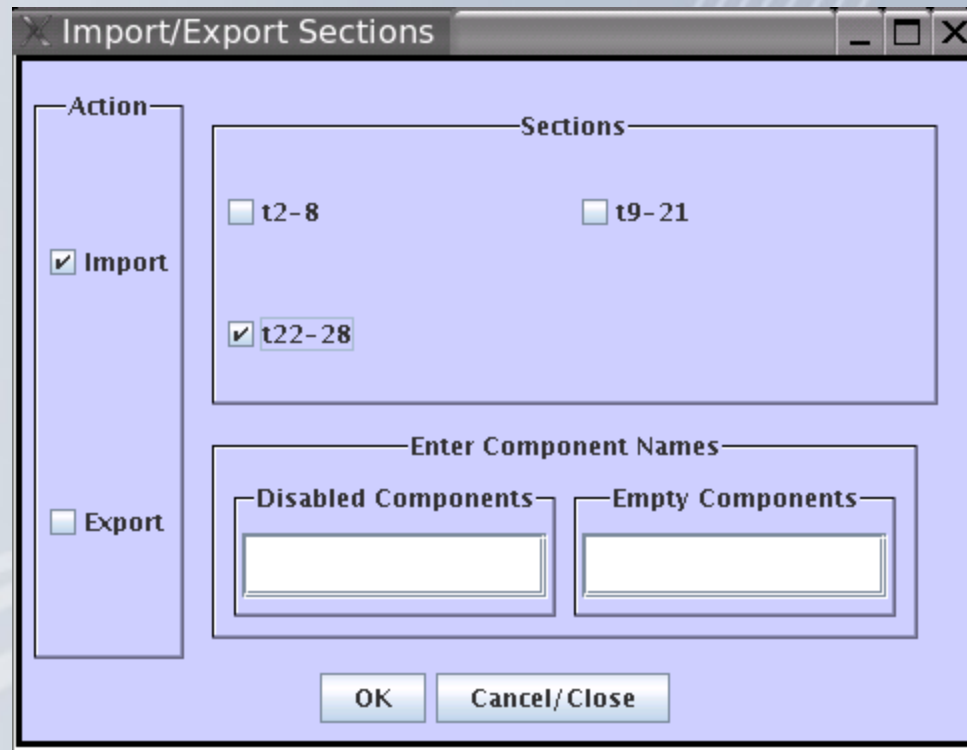
Actions Menu: Show Server Status

- This option displays a window that provides information on the xtgui server process and lists all connected xtgui clients



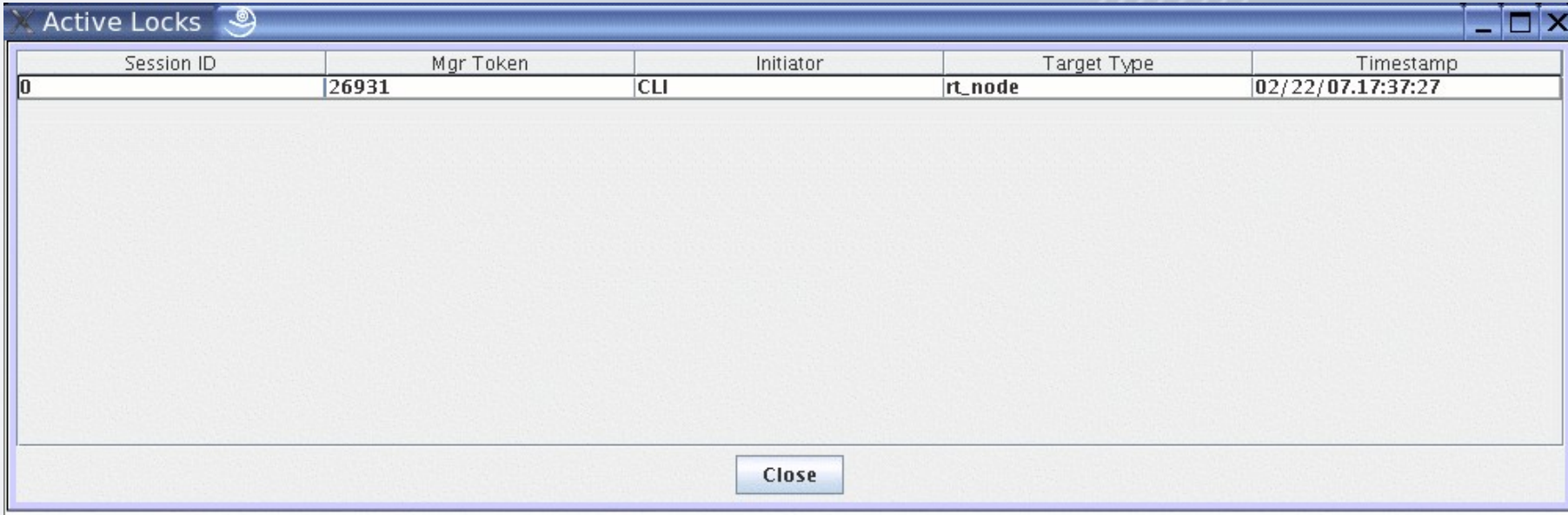
Actions Menu: Import/Export Sections

- This option displays a dialog allowing the user to import or export sections of the Cray XT system.
- The option is enabled only if more than one section has been defined.



Actions Menu: Show Locks

- This option displays all currently active session locks.
- A left mouse click selects rows in the table and a right mouse click pops up a menu allowing display of the effected components for each session and the option of dismissing the lock.

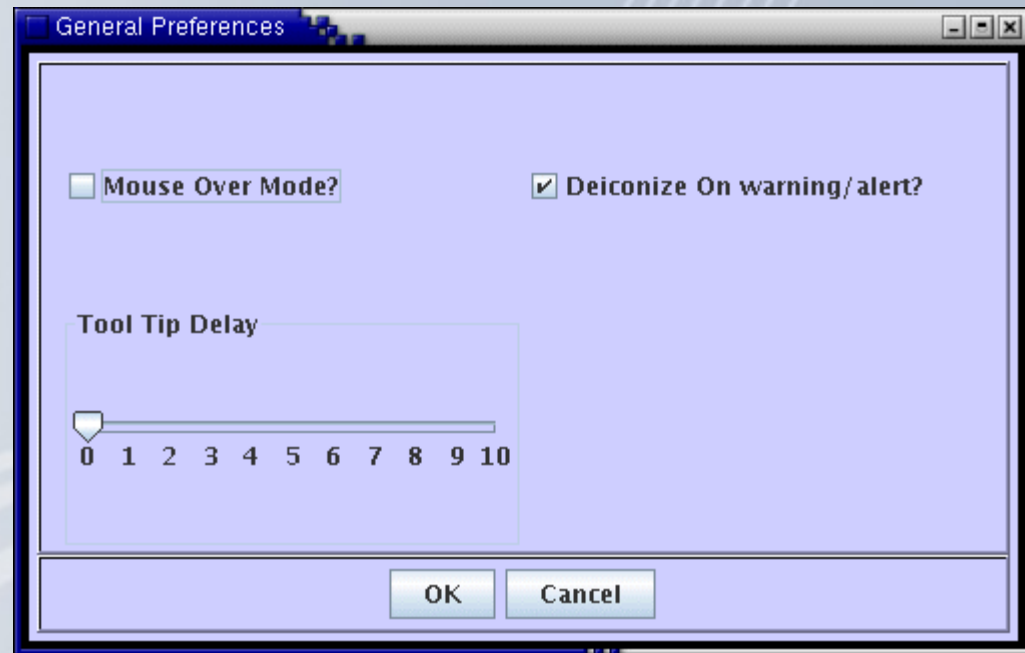


The screenshot shows a window titled "Active Locks" with a table containing one row of data. The table has five columns: Session ID, Mgr Token, Initiator, Target Type, and Timestamp. The data in the row is: 0, 26931, CLI, rt_node, and 02/22/07.17:37:27. A "Close" button is located at the bottom center of the window.

Session ID	Mgr Token	Initiator	Target Type	Timestamp
0	26931	CLI	rt_node	02/22/07.17:37:27

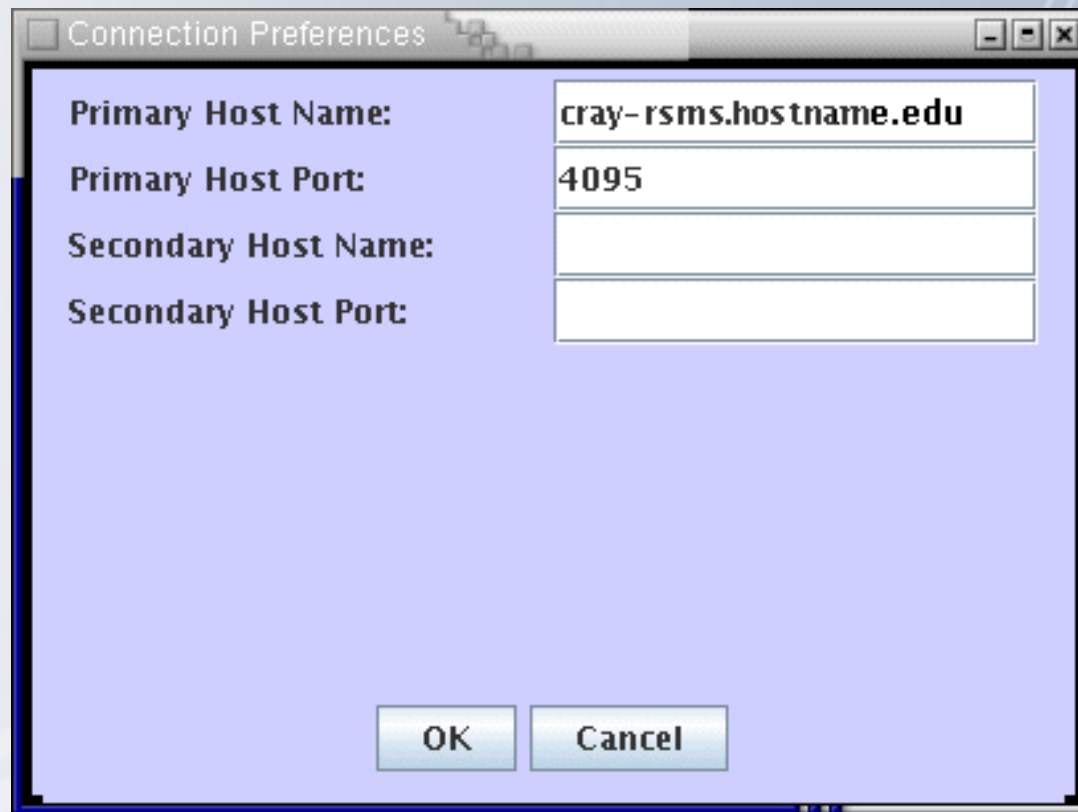
Preferences Menu: General Preferences

- This option displays a dialog that allows the configuration of three options:
 1. Mouse over mode (which means to automatically switch the cabinet detail window to the cabinet that the mouse is currently hovering over).
 2. Deiconize on warning/alert.
 3. Tool tip delay.



Preferences Menu: Connection

- This option displays a dialog which allows configuration of the host name and port number of the primary and secondary SMW systems to connect to



The image shows a screenshot of a Windows-style dialog box titled "Connection Preferences". The dialog has a light blue background and a white border. It contains four input fields for configuration:

Primary Host Name:	cray-rsms.hostname.edu
Primary Host Port:	4095
Secondary Host Name:	
Secondary Host Port:	

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Preferences Menu: Partition Configuration

- This option presents the partition configuration dialog

Partition Configuration

Operation

Add Partition Delete Partition Update Partition Activate Partition Deactivate Partition

Partition

p0 ENABLE p1 DISABLED p2 DISABLED p3 DISABLED

Information

Partition Type

Production Development

Partition Data

Partition Number:	0
Partition Member(s):	c0-0c2s0,c0-0c2s1,c0-0c2s2,c0-0c2s3,c0-0c2s4,c0-0c2s5,c0-0c2s6,c0-0c2s7,c0-0c1s0,c0-0c1s1,c0-0c1s2,c0-0c1s3,c0
Primary Boot Node:	c0-0c0s0n0
Secondary Boot No...:	c0-0c0s0n0
Primary Sdb Node:	c0-0c0s0n3
Secondary Sdb Node:	c0-0c0s0n3
Boot Parameters:	unknown
Cpio Path:	/tmp/boot/kernel.cpio.0219_uni

OK Cancel/Close

Properties File

- The xtgui client uses the file RsmsClientProperties.txt to store configuration options
- This file is copied into the users home directory the first time that the application runs
- Examples of the type of configuration options that are stored in this file:
 - client.primaryPort=4095
 - client.secondaryHost=
 - client.rmiTimeoutMilliseconds=120000
 - client.primaryHost=snowdrift
 - client.toolTipDelay=0
 - client.portNumber=0
 - client.heartBeatDelay=5000
 - client.deiconize=false
 - client.heartBeatFrequency=5000
 - client.secondaryPort=
 - client.mouseOverMode=false

