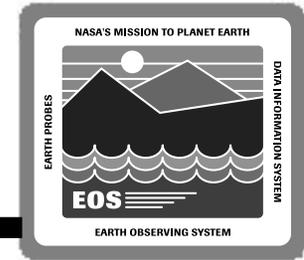


Release A GUI Workshop II Performance Analysis Scott Austin/Doug Kim

20-21 March 1996

Performance Analysis



Summary

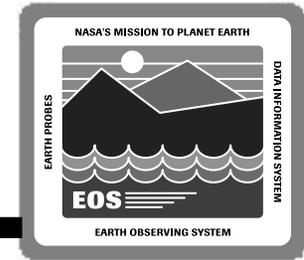
This script presents the Release A GUI's used to

- view past system events,
- configure performance thresholds and notifications,
- detect thresholds events.

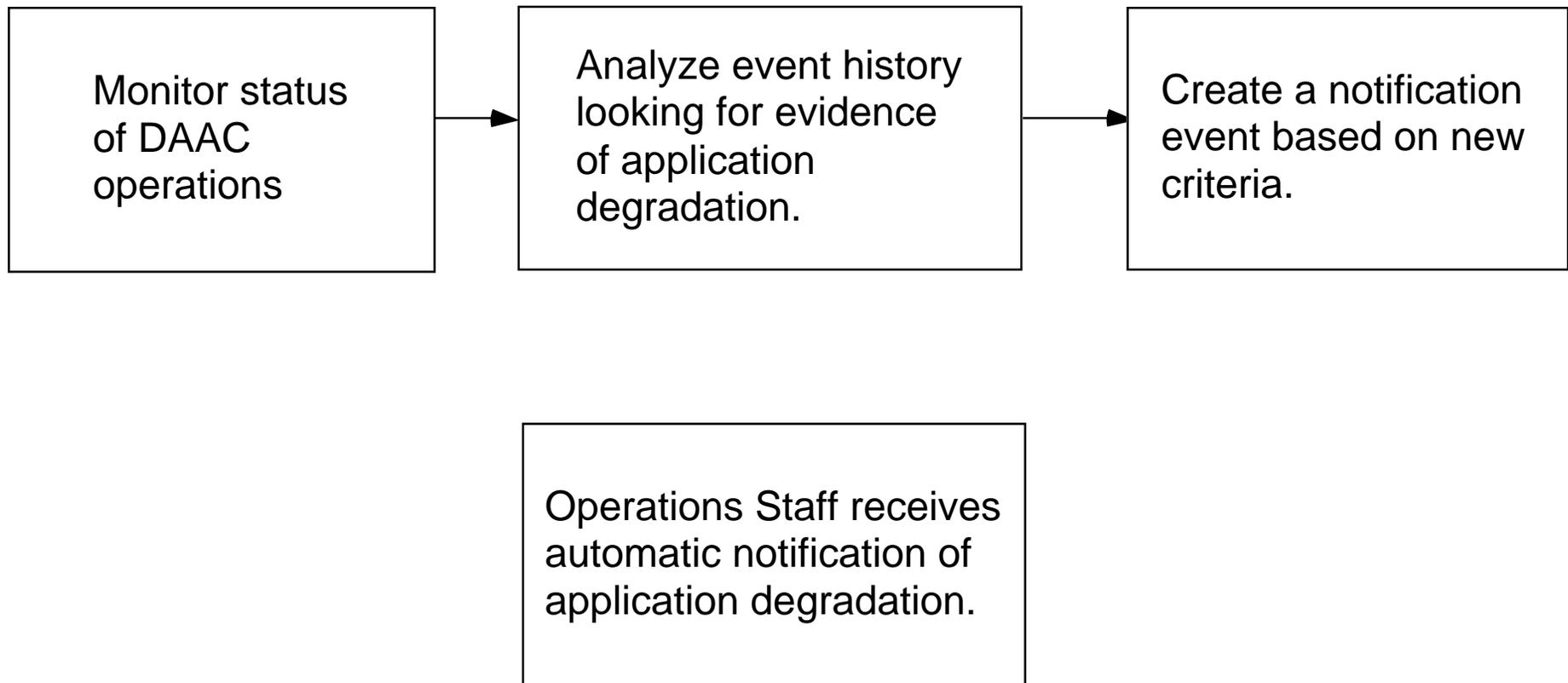
Context

- View an application's event history, noting behavior during times of application degradation
- Configure thresholds for an appropriate performance metric
- Configure automated event notifications
- Receive performance threshold violation notifications

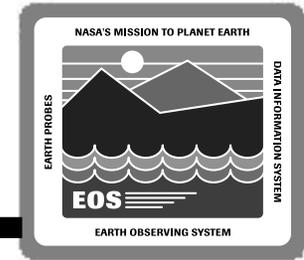
Performance Analysis



Process Flow



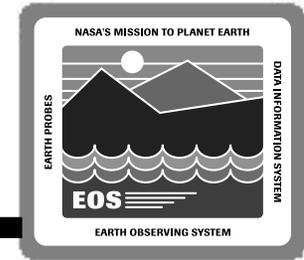
Performance Analysis



Preconditions

- **Calls are coming in from users complaining about the lack of responsiveness of Browse Request.**
- **Resource Manager has logged onto a DAAC desktop.**

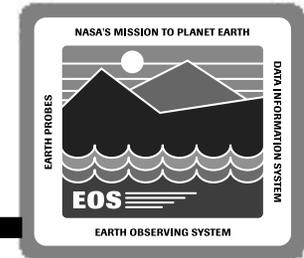
Performance Analysis



Steps

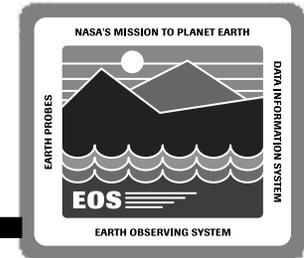
Step #	Time (mins)	Player	Activity	GUI
1	<1	Resource Manager (RM)	RM enters the Management Framework GUI.	Invokes the Hewlett Packard OpenView Windows GUI.
2	<1	RM	RM view the overall LaRC DAAC status.	The initial submap displayed indicates the Network and Services statuses by means of the icon color.
3	<1	RM	RM views the status of the Data Server subsystem.	By opening the Services icon, the related submap is displayed, with the icons representing each subsystem (including Data Server).

Performance Analysis



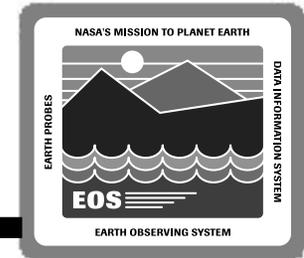
Step #	Time (mins)	Player	Activity	GUI
4	<1	RM	RM views the status of the Gateway Application.	By opening the Data Server icon, it's submap is displayed with the icons representing each application (including Gateway).
5	<1	RM	RM needs to determine the host on which the Gateway application is running.	By opening Gateway's submap, the host icon for "casper" is seen.
6	--	RM	RM decides to gain a sense of the "typical" behavior of the various performance metrics available for the Gateway application on this host. The Management Database contains this information.	<i>Discussion in the use of the Management Database system is covered in another session of this GUI Workshop.</i>

Performance Analysis



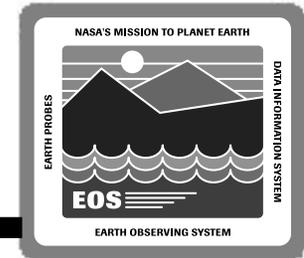
Step #	Time (mins)	Player	Activity	GUI
7	<1	RM	It appears that during the slow-times, Gateway is starved for CPU time; it's CPU Usage performance metric typically has values below 10%.	--
8	<1	RM	RM wishes to peruse today's event history to see if the Gateway's CPU Usage tracks this theory.	Invokes the ECS Log Browser from the desktop.
9	<1	RM	RM opens the event for the Gateway application's host, casper.	Select casper's log file via the File/Open menu.
10	<1	RM	RM decides to sort today's log to make better sense of the events.	This is done via the Sort/Custom-Sort menu, permitting multiple sort keys with forward/reverse configurability.

Performance Analysis



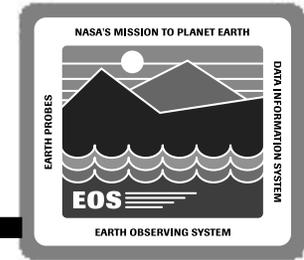
Step #	Time (mins)	Player	Activity	GUI
11	<1	RM	RM displays only the “interesting” events.	This is done via the Select/Custom-Select menu, permitting filtering based on the values of multiple event fields.
12	<1	RM	RM wishes to look at the details of an event occurring about 2:00pm, the time user complaints started.	Selects and opens the event with a timestamp of 14:01.
13	<1	RM	RM continues by looking at the detail of the CPU Usage performance metric.	Selects and opens the CPU Usage metric.
14	<1	RM	Sure enough. The Gateway application only received of 9% of the CPU resources.	--

Performance Analysis



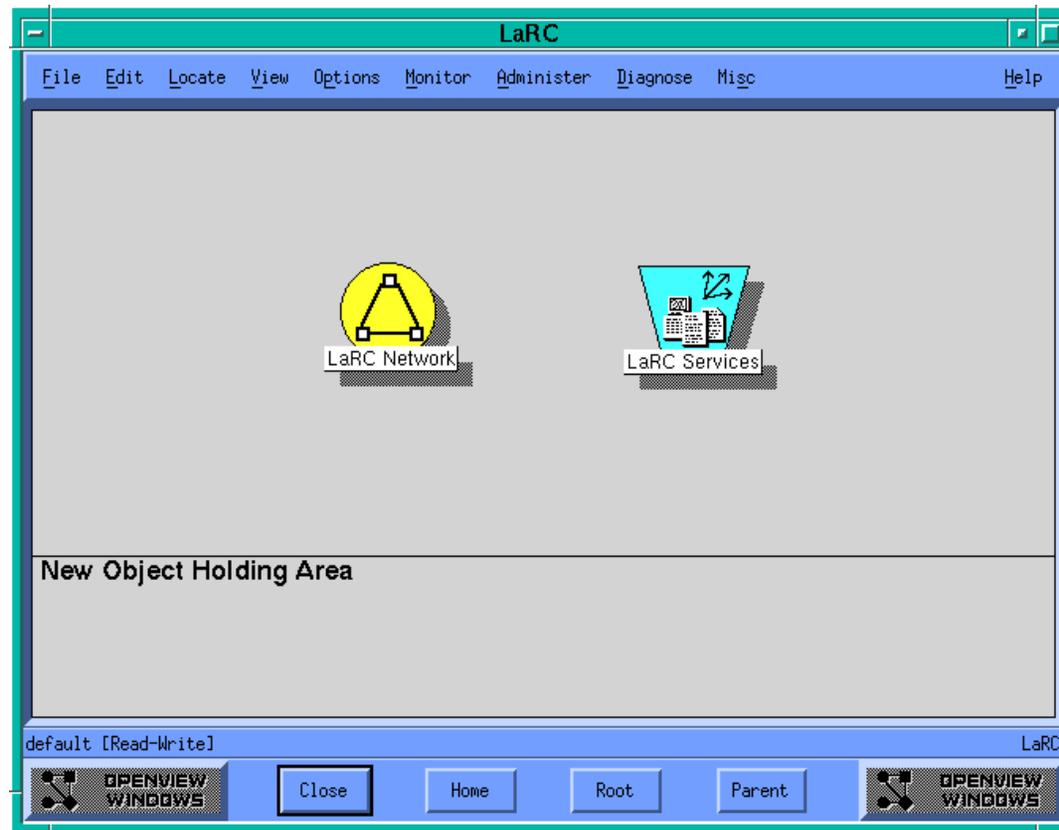
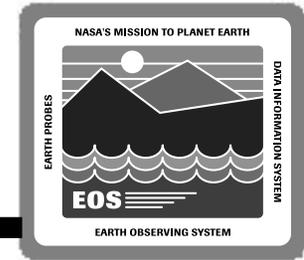
Step #	Time (mins)	Player	Activity	GUI
15	<1	RM	RM decides to change the performance event configuration.	From the OpenView GUI, select the Gateway application icon pull down the Administer/ Application-Control/Perf-Metrics menu.
16	<1	RM	RM sets the Minimum Threshold at 10% so that he is notified (via a popup window and email).	In the Metrics sub-window, select the CPU Usage metric and then "Edit". Fill in the Minimum Threshold and Rearm values. Toggle the email button and enter email addresses. Select "Save and Close" for both windows.

Performance Analysis

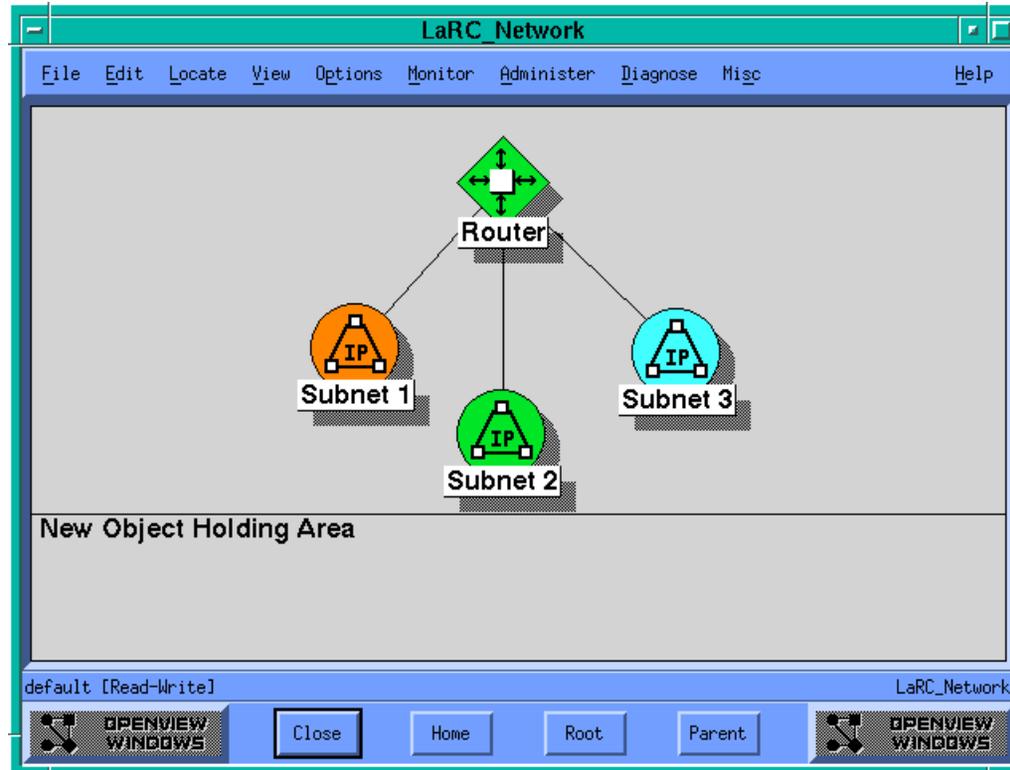
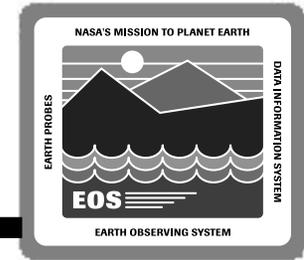


17	The next day	RM	The CPU Usage for Gateway drops below 10% and RM is notified.	Popup window is displayed on the OpenView GUI and email is sent.
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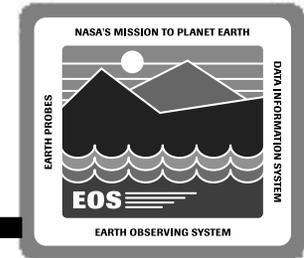
Performance Analysis



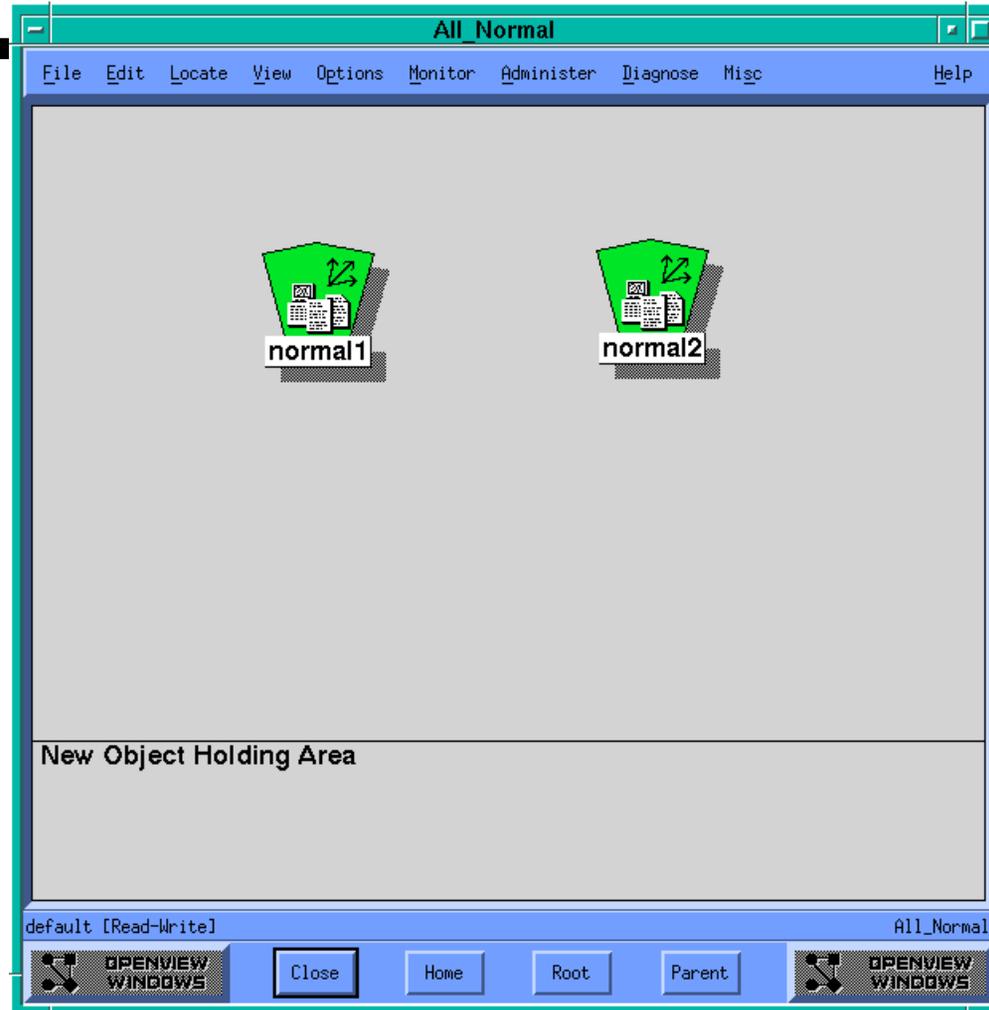
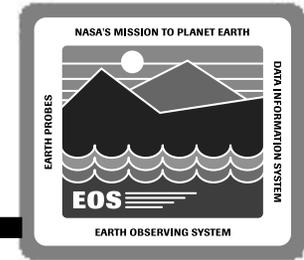
Performance Analysis



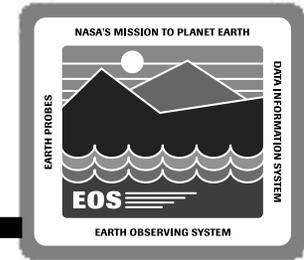
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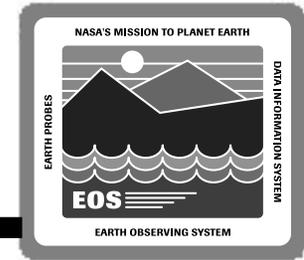
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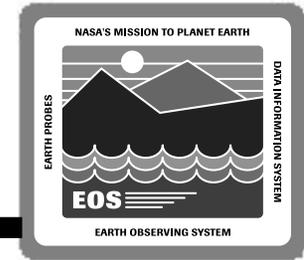
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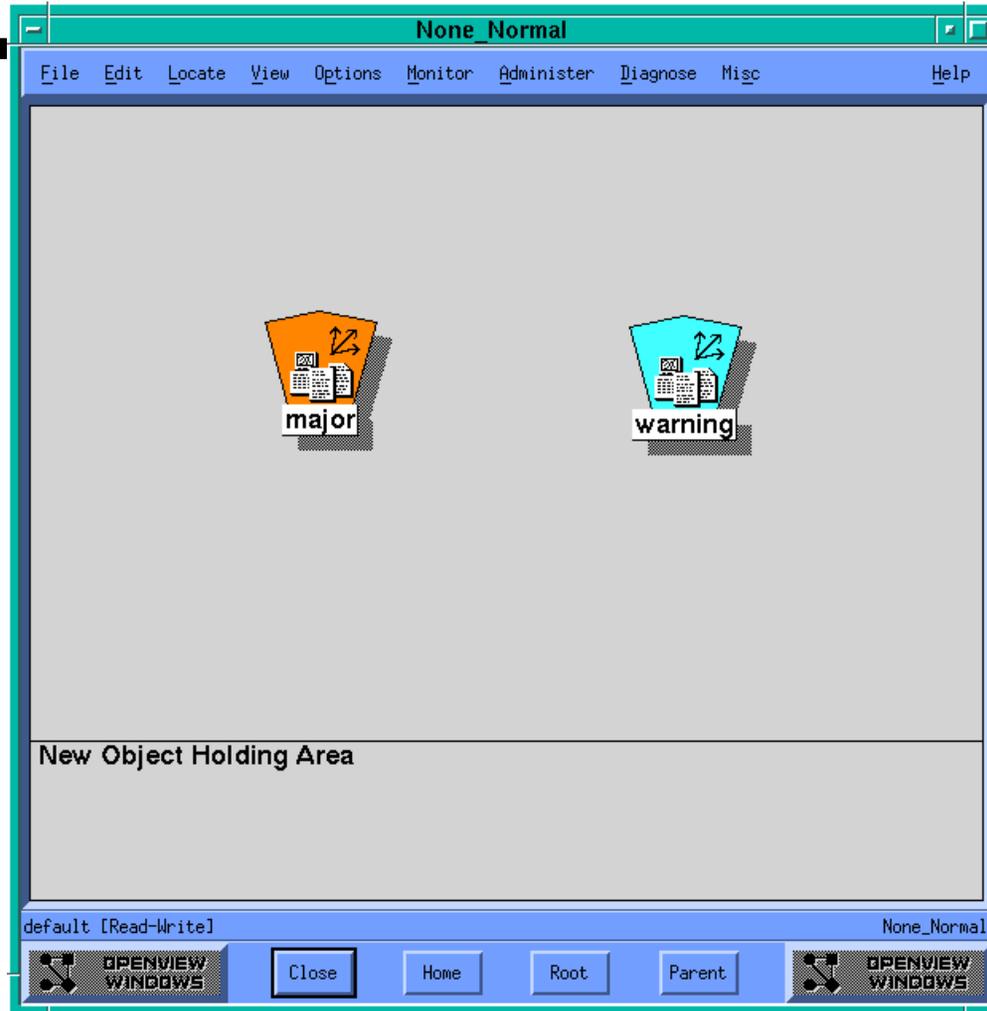
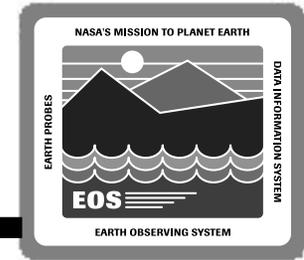
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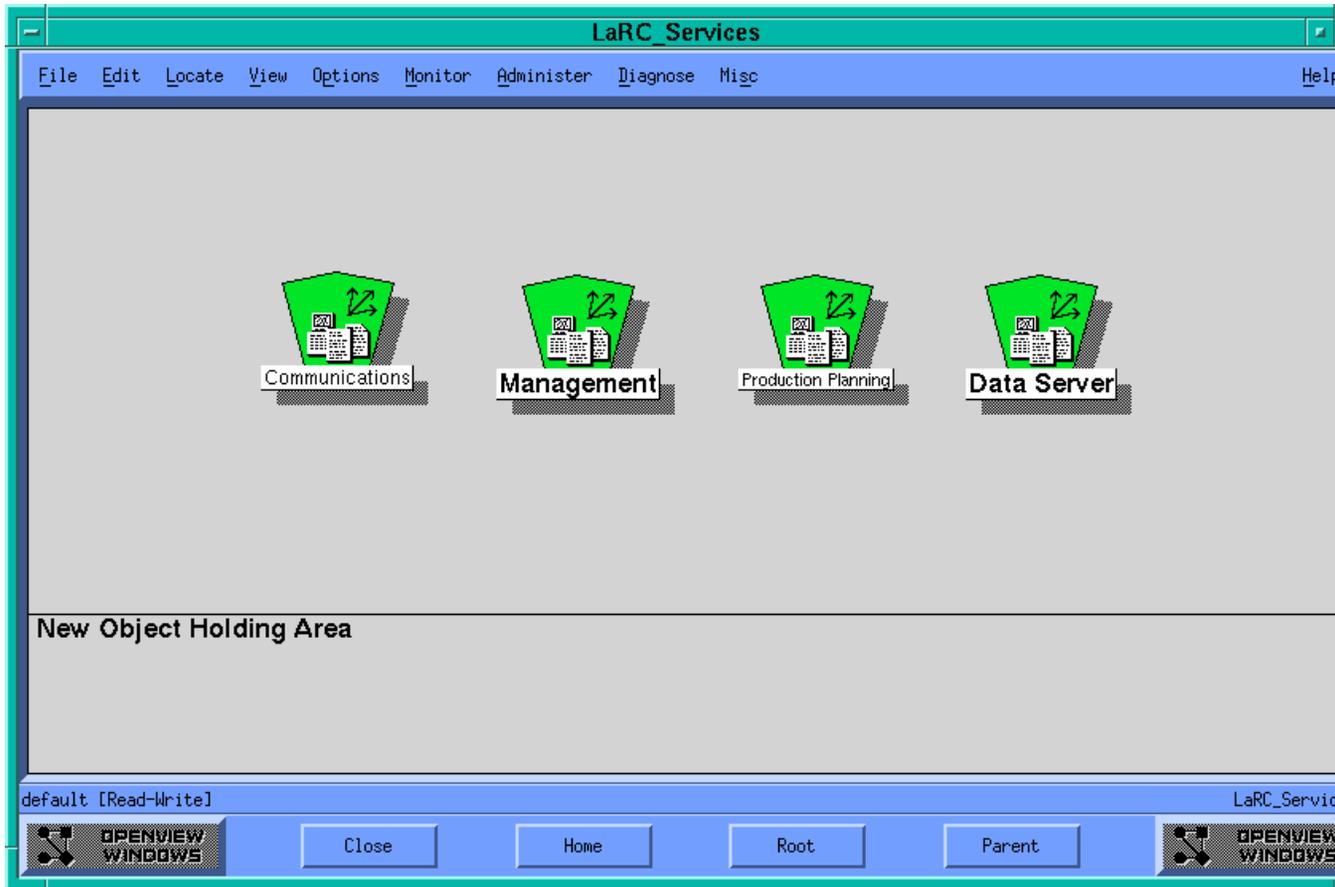
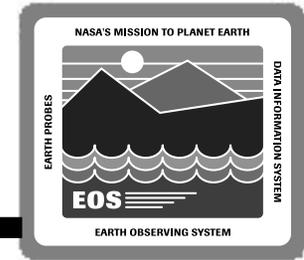
Performance Analysis



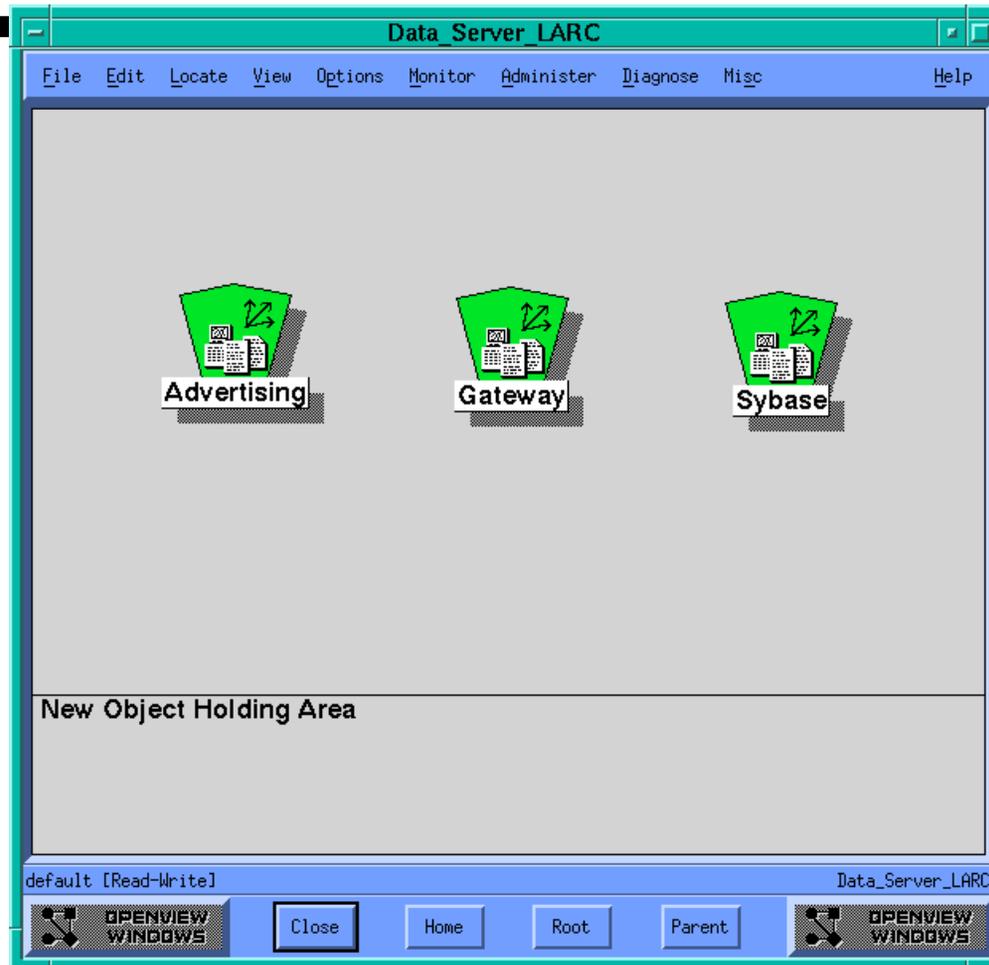
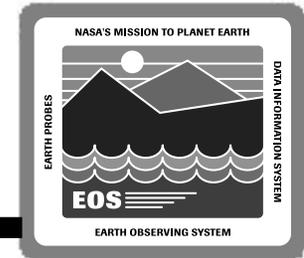
Performance Analysis



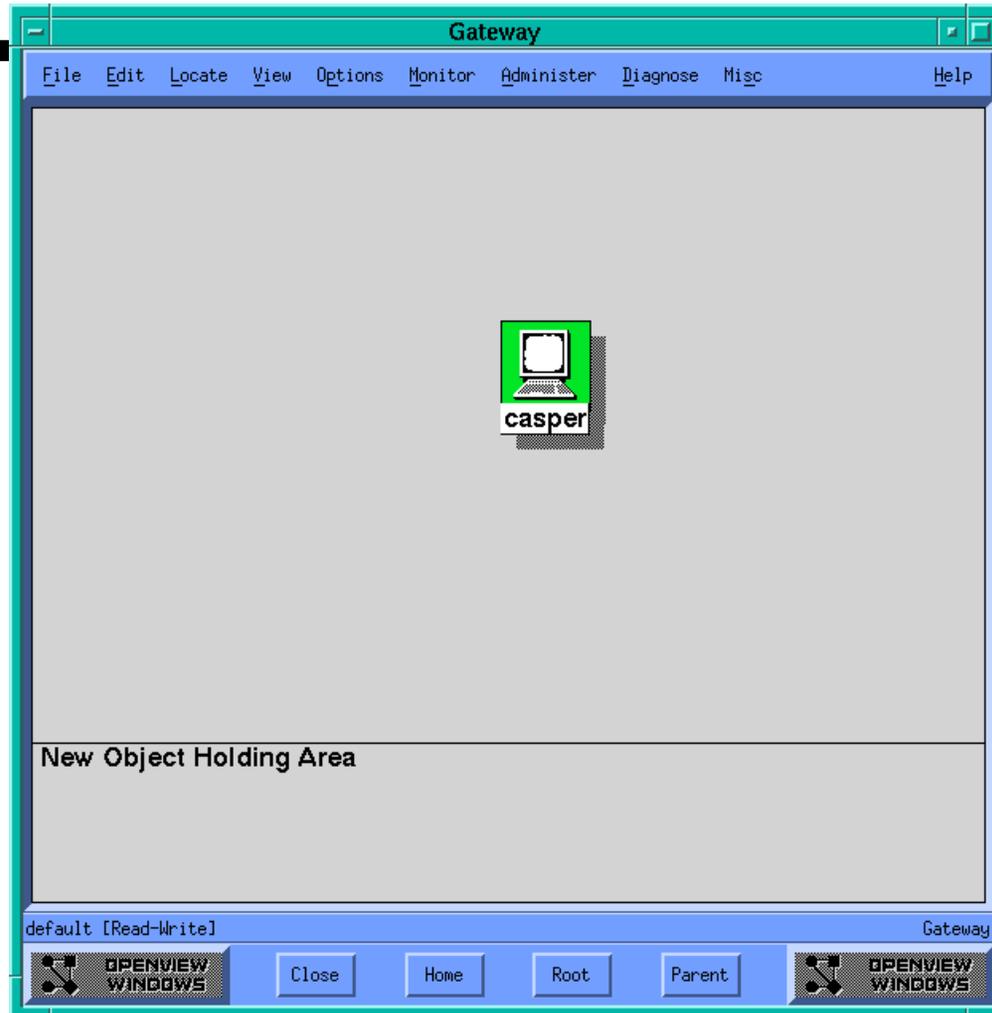
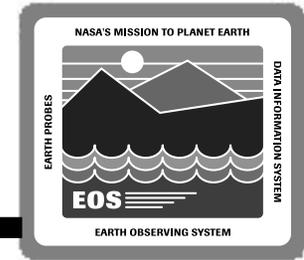
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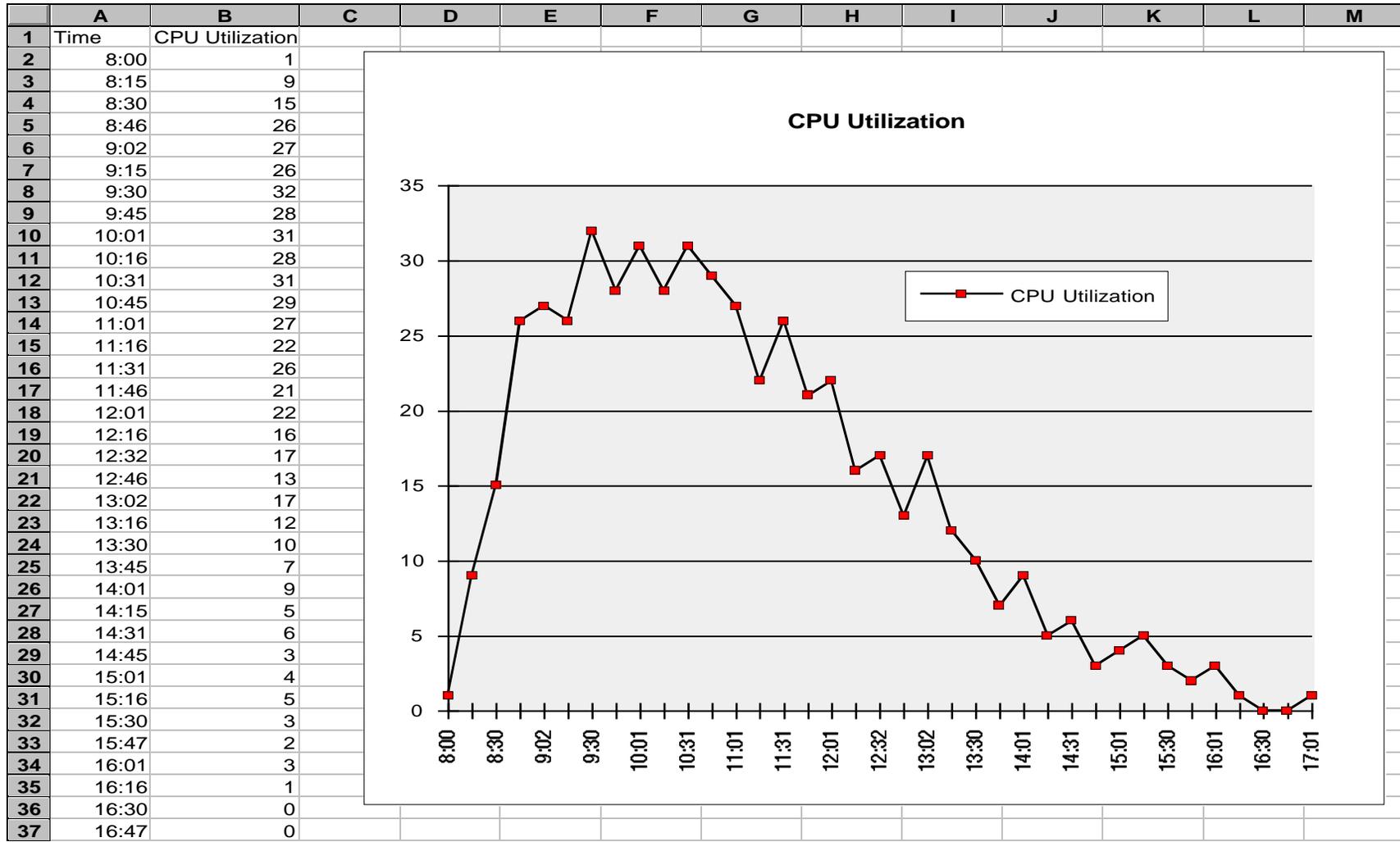
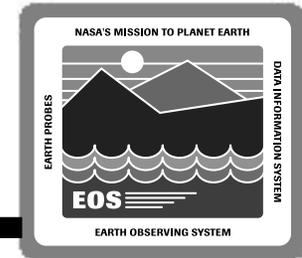
Performance Analysis

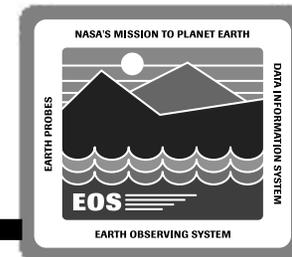
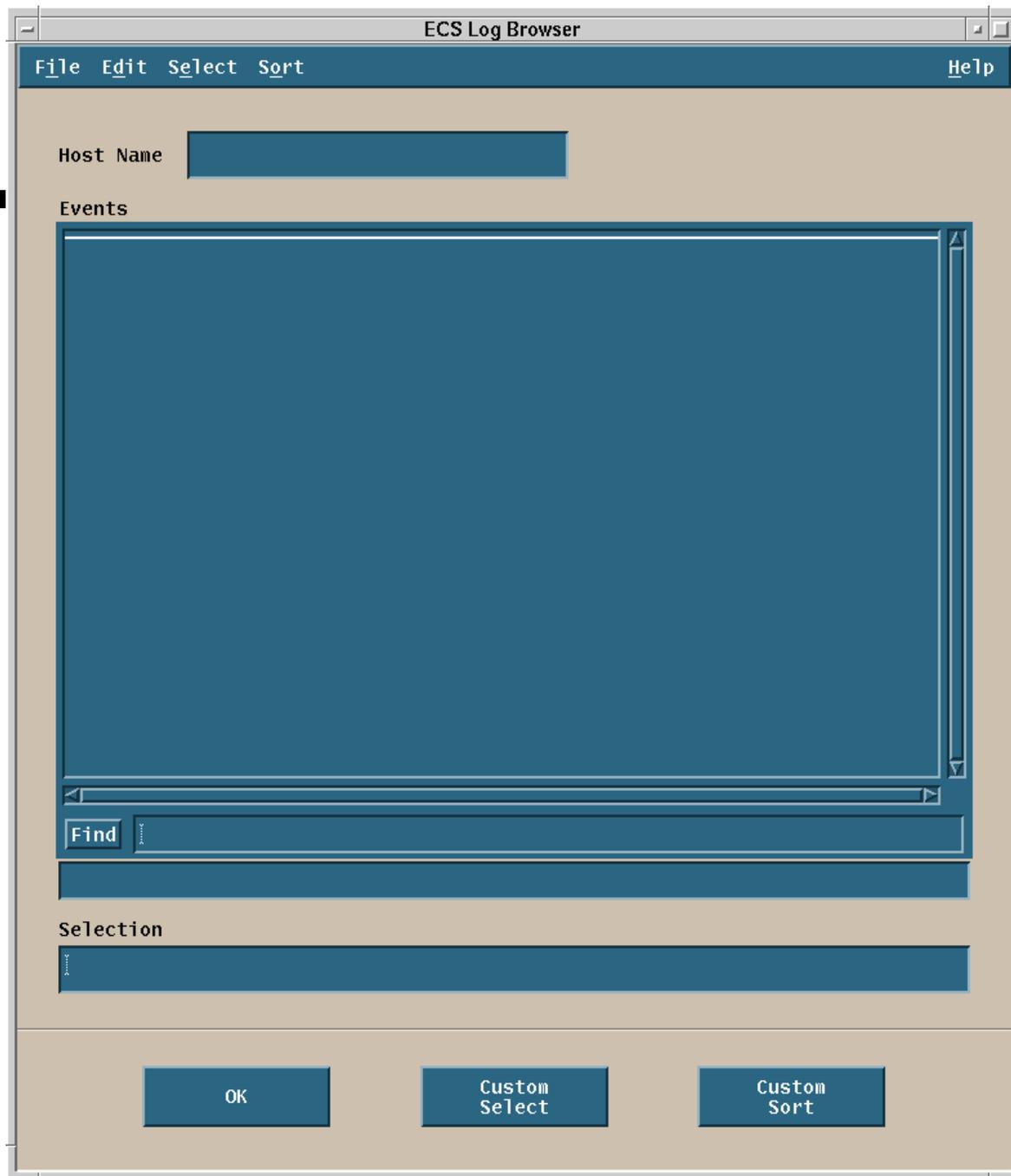


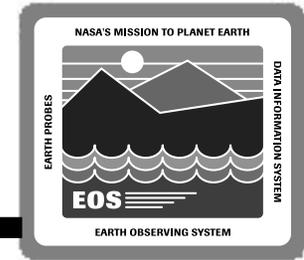
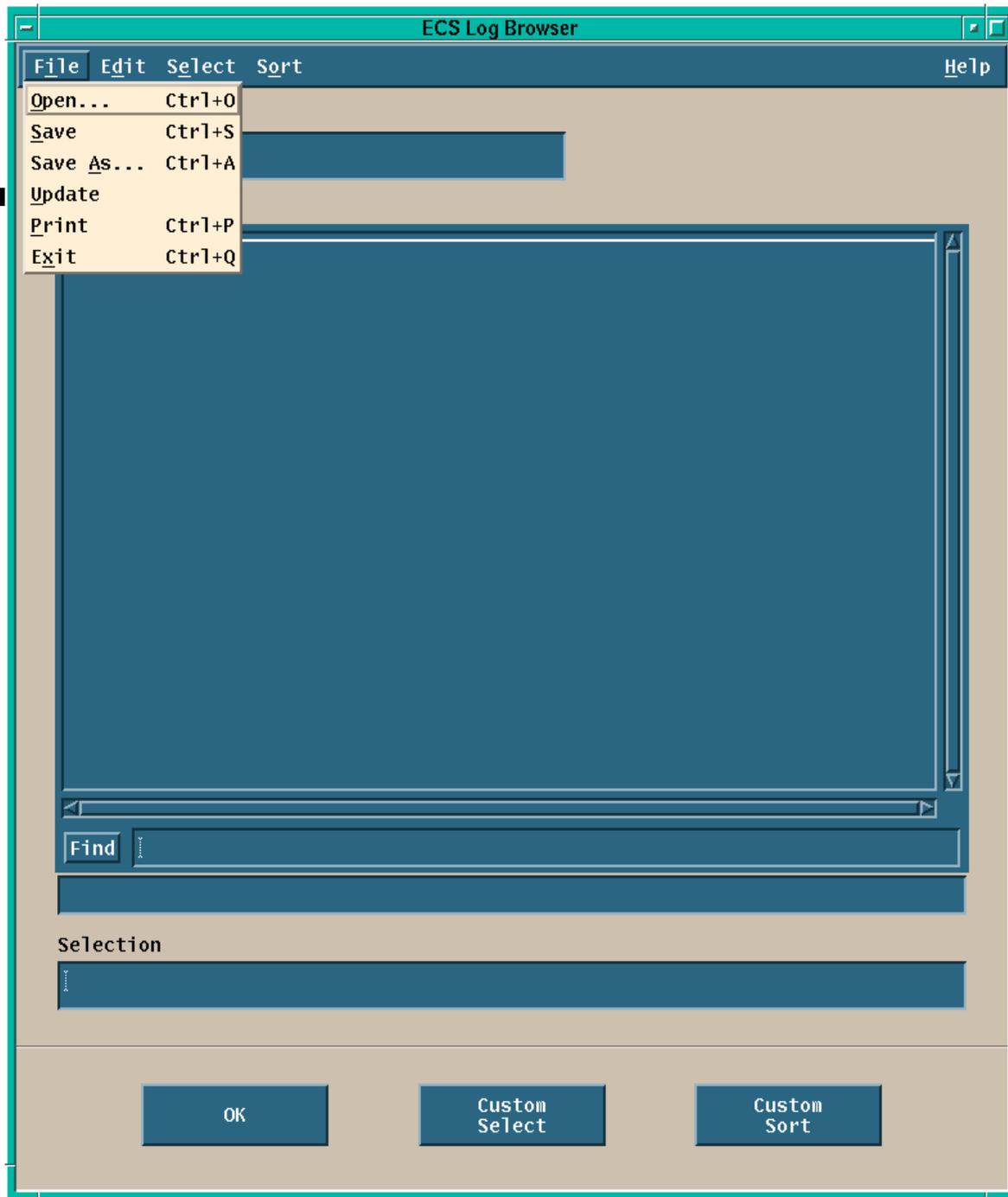
Performance Analysis

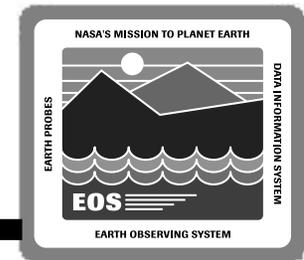
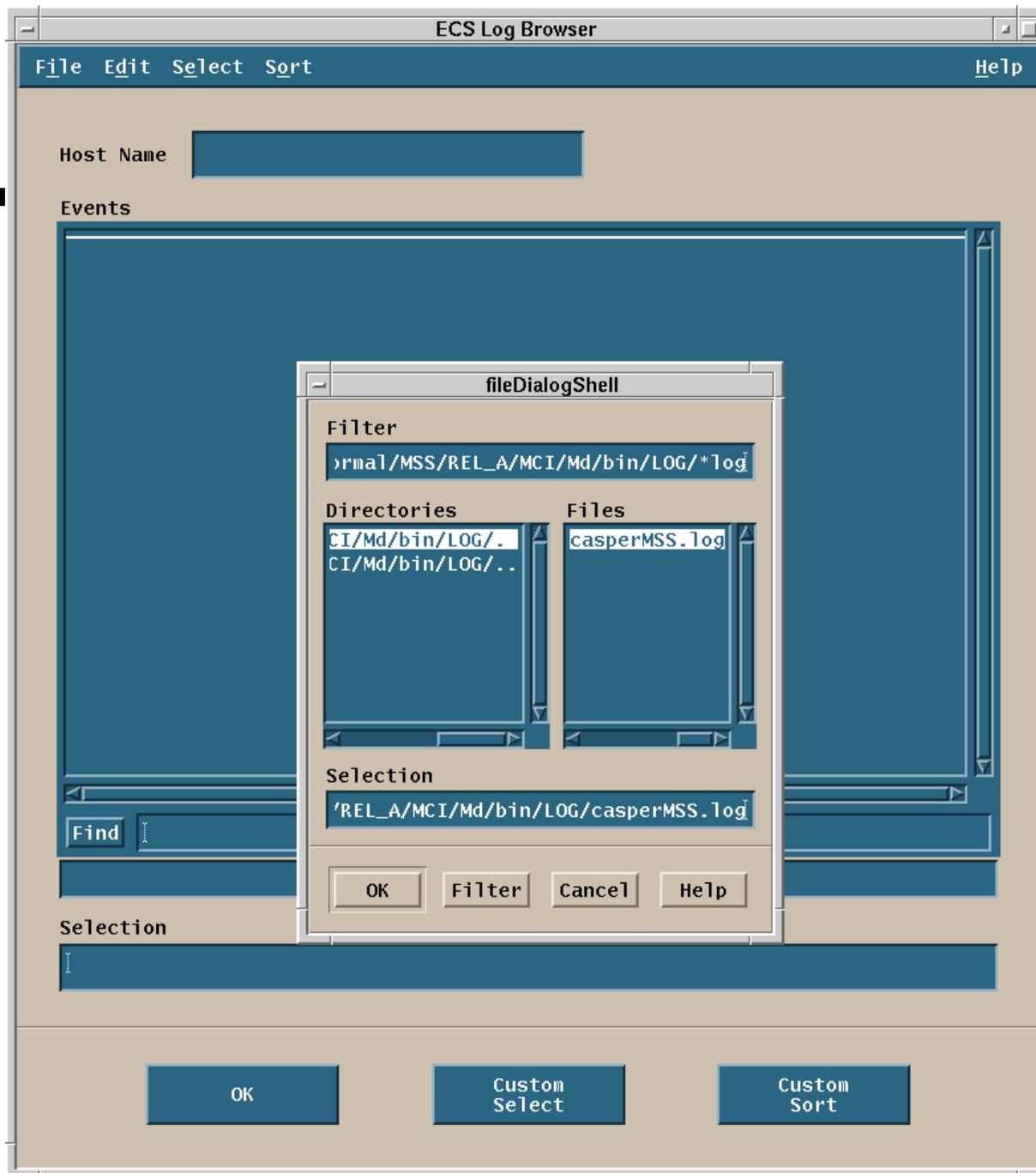


Performance Analysis









ECS Log Browser

File Edit Select Sort Help

Host Name

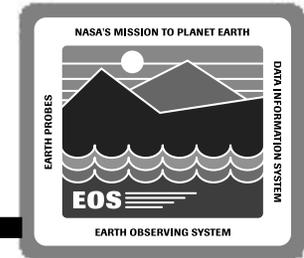
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3	03/18/96 16:30:00	Performance	Poll	Information	DSS
4	03/18/96 16:20:00	Performance	Application Specific	Error	DSS
5	03/18/96 16:16:00	Performance	Poll	Information	DSS
6	03/18/96 16:10:00	Performance	Threshold	Critical	DSS
7	03/18/96 16:01:00	Performance	Poll	Information	DSS
8	03/18/96 15:50:00	Performance	Application Specific	Critical	DSS
9	03/18/96 15:46:00	Performance	Poll	Information	DSS
10	03/18/96 15:31:00	Performance	Poll	Information	DSS
11	03/18/96 15:31:00	Performance	Application Specific	Error	DSS
12	03/18/96 15:16:00	Performance	Poll	Information	DSS
13	03/18/96 15:10:00	Security	Access Violation	Warning	INS
14	03/18/96 15:05:00	Security	Access Violation	Information	DSS
15	03/18/96 15:01:00	Performance	Poll	Information	DSS
16	03/18/96 14:55:00	Topology	Installed	Information	DMS
17	03/18/96 14:45:00	Performance	Poll	Information	DSS
18	03/18/96 14:35:00	Topology	Installed	Warning	INS
19	03/18/96 14:31:00	Performance	Poll	Information	DSS
20	03/18/96 14:15:00	Performance	Poll	Information	DSS
21	03/18/96 14:15:00	Security	Access Violation	Warning	DSS
22	03/18/96 14:05:00	Topology	Installed	Information	DMS
23	03/18/96 14:01:00	Performance	Poll	Information	DSS

Find

30 Events Start_Time: 03/18/96 13:00:00 Stop_Time: 03/18/96 17:00:00

Selection



ECS Log Browser

File Edit Select Sort Help

Host Name caspe

Events

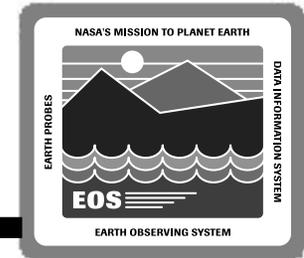
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5	03/18/96 16:16:00	Performance	Information	DSS	
6	03/18/96 16:10:00	Performance	Threshold	Critical	DSS
7	03/18/96 16:01:00	Performance	Poll	Information	DSS
8	03/18/96 15:50:00	Performance	Application Specific	Critical	DSS
9	03/18/96 15:46:00	Performance	Poll	Information	DSS
10	03/18/96 15:31:00	Performance	Poll	Information	DSS
11	03/18/96 15:31:00	Performance	Application Specific	Error	DSS
12	03/18/96 15:16:00	Performance	Poll	Information	DSS
13	03/18/96 15:10:00	Security	Access Violation	Warning	INS
14	03/18/96 15:05:00	Security	Access Violation	Information	DSS
15	03/18/96 15:01:00	Performance	Poll	Information	DSS
16	03/18/96 14:55:00	Topology	Installed	Information	DMS
17	03/18/96 14:45:00	Performance	Poll	Information	DSS
18	03/18/96 14:35:00	Topology	Installed	Warning	INS
19	03/18/96 14:31:00	Performance	Poll	Information	DSS
20	03/18/96 14:15:00	Performance	Poll	Information	DSS
21	03/18/96 14:15:00	Security	Access Violation	Warning	DSS
22	03/18/96 14:05:00	Topology	Installed	Information	DMS
23	03/18/96 14:01:00	Performance	Poll	Information	DSS

Find

30 Events Start_Time: 03/18/96 13:00:00 Stop_Time: 03/18/96 17:00:00

Selection

OK Custom Select Custom Sort



ECS Log Browser

File Edit Select Sort Help

Host Name

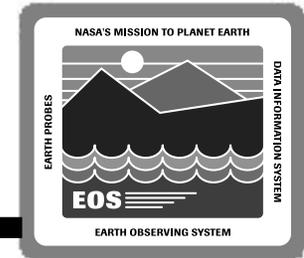
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5	03/18/96 16:16:00	Performance	Poll	Information	DSS
6	03/18/96 16:15:00	Performance	Poll	Information	DSS
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13	03/18/96 16:08:00	Performance	Poll	Information	DSS
14	03/18/96 16:07:00	Performance	Poll	Information	DSS
15	03/18/96 16:06:00	Performance	Poll	Information	DSS
16	03/18/96 16:05:00	Performance	Poll	Information	DSS
17	03/18/96 16:04:00	Performance	Poll	Information	DSS
18	03/18/96 16:03:00	Performance	Poll	Information	DSS
19	03/18/96 16:02:00	Performance	Poll	Information	DSS
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Find

30 Events

Selection



ECS Log Browser

File Edit Select Sort Help

Host Name

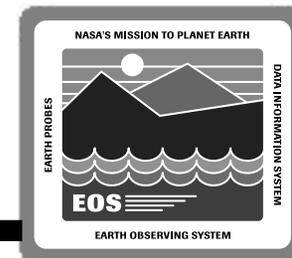
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4	03/18/96 15:31:00	Performance	Application Specific	Error	DSS
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7	03/18/96 16:30:00	Performance	Poll	Information	DSS
8	03/18/96 16:16:00	Performance	Poll	Information	DSS
9	03/18/96 16:01:00	Performance	Poll	Information	DSS
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16	03/18/96 14:15:00	Performance	Poll	Information	DSS
17	03/18/96 14:01:00	Performance	Poll	Information	DSS
18	03/18/96 13:45:00	Performance	Poll	Information	DSS
19	03/18/96 13:30:00	Performance	Poll	Information	DSS
20	03/18/96 13:16:00	Performance	Poll	Information	DSS
21	03/18/96 13:02:00	Performance	Poll	Information	DSS
22	03/18/96 16:10:00	Performance	Threshold	Critical	DSS
23	03/18/96 13:07:00	Security	Access Violation	Error	DMS

Find

30 Events Start_Time: 03/18/96 13:00:00 Stop_Time: 03/18/96 17:00:00

Selection



ECS Log Browser

File Edit **Select** Sort Help

Host Name

Events

- By Category
- By Severity
- By SubSystem
- Custom Select...

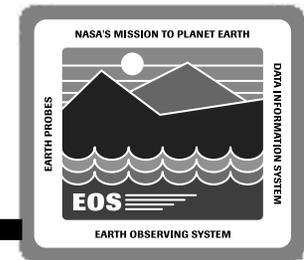
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23	03/18/96 13:07:00	Security	Access Violation	Error	DMS

Find

30 Events Start_Time: 03/18/96 13:00:00 Stop_Time: 03/18/96 17:00:00

Selection

OK Custom Select Custom Sort



ECS Log Browser

File Edit Select Sort Help

Host Name

Events

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4	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
5	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
6	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
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19	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
20	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
21	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
22	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS
23	03/10/06 15:50:00	Performance	Application Crashed	Critical	DSS

Custom Select

Application ID

Category

CSCI

Instance ID

Mode

Process ID

Program ID

Severity

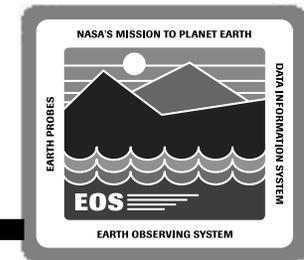
SubSystem

Type

Find

30 Events

Select



ECS Log Browser

File Edit Select Sort Help

Host Name

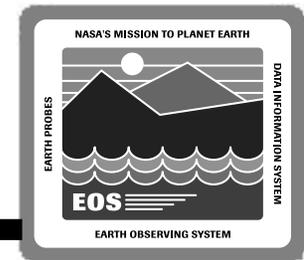
Events

#	Time Stamp	Category	Type	Severity	SubSys	CSCI
1	03/18/96 16:47:00	Performance	Poll	Information	DSS	GTWAY
2	03/18/96 16:30:00	Performance	Poll	Information	DSS	GTWAY
3	03/18/96 16:16:00	Performance	Poll	Information	DSS	GTWAY
4	03/18/96 16:01:00	Performance	Poll	Information	DSS	GTWAY
5	03/18/96 15:46:00	Performance	Poll	Information	DSS	GTWAY
6	03/18/96 15:31:00	Performance	Poll	Information	DSS	GTWAY
7	03/18/96 15:16:00	Performance	Poll	Information	DSS	GTWAY
8	03/18/96 15:01:00	Performance	Poll	Information	DSS	GTWAY
9	03/18/96 14:45:00	Performance	Poll	Information	DSS	GTWAY
10	03/18/96 14:31:00	Performance	Poll	Information	DSS	GTWAY
11	03/18/96 14:15:00	Performance	Poll	Information	DSS	GTWAY
12	03/18/96 14:01:00	Performance	Poll	Information	DSS	GTWAY
13	03/18/96 13:45:00	Performance	Poll	Information	DSS	GTWAY
14	03/18/96 13:30:00	Performance	Poll	Information	DSS	GTWAY
15	03/18/96 13:16:00	Performance	Poll	Information	DSS	GTWAY
16	03/18/96 13:02:00	Performance	Poll	Information	DSS	GTWAY

Find

16 Events Start_Time: 03/18/96 13:02:00 Stop_Time: 03/18/96 16:47:00

Selection



ECS Log Browser

File Edit Select Sort Help

Host Name

Events

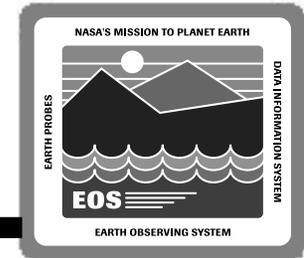
#	Time Stamp	Category	Type	Severity	SubSys	CSCI
1	03/18/96 16:47:00	Performance	Poll	Information	DSS	GTWAY
2	03/18/96 16:30:00	Performance	Poll	Information	DSS	GTWAY
3	03/18/96 16:16:00	Performance	Poll	Information	DSS	GTWAY
4	03/18/96 16:01:00	Performance	Poll	Information	DSS	GTWAY
5	03/18/96 15:46:00	Performance	Poll	Information	DSS	GTWAY
6	03/18/96 15:31:00	Performance	Poll	Information	DSS	GTWAY
7	03/18/96 15:16:00	Performance	Poll	Information	DSS	GTWAY
8	03/18/96 15:01:00	Performance	Poll	Information	DSS	GTWAY
9	03/18/96 14:45:00	Performance	Poll	Information	DSS	GTWAY
10	03/18/96 14:31:00	Performance	Poll	Information	DSS	GTWAY
11	03/18/96 14:15:00	Performance	Poll	Information	DSS	GTWAY
12	03/18/96 14:01:00	Performance	Poll	Information	DSS	GTWAY
13	03/18/96 13:45:00	Performance	Poll	Information	DSS	GTWAY
14	03/18/96 13:30:00	Performance	Poll	Information	DSS	GTWAY
15	03/18/96 13:16:00	Performance	Poll	Information	DSS	GTWAY
16	03/18/96 13:02:00	Performance	Poll	Information	DSS	GTWAY

Find

16 Events Start_Time: 03/18/96 13:02:00 Stop_Time: 03/18/96 16:47:00

Selection

[12 03/18/96 14:01:00 Performance Poll Information DSS GTWAY



ECS Log Browser

File Edit Select Sort Help

Event Field

Host Information

Description	Value
Cell Name	/.../edfcell.hitc.com
Host Name	casper.hitc.com
IP Address	155.157.98.37
OS Name	SunOS
OS Major Version	5
OS Minor Version	4
OS Revision Level	
OS Maintenance Level	

Event Field

Description	Value
Event ID	4031219e-1200-114e-bc15-9b9d6225aa77
Category	Performance
Type	Poll
Sub Type	philly
Mode	Ops
Severity	Information
Time Stamp	03/19/96 14:01:00
Sub System	DSS

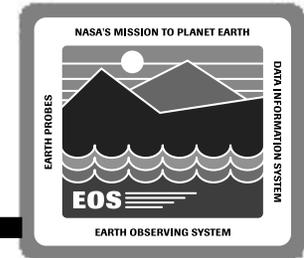
Performance Metric 8 Metrics

#	Type
1	CPU Usage
2	Memory Usage
3	Number of In RPC Calls
4	Number of Out RPC Calls
5	Number of In RPC Pkts
6	Number of Out RPC Pkts
7	Number of Threads
8	Disk I/O

Selection 1 CPU Usage

Ok Back

Close Help



ECS Log Browser

File Edit Select Sort Help

Event Field

Host Information

Description	Value
Cell Name	/.../edfcell.hitc.com
Host Name	casper.hitc.com
IP Address	155.157.98.37
OS Name	SunOS
OS Major Version	5
OS Minor Version	4
OS Revision Level	
OS Maintenance Level	

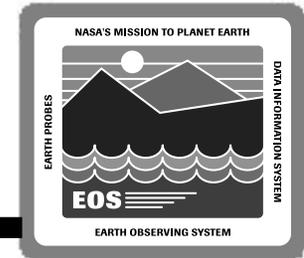
Event Field

Description	Value
Event ID	4031219e-1200-114e-bc15-9b9d6225aa77
Category	Performance
Type	Poll
Sub Type	philly
Mode	Ops
Severity	Information
Time Stamp	03/19/96 14:01:00
Sub System	DSS

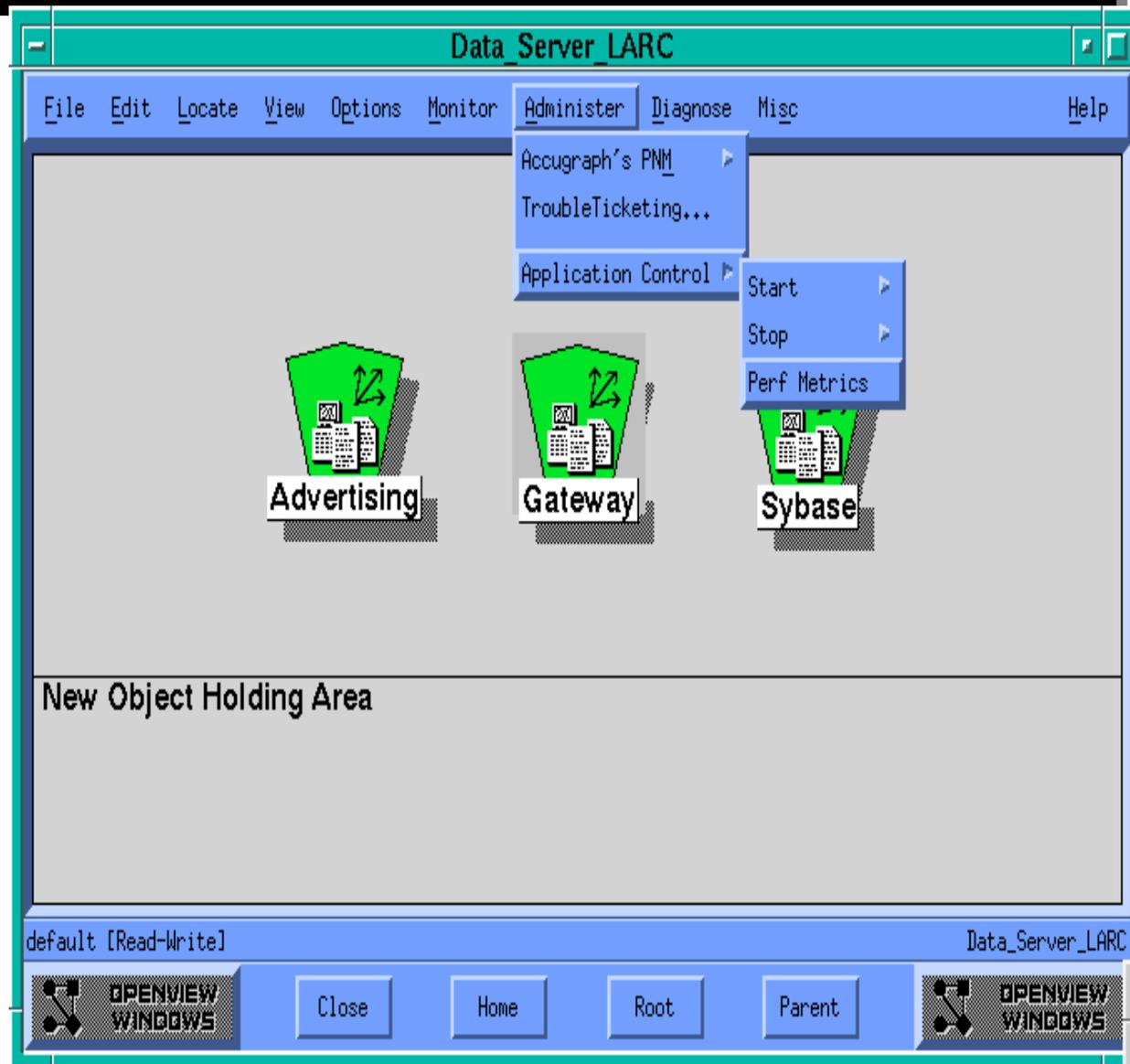
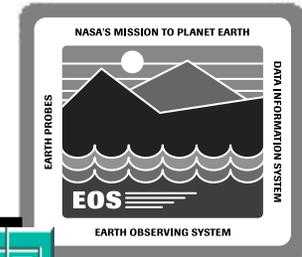
Performance Metric 8 Metrics

#	Type
1	CPU Usage
2	Memory Usage
3	Number of In RPC Calls
4	Number of Out RPC Calls
5	Number of In RPC Pkts
6	Number of Out RPC Pkts
7	Number of Threads
8	Disk I/O

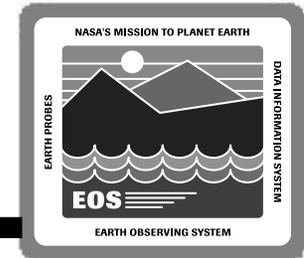
Selection



Performance Analysis



Performance Analysis

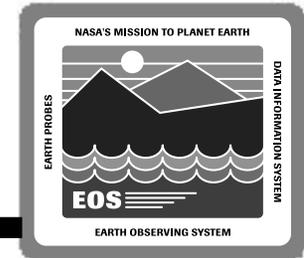


Metric	Threshold Fault/Rearm	Threshold Max/Rearm	Threshold Min/Rearm	Notification
CPU Usage	50/40	35/30	0/0	Popup
Memory Usage	200/175	175/120	0/0	Popup
InRPCalls	10000/9000	8000/7000	0/0	Popup

Find

Edit... Save Save and Close Cancel

Performance Analysis



Metric Edit

Metric: CPU Usage

Fault Threshold:	50	Rearm:	40
Max Threshold:	35	Rearm:	30
Min Threshold:	10	Rearm:	20

Notification:

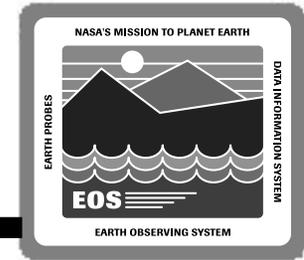
Popup Window

E-Mail

Audio Signal

Save Save And Close Cancel

Performance Analysis



The screenshot shows a window titled 'Performance Analysis' with a menu bar containing 'File' and 'Help'. Below the menu bar is a table with the following data:

Metric	Threshold Fault/Rearm	Threshold Max/Rearm	Threshold Min/Rearm	Notification
CPU Usage	50/40	35/30	10/20	Popup,email:res_man,sys_op
Memory Usage	200/175	175/120	0/0	Popup
InRPCalls	10000/9000	8000/7000	0/0	Popup

Below the table is a 'Find' input field and a scroll bar. At the bottom of the window are four buttons: 'Edit...', 'Save', 'Save and Close', and 'Cancel'.

Performance Analysis

