

<https://134.253.243.122/redstorm/syslog/docs.html>

### Sisyphus Log Analysis Toolkit

Date: start:  << < = > >>  
 stop:  First: 2006/04/01 00:00:00  
 Last: 2006/07/13 06:00:00  
 Host: (not ☐)   
 Job ID:   
 Word:   
 Display top N:  sorted by

List:  
Displaying 100 of -1 docs. 0 selected.

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<a href="#">YYYY/MM/DD/HH</a>	<a href="#">HOST</a>	<a href="#">bytes</a>
<input type="checkbox"/>	<input type="checkbox"/>	<a href="#">docs/2006/07/03/23/nid00832</a>		65275
<input type="checkbox"/>	<input type="checkbox"/>	<a href="#">docs/2006/07/07/04/nid00835</a>		83069
<input type="checkbox"/>	<input type="checkbox"/>	<a href="#">docs/2006/07/03/23/nid00543</a>		122268


<https://134.253.243.122/redstorm/syslog/analyze.cgi?file=>

<input type="checkbox"/>	3	24	150	100	kern err kernel: LustreError: * pi
<input type="checkbox"/>	4	1	0	0	kern err kernel: LustreError: * *

```

server code, just going back to sleep ns: mds-mds_15_UUID lock: 00000100397a8cc0/0x2a
PLN flags: 4000 remote: 0x0 expref: -99 pid: 1031
Jul 3 23:53:57 nid00832 kern err kernel: LustreError: 1513:0:(client.c:945:ptlrpc_expire_one
req@0000010039001600 x2377216/t0 o8->ost00543_0_UUID@NID_543_UUID:6 lens 2
Jul 3 23:53:57 nid00832 kern alert kernel: LustreError: dumping log to /tmp/lustre-log-nid00
  
```

## Event logs are:

- **Ubiquitous** (nearly all types of com
- **Informational** (nearly always the fir
- **Voluminous** (infeasible to read all of them)
- **Noisy** (many messages are completely useless)

• **Non-stationary** (characteristics

## **Interrogating (grep) or monitoring (log**

- **Is common**
- **Can be easy (or NOT)**
- **Can be effective (or NOT)**

## **Many hard questions cannot be easily**

Under what conditions does string “x”  
^ e.g. nodes, times,

*Premise:*

**Similar computers  
correctly execu  
should pro**

*Process:*

**Group** log messages into “document  
according to time and host factors

**Encode** as a “term-doc” matrix:  
 **$X=GL$**  where G is a per-term  
information weight regarding  
some factor of interest  
(Host, Time, App, User, etc)

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<input type="checkbox"/>	<input type="checkbox"/>	<a href="#">docs/2006/07/03/23/nid00543</a>		122268

<input type="checkbox"/>	3	24	150	100	kern err kernel: LustreError: * p
<input type="checkbox"/>	4	1	0	0	kern err kernel: LustreError: * *

server code, just going back to sleep ns: mds-mds\_l5\_UUID lock: 0000010039/a8cc0/0x2a  
 PLN flags: 4000 remote: 0x0 expref: -99 pid: 1031  
 Jul 3 23:53:57 nid00832 kern err kernel: LustreError: 1513:0:(client.c:945:ptlrpc\_expire\_one  
 req@0000010039001600 x2377216/t0 o8->ost00543\_0\_UUID@NID\_543\_UUID:6 lens 2  
 Jul 3 23:53:57 nid00832 kern alert kernel: LustreError: dumping log to /tmp/lustre-log-nid00

<input type="checkbox"/>	<a href="#">ID</a>	<a href="#">pos</a>	<a href="#">word</a>	<a href="#">host info</a>
<input checked="" type="checkbox"/>				
<input type="checkbox"/>	195	4	[ ]{:obdclass:obd_dev+4272}	4.57
<input type="checkbox"/>	127	5	1513:0:(client.c:945:ptlrpc_expire_one_request())	4.29
<input type="checkbox"/>	318	25	mds-mds_l5_UUID	3.91



## How effective is it?

Of the 33 **GL** Combinations Tested, **host information weighting** provides exceptionally good fault detection.

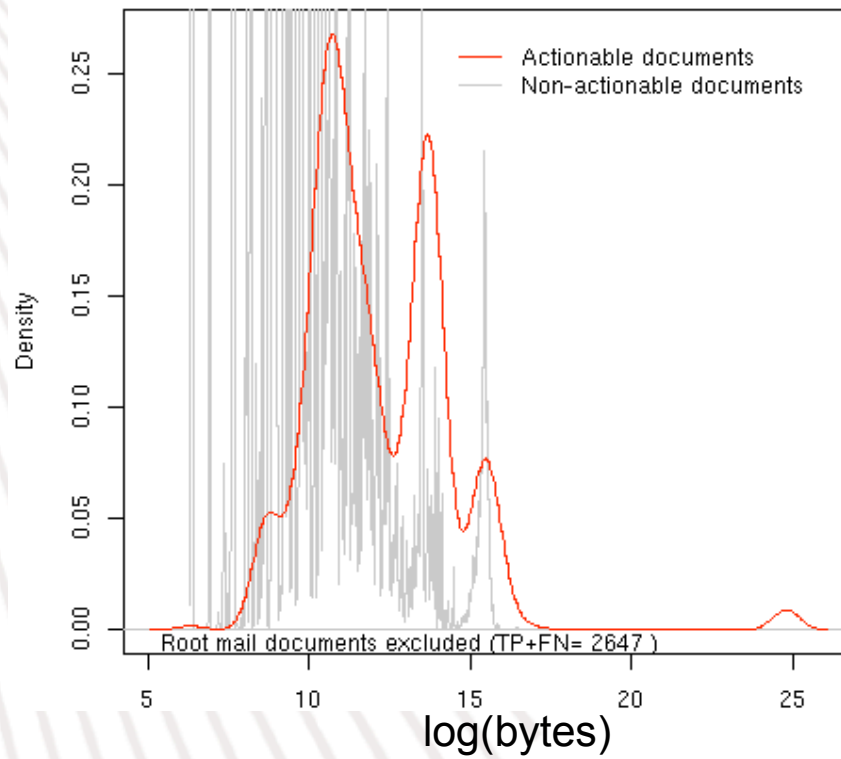
On a 512 Node Linux Cluster at SNL, 60% of faults are detected with an alarm precision rate of at least 80%. This corresponds to an excellent false positive rate of 0.07%.

Results for Red Storm, Blue Gene, Thunderbird, and Liberty are pending...

# Effectiveness of

Bytes

vs



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```

server code, just going back to sleep ns: mds-mds_15_UUID lock: 00000100397a8cc0/0x2a7
PLN flags: 4000 remote: 0x0 expref: -99 pid: 1031
Jul 3 23:53:57 nid00832 kern err kernel: LustreError: 1513:0:(client.c:945:ptlrpc_expire_one_
req@0000010039001600 x2377216/t0 o8->ost00543_0_UUID@NID_543_UUID:6 lens 24
Jul 3 23:53:57 nid00832 kern alert kernel: LustreError: dumping log to /tmp/lustre-log-nid008
  
```