



LCFG and EDG service monitoring

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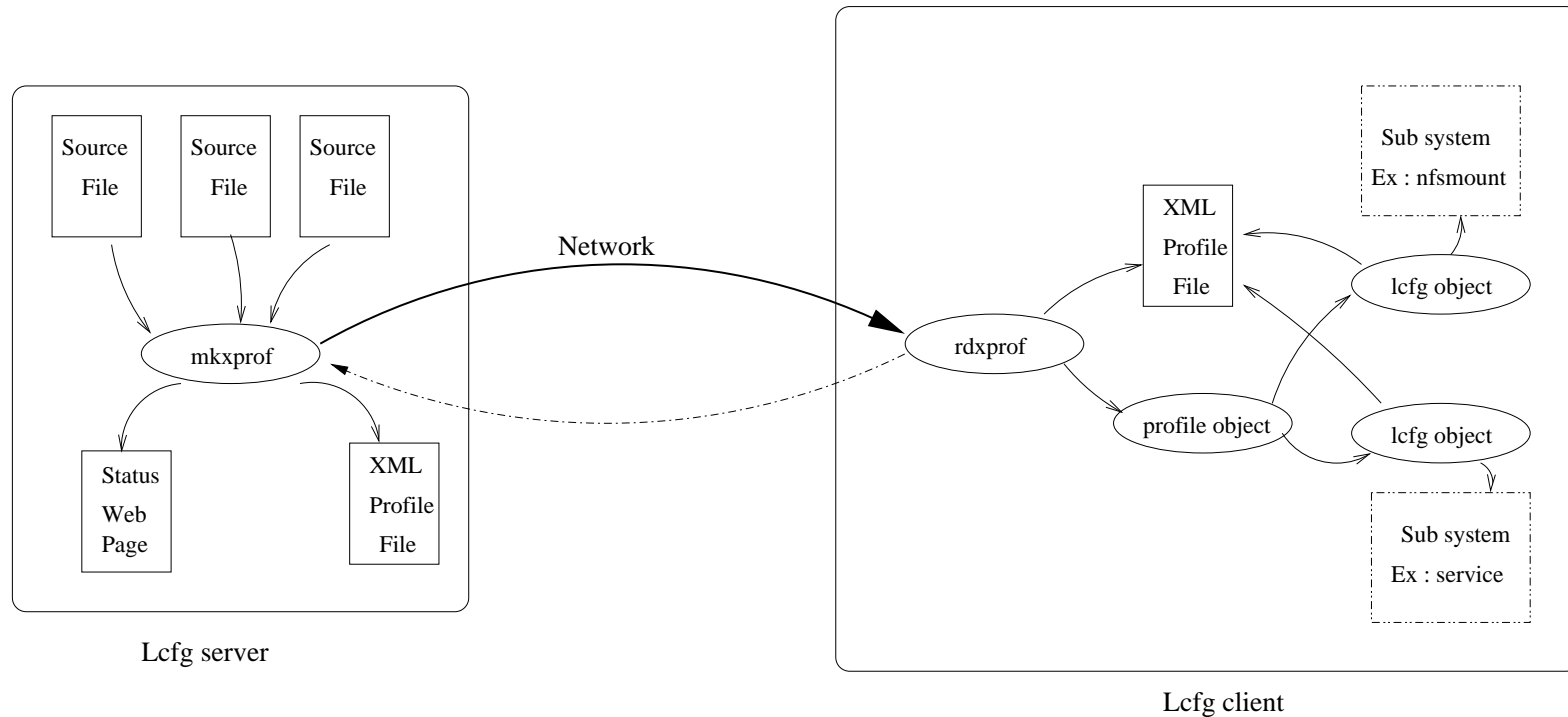
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Monitoring Infrastructure in LCFG

Elements involved into lcfg monitoring infrastructure :

- xml profiles : general and node specific status page
- lcfg object : log files





Monitoring Issues

- lack of feedback from client
- ease of access to information for administrators : scalability



Solution

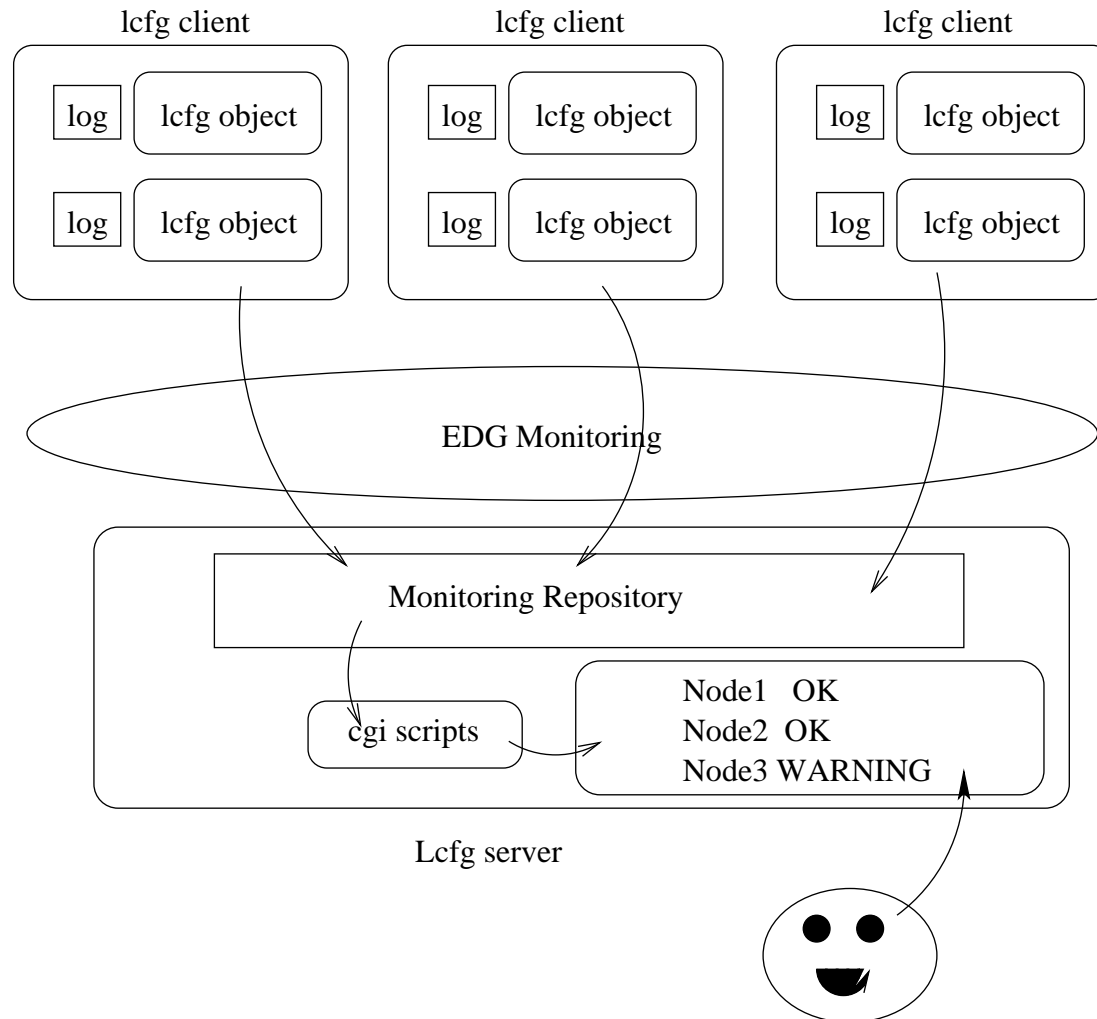
➔ provide an overview of a lcfg update from a central point to farm administrators

Implement feedback from client :

- send log messages to a central point
- lcfg object triggered during the update



Solution





Monitor on client side

- *profile* log file contains the most accurate information about last lcfg update
- *profileLogParser* daemon :
 - extracts information from *profile* log file
 - sends to the server all log messages related to a lcfg object via *pemsensor*, written by Paul Anderson



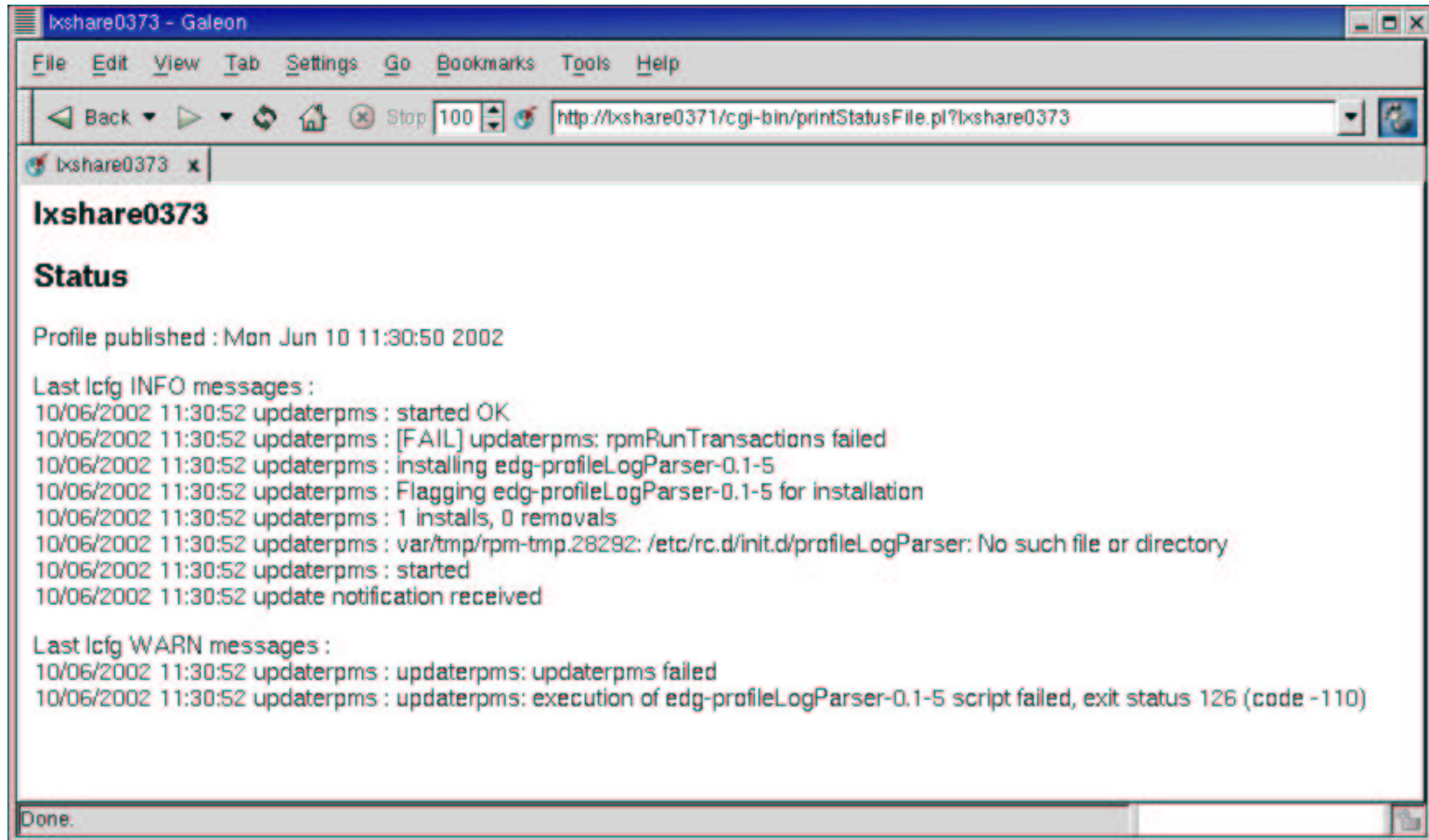
Monitor on server side

- all lcfg messages stored on lcfg server
- 2 cgi scripts : extract and publish relevant information about last lcfg update :
 - *statusSummaryGenerator.pl* : generates a status of all lcfg nodes (warning flag)
 - *printStatusFile.pl* : prints all info and warning lcfg messages from last update specific to a node



LCFG Profile Status Summary : (Version 1.3)

| Host | Published | lcfg Warnings |
|-----------------------------|--------------------------|---------------|
| lxshare0372 | Fri Apr 26 16:07:43 2002 | No |
| lxshare0373 | Mon Jun 10 11:30:50 2002 | Yes |
| lxshare0375 | Wed Apr 17 17:32:25 2002 | No |
| lxshare0391 | Fri Apr 19 11:15:02 2002 | No |
| tbed0082 | Fri May 17 20:27:21 2002 | No |
| lxshare0393 | Wed May 15 16:56:26 2002 | No |
| lxshare0394 | Mon Apr 29 16:11:02 2002 | No |
| lxshare0395 | Wed Jun 12 15:00:47 2002 | No |
| lxshare0396 | Mon Jun 10 11:30:50 2002 | No |
| lxshare0397 | Mon Jun 10 11:30:50 2002 | No |
| lxshare0398 | Mon Apr 29 16:11:02 2002 | No |
| lxshare0399 | Mon Jun 10 11:30:50 2002 | No |
| lxshare0400 | Wed May 15 11:40:16 2002 | No |
| testbed002 | Fri Apr 19 11:15:02 2002 | No |
| lxshare0381 | Tue May 28 18:40:02 2002 | No |
| lxshare0392 | Mon Apr 29 16:11:02 2002 | No |
| lxshare0380 | Tue Jun 18 15:06:17 2002 | No |
| lxshare0378 | Tue Apr 30 10:26:41 2002 | No |





Possible Improvements

- client side :
 - timeout
 - better integration with EDG monitoring infrastructure :
full sensor, pemsensor and lcfg objects
 - standard log message format : status number
- server side :
 - only nodes which have problems should be shown on the
status page
 - current lcfg update applied to a node (date)



Possible Improvements

- monitoring infrastructure :
 - reliable transport mode
 - length of messages
 - access to the monitoring repository standardized



EDG High Level Functionality Monitoring

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Submitting and checking the result of jobs are ways to find out whether edg services are up and running or not.

By carefully designed jobs, the operationnal status of different services can be determined.



Heartbeat scripts

- tcl/expect scripts
- monitoring script : submits jobs, checks output and requests service checking
- acting script : reads requests from the monitoring scripts and tries to restart services according to policies



Monitoring script

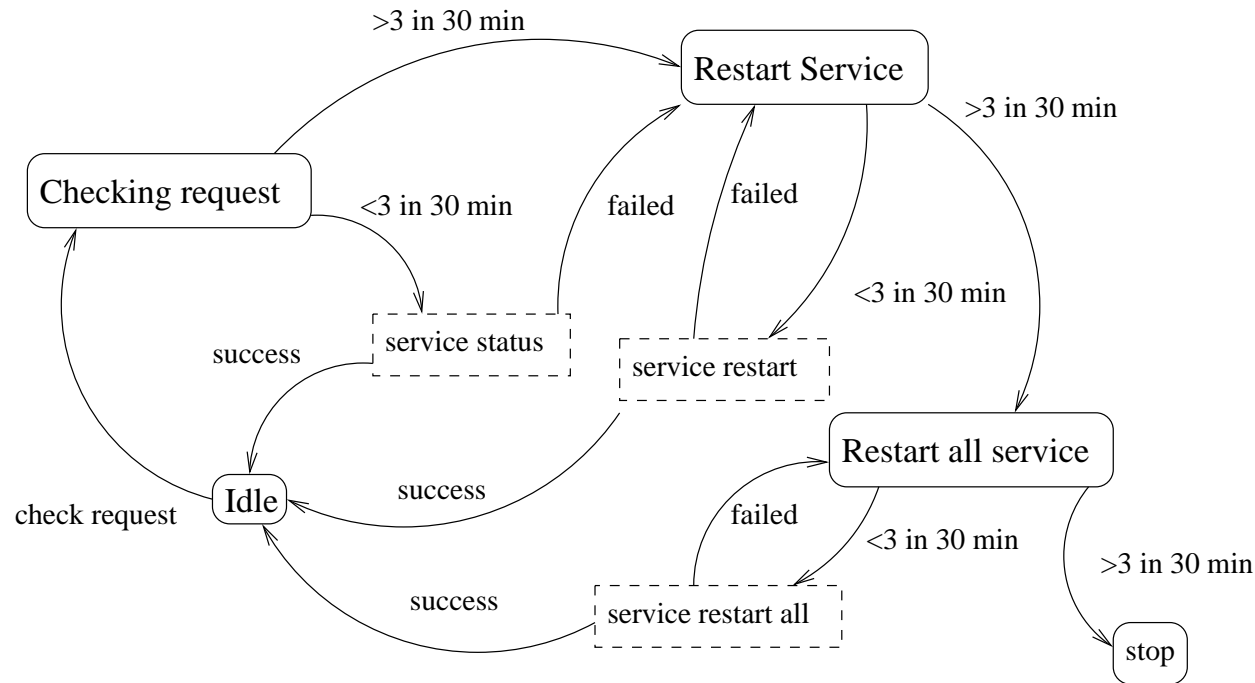
- tests from a UI :
 - status of the grid proxy
 - submission of request to RB (*dg-job-list-match*) : RB and II services
 - submission and status of a job (*dg-job-submit* and *dg-job-status*) : LB service
 - retrieval of the output (*dg-job-get-output*) : RB service
- Issues service check requests for each failure in a log file

```
Fri Jun 14 18:16:46 CEST 2002 [INFO] dg-job-list-match: timedout  
Fri Jun 14 18:16:46 CEST 2002 Check RB
```



Acting script

- runs on a node which has access to monitored services
- reads requests from monitoring script
- process requests :





Possible Improvements

- intelligence in processing problems
- better notification for testbed managers : status page, mail
- better processing of output sandbox
- integration with edg monitoring



Questions / Answers