PoD

PROOF on Demand

Version 2.1.1

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pod-agent

made use of the thread pool pattern

- x14 reduced virtual memory consumption*
- 4 threads instead of 80 threads*
- x10 faster on network intensive operations

* when 4 thread in the pool and 80 WNs

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PoD idle monitor

- shuts a node down if it's idle for a defined amount of time
- is implemented for both PoD server and PoD worker
- prevents blocking of resources, which are not being used

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a helper header

Problem: PoD's automatic port mapping helps a lot in multi-user environment, but makes it difficult for a user to track new ports for XPROOF in analysis scripts.

Solution: every time PoD starts, it generates a C/C++ header file which defines the current settings of the environment.

```
#include "pod-master.h"
TProof::Open( Form("%s:%s", POD_MASTER_HOST, POD_XPROOF_PORT) );
```

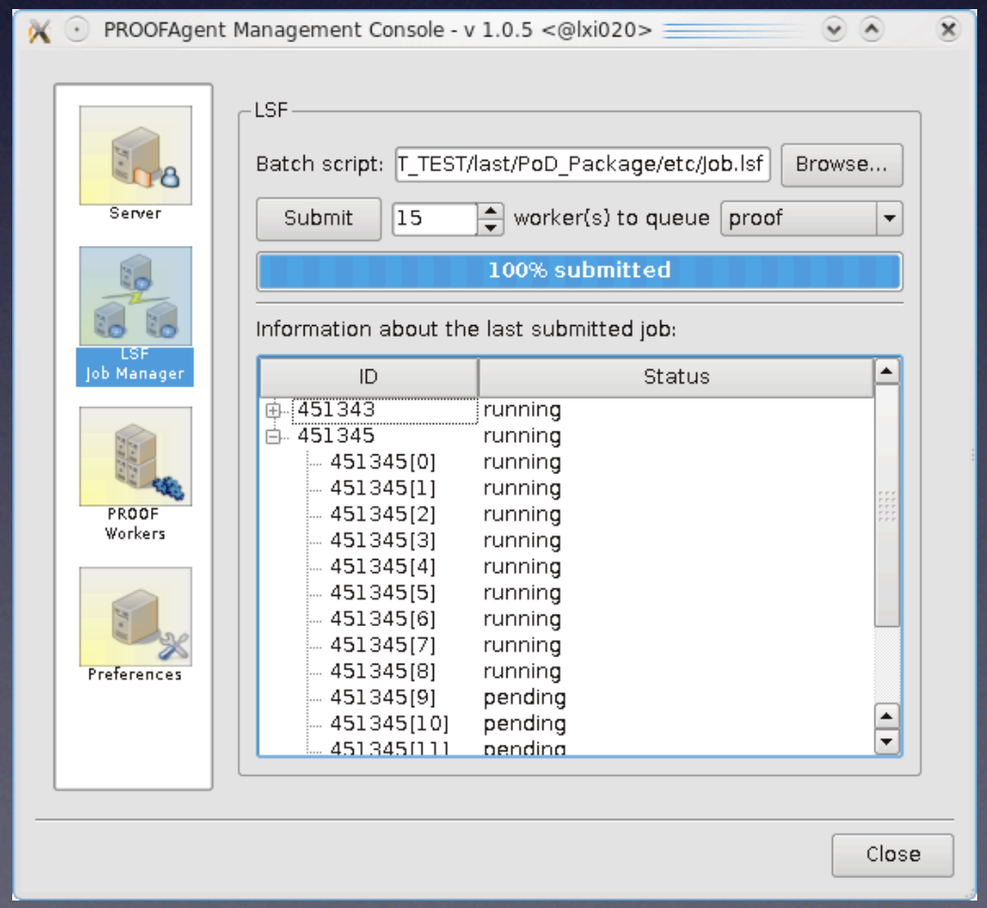
PoD user defaults

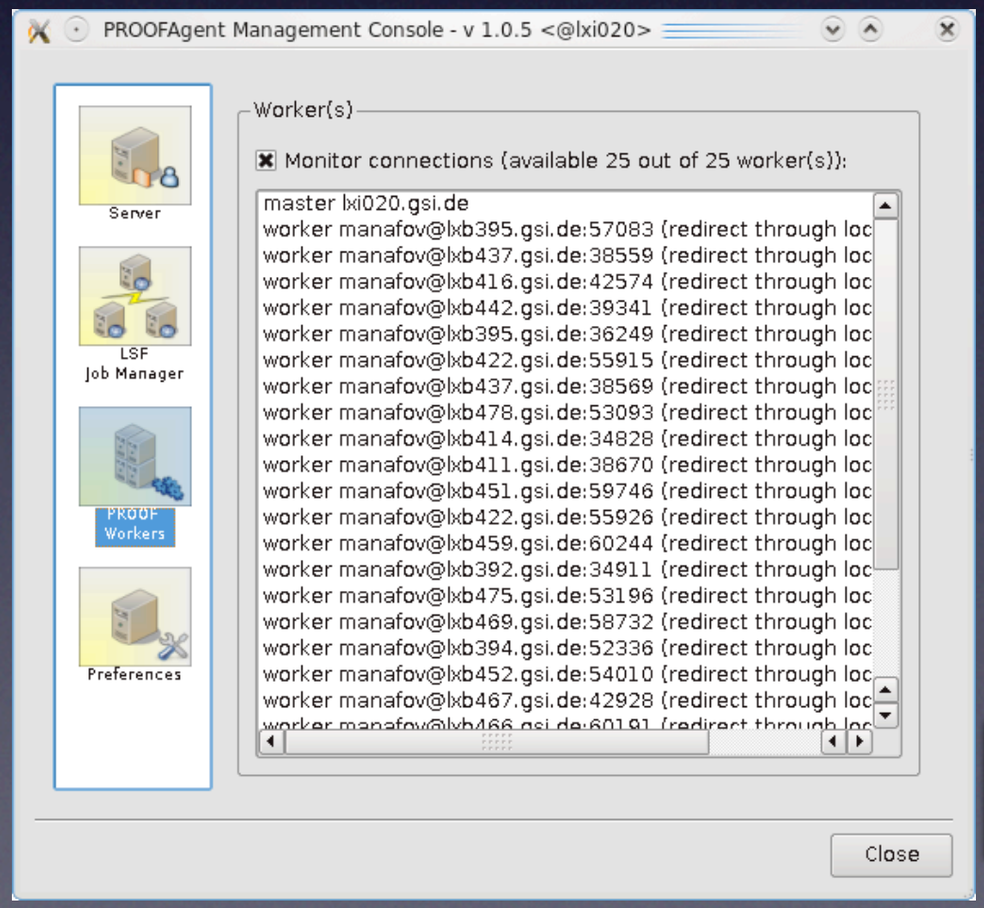
$POD_LOCATION/etc/PoD.cfg

- a value/key configuration file
- a configuration entry point for all PoD modules
- makes it easy to relocate PoD distribution

pod-console

- monitoring sensors are less aggressive now
- update only what is visible
- sleep if it's idle - currently under development





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PoD utilities

- introduced a new algorithm for the automatic port mapping
- a better handling of concurrent PoD workers or servers on a single multi-core machine
- a job wrapper script got an updated output format

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PoD vs GSI's static PROOF

Tests processed by Markus Fasel <M.Fasel@gsi.de>
This is a typical complex user analysis task.
Number of files: **10511** (1048184 events), on lustre.
Number of PoD workers: **152**
Number of GSIAF workers: **152**

	Start-up time	Library load	File validation	Init	Processing rate	Merging	Total analysis time
PoD	0m 30s*	0m 28s	0m 14s	0m 36s	1271 evt/s	5m 16s	19m 38s
GSIAF	0m 0s	0m 16s	0m 13s	0m 17s	1080 evt/s	24m 3s	39m 0s

* the start-up time for jobs ranges from a few seconds to a several minutes, depending on the occupation of job queues, priorities. There is a dedicated queue in GSI for PoD, which is preemptive. When in this queue users get workers extremely fast.

PoD
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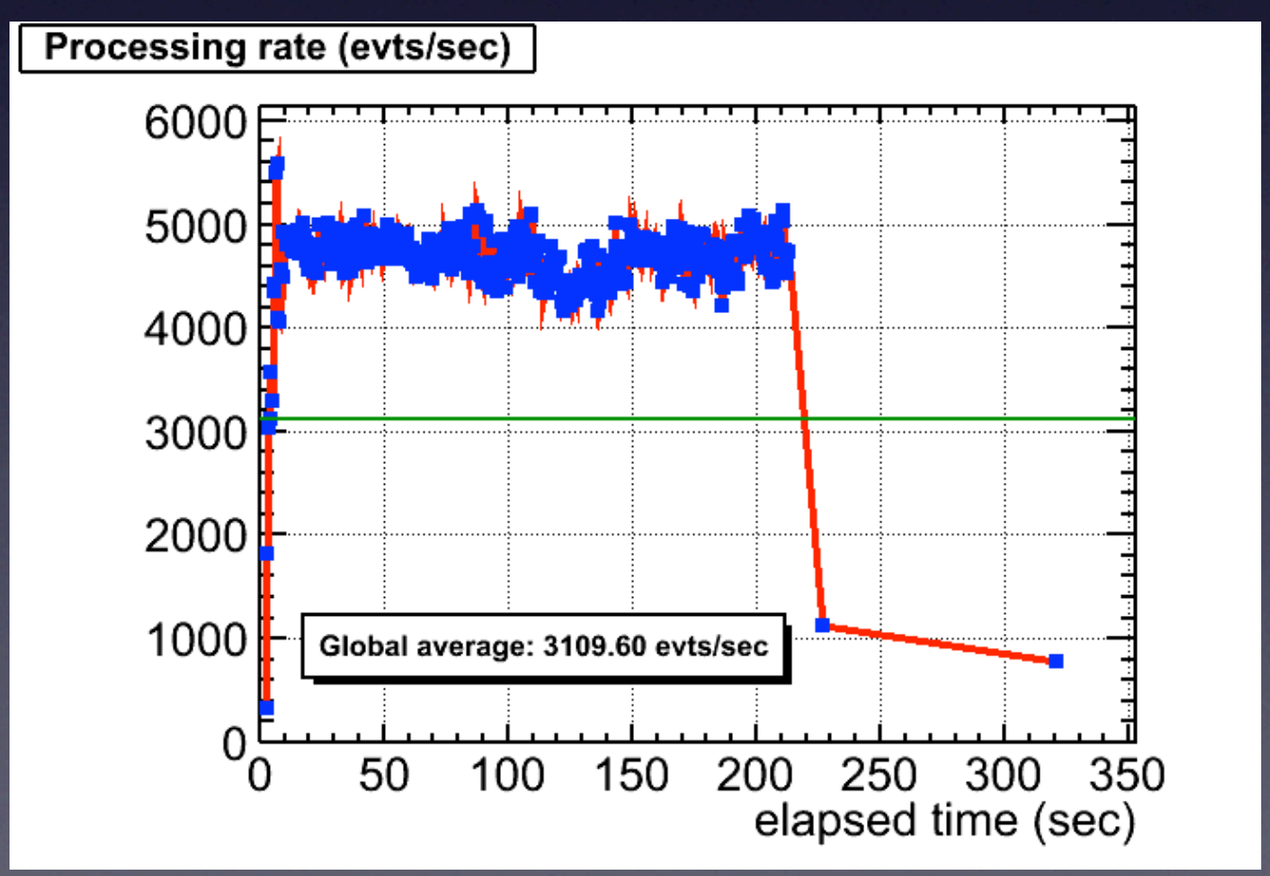
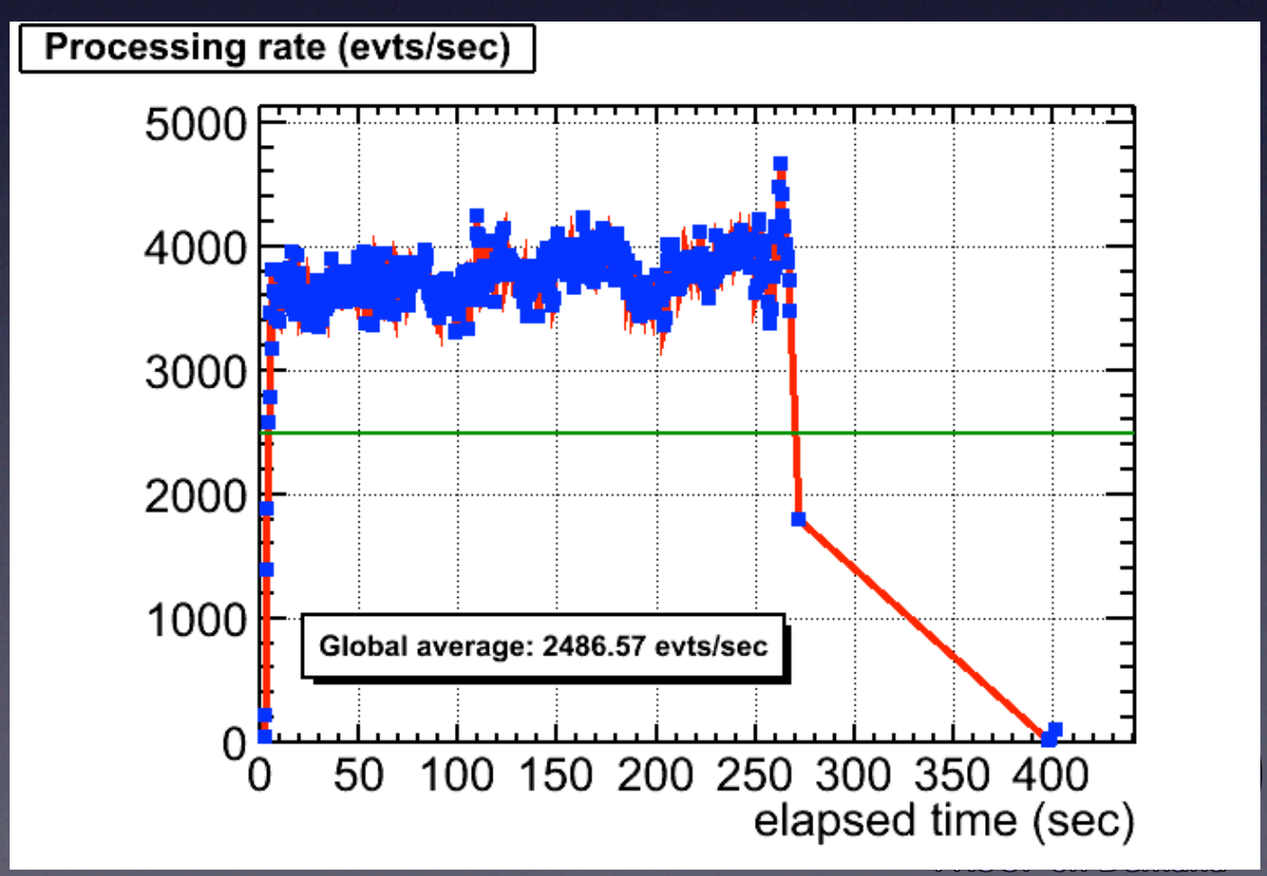
PoD vs GSI's static PROOF

Tests processed by Jacek Otwinowski <J.Otwinowski@gsi.de>
This is a Pt analysis task.
Number of files: **10000**, on lustre.
Number of PoD workers: **152**
Number of GSIAF workers: **152**

PoD



GSIAF



ToDo

- pod-console: sleep if there is no interaction
- pod-console: a slight redesign of the GUI
- pod-agent: use the packet-forwarder only if it's needed
- pod-agent: looking forward for some more speed improvements
- an SSH plug-in development

documentation: http://www-linux.gsi.de/~manafov/D-Grid/docz/
source browser: http://depc218.gsi.de:22222/git/
trac: https://subversion.gsi.de/trac/dgrid
blog: http://proof-on-demand.blogspot.com/

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