Lustre

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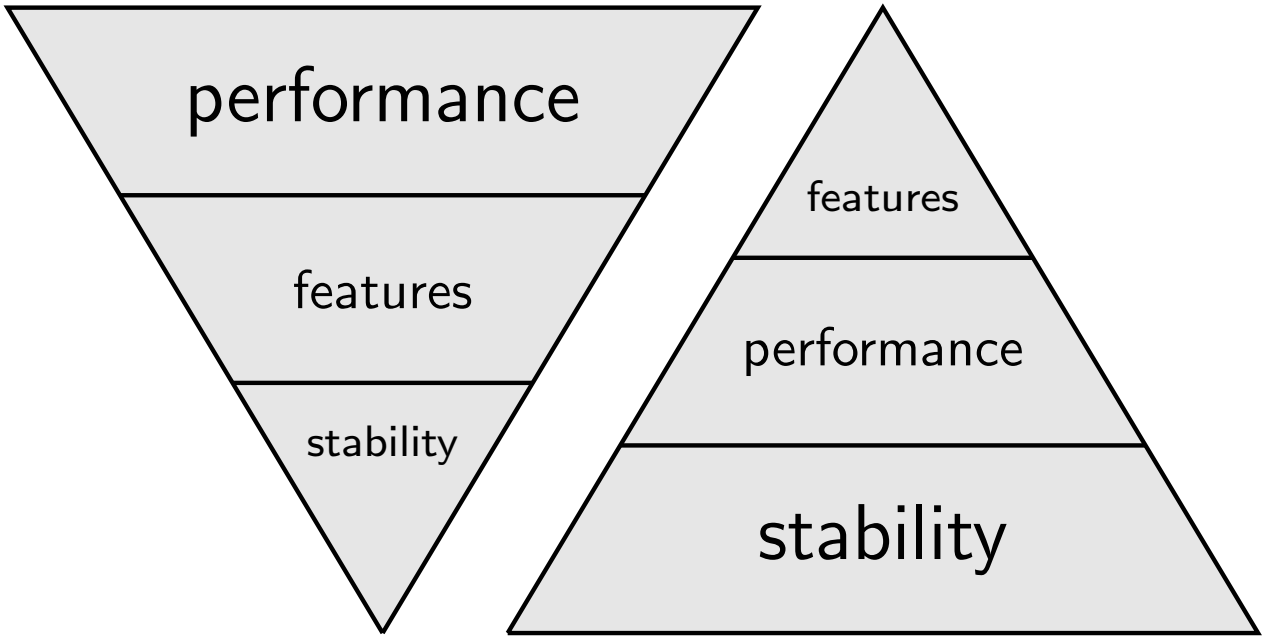
Outline

What is Lustre

parallel, scaling, for clusters, based within linux kernel...

The Project

Goals



2007
"it's a science project"
(prototype)

2010
used in high-performance
production environments

History

- started as a research project in 1999 by Peter Braam
- Braam founs **Cluster File Systems**
- 1.0 released in 2003
- **Sun Microsystems** aquires Cluster File Systems in 2007
- **Oracle Corporation** aquires Sun Mircrosystems in 2010
- Oracle ceases Lustre development, many new Organizations continue development, including **Xyratec**, **Whamcloud**, and more
- in 2012, **Intel** aquires Whamcloud
- in 2013, Xyratec purchases the original Lustre trademark from Oracle

Who is involved?

Oracle *no development*, only pre-1.8 support

Intel funding, preparing for *exascale computing*

Cray funding, development (Titan Supercomputer)

Xyratex hardware bundling

OpenSFS (Open Scalable File Systems) "keeping Lustre open"

EOFS (EUROPEAN Open File Systems) (community collaboration)

FOSS Community many joined one of the above to help development (e.g. Braam works for Xyratex now)

DDN, Dell, NetApp, Terascala, Xyratex storage hardware bundled with Lustre

Supercomputers

Titan & Co. use it!

Lustre Architecture

Performance

Conclusion

- still heavyly developed
- many interested/involved companies
- actively used in HPC clusters
- well scalable
- throughput depends on network
- Linux 2.6 (Redhat Enterprise Linux, CentOS) only

References

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