



Intel® and Lustre*

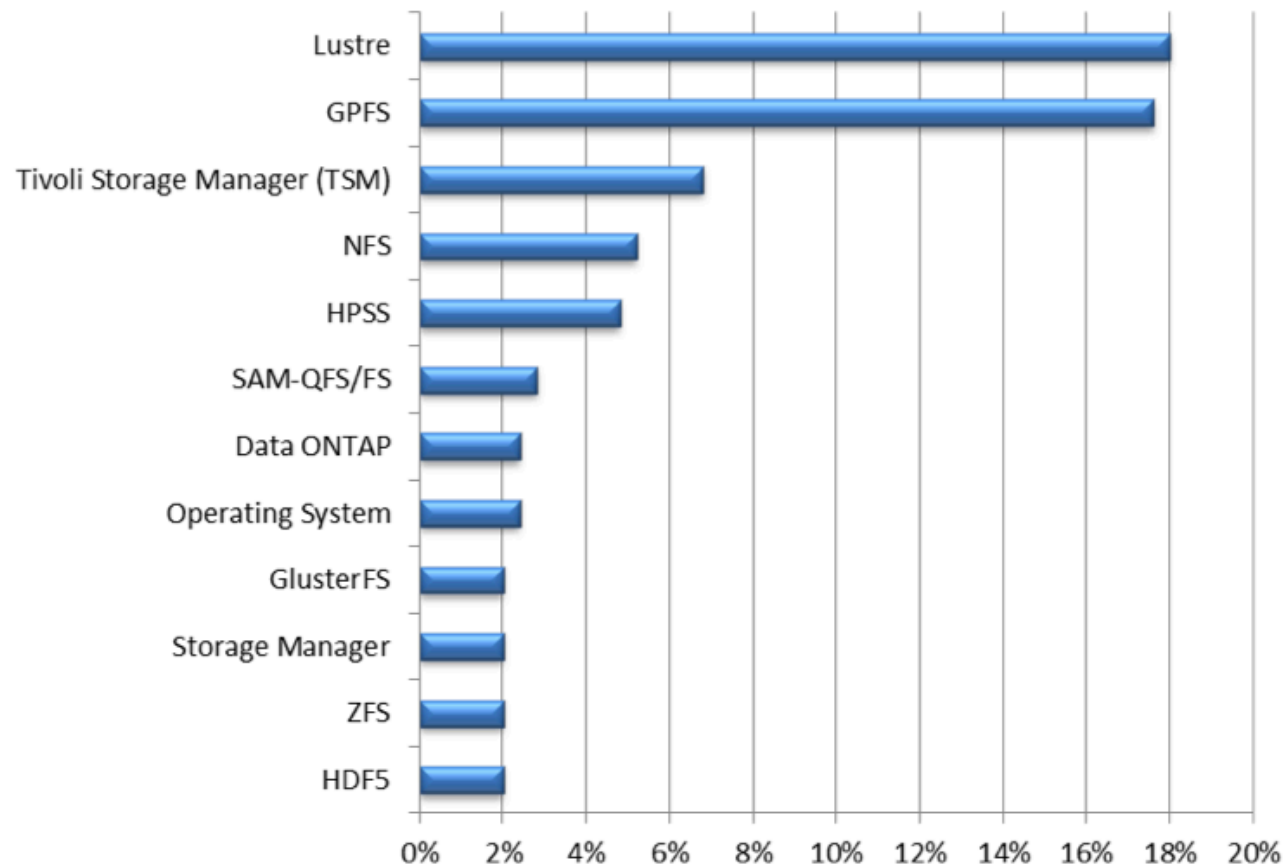
Growth of Lustre Adoption and Intel's continued commitment

Brent Gorda
General Manager
High Performance Data Division



The competition is clear

Figure 12: Top Storage Management Software Provided by Surveyed HPC Sites
N=246 mentions



HPC User Site Census: Middleware – April 2014

Source: Intersect360 Research, 2013

Intel® Lustre Products

Intel® is the leading contributor to the Lustre project

We make Lustre for your storage platform

Our strategy is to:

- **Lead the community out of the single-vendor era, for broader community participation**
 - **Support and help OpenSFS* as the community grows**
 - **Transition to community-led releases**
- **Broaden the reach of Lustre by adding value through features and support**
 - **Intel® Manager for Lustre, Hadoop* Adaptors for Lustre, Cloud Edition, ZFS*, more**
- **Provide leading quality, features, and worldwide support**



Natural progression to OpenSFS + EOFS

Community Driving Roadmap and Releases

- Feature releases to come from OpenSFS
- Intel® is participating with donation of effort, plus help for transition
- Intel® is on the OpenSFS Board
- New chairperson position is open

Alignment is a core need of the Lustre community

- Let's focus efforts to go after GPFS* as we grow Lustre

Intel® Corporation's work on Lustre

With greater community participation on feature releases:

- **Frees up a significant amount of resources**
- **We are putting this leading talent to work for our customers**
- **Enabling more effective competition with GPFS**

In addition, we are hiring for new projects

- **User-space programmers needed for DAOS work**
- **Intel® suite of Lustre Products**

Intel® Supported Solutions for Lustre

Intel® ENTERPRISE Edition for Lustre software

- Maximum performance with minimal complexity and cost for multi-petabyte file systems
- Operational simplicity, combined with flexible, extensible, productive storage
- Simplified installation, configuration, management provided by Intel® Manager for Lustre

Intel® CLOUD Edition for Lustre software

- Cost-effective access to parallel storage on Amazon Web Services* (AWS) to boost cloud
- Multiple support options available

Intel® FOUNDATION Edition for Lustre software

- Delivers the latest functions and features, fully supported by Intel®
- Ideal for organizations that prefer to design and deploy their own open source configurations and want to augment in-house management /support with Intel® expertise

Intel® Enterprise Edition for Lustre Software v2.2

- ZFS + IML support for ZFS
- Dynamic Kernel Module Support (DKMS)
- Intel® TrueScale Fabric support
- Intel® Xeon Phi™ Coprocessor support
- Intel® Labs DSS caching software
- Support for Red Hat* Enterprise Linux* 6.6
- IOPS Read/Write Heat-Maps
- Apache* Hadoop 2.5 compatibility (optimized)
- Cloudera* Hadoop 5.2 compatibility (optimized)
- Robinhood Policy Engine
- SUSE* Linux* Enterprise Server Support
- Support for Hadoop (optimized) with HPC scheduler



Supported by Intel's WW support team



Intel® Foundation Edition for Lustre software

Intel® proudly announces fully supported Maintenance Releases for the most adopted versions of Lustre:

- Intel® FE for Lustre Software v2.5.4 (available today)
- Intel® FE for Lustre Software v2.7.1 (targeted availability Q3-2015)

Available as part of a support relationship with one of Intel's more than 100+ Lustre partners and OEM's world wide. And backed by our WW support team 24x7x356.

Additional Maintenance Releases available as demand requires.



Intel® Lustre Partners (now > 100)

2CRSI	ATIPA Technologies - Microtech Computers, Inc. (Kansas)	Cluster Technology Limited	Dot Hill Systems Corp.	HGST, a Western Digital Company	KAUAC	Oxalya OVH	R Systems Na, Inc (R-HPC)	System Fabric Works
4cube Solutions	Bay Microsystems	ClusterVision	E4 Computer Engineering	HP	LaSalle Systems	Paragon Micro	Saratoga Speed	Talladega Systems, Inc.
Adaptive Computing	Berkcom	Colfax International	Eclipse Holdings	HPC Middle East HPCME	Locuz	PARATERA Beijing	SAS Institute	TechTerrain
Advanced Clustering Technologies	Bioteam, Inc	Compecta	EMC Corp	HPCNow!	Lufac	PC Omega	Scalable Informatics	Terascale
Advanced HPC	Boston Limited	Corporate Technical Enterprise Integration	Huawei	NEC GMBH	PCPC DIRECT, LTD.	Science+Computing	Transtec Ag	
Aeon Computing	Bright Computing	Cray Inc.	Even Enterprises Inc	Inspur	NetApp	Penguin Computing	Scientec	UltraScale, Inc.
Alces Software Ltd.	Broadcasting Center Europe BCE	Cycle Computing	eXcellence in IS Solutions, Inc	Instrumental Inc.	NetProject (Russian Federation)	Professional Service Super Computer Labs - PSSC	Script Information Technologies	VA Technologies
ALINEOS	Bull	DALCO	Exeliz	Integrated Archive Systems	Network Technologies Mexico	Q-Lustar	SGL, Inc.	Vion
Alpha System	Business Connexion	DDN	Format	Integrity Solutions	NJ Dataprint Pvt Ltd	RAID Inc.	SICORP	Wipro Technologies
AMT	ByteScale Technologies	DDN Japan	Fujitsu America	International Computer Concepts (ICC)	Northern Computer Technologies [Nor-Tech]	R-Associates Inc.(RAI)	Silicon Mechanics, Inc.	XENON Systems
APEX CNS	Bytes System Integration	Dell Inc.	Harrington HPC Microsystems	ISBC	NOVATTE	Reachcloud	Source Code Corporation	
Area Data System	Caton Sistemas Alternativos	Delta Computer Products	Harwood International Corp.	IT Group Indonesia	Ocf	Redapt	Supermicro Computer, Inc.	
Aspen Systems, Inc.	Cluster Kit Co.	DFI	HDS - Hitachi Data Systems	JNET2000	One NFO Systems Sdn Bhd	RSC	Swish Data	

*Other names and brands may be claimed as the property of others.



Legal Information

- No license (express or implied, by estoppel or otherwise) to any intellectual property rights is granted by this document.
- Intel disclaims all express and implied warranties, including without limitation, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement, as well as any warranty arising from course of performance, course of dealing, or usage in trade.
- This document contains information on products, services and/or processes in development. All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest forecast, schedule, specifications and roadmaps.
- The products and services described may contain defects or errors known as errata which may cause deviations from published specifications. Current characterized errata are available on request.
- Copies of documents which have an order number and are referenced in this document may be obtained by calling 1-800-548-4725 or by visiting www.intel.com/design/literature.htm.
- Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at <http://www.intel.com/content/www/us/en/software/intel-solutions-for-lustre-software.html>.
- Intel may make changes` to specifications and product descriptions at any time, without notice.
- Any code names featured are used internally within Intel to identify products that are in development and not yet publicly announced for release. Customers, licensees and other third parties are not authorized by Intel to use code names in advertising, promotion or marketing of any product or services and any such use of Intel's internal code names is at the sole risk of the user.
- *Other names and brands may be claimed as the property of others.
- Intel, Intel Inside, the Intel logo and Xeon Phi are trademarks of Intel Corporation in the United States and other countries.
- Material in this presentation is intended as product positioning and not approved end user messaging.
- © 2015 Intel Corporation

Thank You.

