European OFS Cooperative Society (SCE)
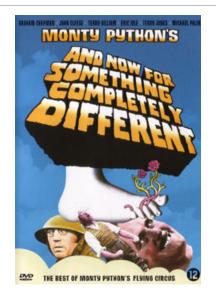
Lustre in Europe after the Oracle deal

Christian Bolliger
University of Zurich IT-Services

Overview

A Brief History of Lustre

1999	Lustre Project started at CMU by Peter Braam	Lustre 0
2001	Clustre File Systems (CFS) founded	
2002	Contract with DOE	
2004	Lustre on Blue Gene/L (#1)	Lustre 1.2, 1.4
2006	CFS CEO: P.Braam, VP: P.Bojanic	
2007	CFS sold to Sun	Lustre 1.6
2009		Lustre 1.8
2010	Sun sold to Oracle	

Source: Peter Braam

What Oracle provides

- «Lustre remains open source and freely accessible»
- Emphasis on appliances (educated guess)
- Improvements like: $> 16TB$ ldiskfs, $> 2TB$ OST objects, error messages
- «The Lustre team welcomes external contributions»
- «Oracle will continue to manage Lustre code, avoiding forks»

Source: Anderas Dilger, Oracle Corporation, Lustre Technical Lead

Worries of the Stakeholders

- Lustre 2.x support will be continued and supported under Oracle Enterprise Linux only (no SLES server)
- No support for software only deployment
- Development focus on Oracle HW (appliances)
- ZFS is only available on Solaris (contradiction to SUN), no end-to-end data integrity under Linux
- Supercomputing on research sites is not of interest for Oracle
- Oracle's communication about its future plans is not very clear

Lustre Community

The lustre community is not too big, but consists of potent stakeholders like

- US National Labs (LLNL, Sandia, LANL, ORNL, . . .)
- European Supercomputing Centers (JSC, BSC, Univ. Manchester, CEA, . . .)
- Major hardware vendors (HP, Bull, Cray, DDN, Melanox, . . .)
- Specialized storage companies (xyratex, Whamcloud)
- and of course Oracle

Community Goals

- Collaboration of all stakeholders
- No fork (no forked source tree)
- Future development for Lustre on Linux
  - End-to-end data integrity
  - Improved backup / HSM
  - HW compatibilty to big storage suppliers
- Future level-3 support
  - Contact to developers / real experts
  - Open information flow
  - Comprehensive documentation

Community Organizations

- OpenSFS (http://www.opensfs.org/)
  - Main members US research labs
  - Full member fee $500k, adopters $50k
- HPCFS (http://www.hpcfs.org)
  - Worldwide community organization
  - US based, broader community than OpenSFS
  - founded June 2010
- European OFS Cooperative Society (SCE)
  - Organization for European stakeholders
  - Incorporation planned for December 2010

European OFS Cooperative Society (SCE) I

- Initiated by Jülich Supercomputing Center (JSC)
- Project lead ParTec Cluster Competence Center GmbH
- Founding members (depending on final decisions of companies/institutions):
  - JSC
  - ParTec
  - HP
  - LRZ
  - Mellanox
  - Bull
  - xyratex
  - BSC
  - UZH

European OFS Cooperative Society (SCE) II

Purpose according to the bylaws:

1. to promote the establishment and adoption of open source parallel file-systems, sustain and enhance its quality, capabilities and functionality and ensure that specific requirements of European organizations, institutions and companies are upheld.

2. to facilitate the extension of business operations to non-members.

3. to ensure that engagement and activities with other organizations will not directly or indirectly interfere with the intellectual property or other contractual and legal obligations of its members.

4. to operate as a non-profit organization.

Q & A, discussion

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