LUSTRE USER GROUP WELCOME

April 28, 2008

Peter Bojanic
Director Lustre Group
Sun Microsystems, Inc.
Welcome

1st LUG 2003
PPNL, Washington

2nd LUG 2004
Maui, Hawaii

3rd LUG 2005
Snowbird, Utah

6th LUG 2008
Sonoma, CA

3rd LUG 2006
Hilton Head, S. Carolina

5th LUG 2007
Miami Beach, Florida
## Lustre Community Participation

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Registrants</th>
<th>Lustre Group</th>
<th>Sun</th>
<th>Other paid registrants</th>
<th>Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miami Beach, FL</td>
<td>68</td>
<td>9</td>
<td>1</td>
<td>58</td>
<td>40</td>
</tr>
<tr>
<td>Sonoma, CA</td>
<td>124</td>
<td>23</td>
<td>10</td>
<td>91</td>
<td>51</td>
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</tbody>
</table>

### Lustre.org Mailing List Activity

- **lustre-devel**
- **lustre-discuss**

![Mailing List Activity Chart](chart.png)
Thank You

• Sponsor DataDirect Networks

• Andy Bechtolsheim keynote presentation 9am Tuesday

• Zhang Yun and Karen Li for coordinating the event

• Our users, including customers and partners, for taking the time to participate
CFS Acquisition

• Oct 1, 2007 the Sun acquisition of CFS closed
  > The theme is continuity
  > All employees, partners or customers were retained

• Lustre remains open source under GPL
  > All designs and the internals course are on lustre.org
  > CVS is open
  > Architecture discussions now on lustre-devel

• Sun continues to work with CFS partners
  > Foster Lustre community and encourage more partnerships
  > No special versions of Lustre for anyone
First 6 Months at Sun

• Business and process integration
• Establishing firewalls to protect the interests of our partners
• Networking with product and operational groups
• Establishing a Lustre ecosystem
• Sun is a good fit for the Lustre Group!
Lustre Group

All of the same CFS crew

- Here this week: Eric Barton, Peter Bojanic, Peter Braam, Kevin Canady, Nikita Danilov, Andreas Dilger, Oleg Drokin, Jessica Johnson, Peter Jones, Bryon Neitzel and many engineers

Several new players

- Dan Ferber, Shailu Gargeya, Hua Huang, Nirant Puntambekar, Mallik Ragampudi, Robert Read, Terry Rutledge
- New HPC Software Stack team: Larry McIntosh, Makia Minich

Unprecedented LUG participation by Lustre engineers

- More than 10 Lustre Engineers here this week
- *Lustre Expertise* session on Tuesday
Partners
Lustre Community

The Lustre Community continues to thrive

• Strong support by Sun

Lustre Centres of Excellence

• CEA – Data Management
• LLNL – Site Wide Filesystem
• NRL – Wide Area Lustre
• ORNL – Petascale deployment

Ambitious community efforts

• HSM development effort led by CEA
• Linux ZFS/DMU research with LLNL
• WAN project discussions in progress
Accomplishments in 2007

• Lustre 1.6.0 including patchless clients
• Metadata performance improvements
• Smoking fast disk allocator
• Fast fsck & format
• LNET diagnostic self test
• Improved release management and test processes
Top Lustre Group Goals for 2008

HEAD to good
• Fix bugs; release Lustre 2.0

Lustre on ZFS/DMU
• DMU performance; Solaris; user space servers

Understand our product better
• Benchmarking; API (re-)structuring; documentation

Predictable execution
• Estimates, planning, branch/gate control

Global support and service
• Professional services; 24x7 support around the world
What to Expect in 2008

• Lustre on ZFS/DMU
  > Elimination of server kernel patches
• Recovery and metadata improvements
• Security – GSS/Kerberos
• Replication and change logs
• Network Request Scheduler
• Scalability improvements
• Community progress on HSM support
• In general, a maturing Lustre
  > Sufficiently robust for global file systems
## Agenda

<table>
<thead>
<tr>
<th>TIME/DATE</th>
<th>APRIL 28 MONDAY</th>
<th>APRIL 29 TUESDAY</th>
<th>APRIL 30 WEDNESDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 AM - 9 AM</td>
<td><strong>BREAKFAST</strong></td>
<td><strong>BREAKFAST</strong></td>
<td><strong>BREAKFAST</strong></td>
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<tr>
<td>9 AM - 9:30 AM</td>
<td>Welcome &amp; Introduction</td>
<td>Keynote speaker</td>
<td>Joint CEA/NNSA BoF on PetaScale I/O Issues</td>
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<tr>
<td></td>
<td>- Peter Bojanic, Director, Lustre Group, Sun</td>
<td>- Andy Bechtolsheim</td>
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<tr>
<td>9:30 AM - 10 AM</td>
<td>Lustre Business Update</td>
<td>Scientific Application Performance with Lustre</td>
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<td></td>
<td>- Kevin Canady, Director of Business Development, Sun</td>
<td>- Tom Wang, Lustre Group, Sun</td>
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<tr>
<td>10 AM - 10:30 AM</td>
<td>Lustre Engineering Update</td>
<td>Lnet Selftest</td>
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<td></td>
<td>- Eric Barton, Lustre Lead Engineer, Sun</td>
<td>- Isaac Huang, Lustre Group, Sun</td>
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<tr>
<td>10:30 AM - 11 AM</td>
<td>COFFEE BREAK</td>
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<tr>
<td>11 AM - 11:30 AM</td>
<td>Lustre Talk: TBD</td>
<td>BoF on Lustre over WAN</td>
<td>Lustre Technical Panel</td>
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<td>11:30 AM - 12 AM</td>
<td>Peter Braam, VP of Lustre, Sun</td>
<td>- Eric Barton, IU, ORNL, TACC</td>
<td>- Eric Barton, Shane Canon, Steve Simms</td>
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<td>12 AM - 1 PM</td>
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<tr>
<td>1 PM - 1:30 PM</td>
<td>Lustre Roadmap Update</td>
<td>Lustre Tools Session - Backup &amp; Quota</td>
<td>WRAP UP</td>
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<td>- Bryon Neitzel, Lustre Group, Sun</td>
<td>- Nicholas P. Cardo, LBNL</td>
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<td>1:30 PM - 2 PM</td>
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<td>Lustre Tools Session - Shine, Administration Tool</td>
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<td>- Stephane Thiel, CEA</td>
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<td>2 PM - 2:30 PM</td>
<td>Lustre at LLNL</td>
<td>Lustre Partner : DataDirect Networks</td>
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<td></td>
<td>- Marc Stearman, LLNL</td>
<td>- Dave Fellinger, DDN</td>
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<td>2:30 PM - 3 PM</td>
<td>COFFEE BREAK</td>
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<td>3 PM - 3:30 PM</td>
<td>A Global File System with Lustre &amp; LNET Routers</td>
<td>Lustre Expertise Session</td>
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<td></td>
<td>- Shane Canon, ORNL</td>
<td>1. Userspace Server Architecture</td>
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<td>3:30 PM - 4 PM</td>
<td>DARPA HPCS Project</td>
<td>- Alex Zhuraviev</td>
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<td>- John Carrier, Cray</td>
<td>2. Lustre on ZFS</td>
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<td>4 PM - 4:30 PM</td>
<td>ILM - Lustre HSM</td>
<td>- Ricardo Correia</td>
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<td>- Aurelien Degremont, CEA</td>
<td>3. NFS/pNFS export</td>
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<td>4:30 PM - 5 PM</td>
<td>Customer Support &amp; I/O Applications from a LLNL</td>
<td>- Oleg Drokin</td>
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<td>Perspective - Richard Hedges, LLNL</td>
<td>4. Lustre Clustered MetaData (CMD)</td>
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<td>- Andreas Dilger</td>
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<td>6 PM - 8 PM</td>
<td><strong>EVENING RECEPTION</strong></td>
<td>5. Metadata Server Stack</td>
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<td></td>
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<td>- Nikita Danilov</td>
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<td>6. Metadata Performance with Size on MDS</td>
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<td>- Vitaly Fertman</td>
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pbojanic@sun.com