

Tiering Storage (around Lustre) for Big Data and Supercomputing Jason Goodman, Cray

# **Safe Harbor Statement**

This presentation contains forward-looking statements that are based on our current expectations and/or expectations at the time the statement was made. Forward looking statements may include statements about our financial guidance and expected operating results, our opportunities and future potential, our product development and new product introduction plans, our ability to expand and penetrate our addressable markets and other statements that are not historical facts. These statements are only predictions and actual results may materially vary from those projected. Please refer to Cray's documents filed with the SEC from time to time concerning factors that could affect the Company and these forward-looking statements.

# **About Cray**





### Seymour Cray founded Cray Research in 1972

• 1972-1996, Cray Research grew to leadership in Supercomputing

**Financials** 

• 2016: 825M goal

• 2015: 725M (15% in commercial)

- 2000 present, Cray Inc.
- Cray Inc. formed in April 2000



### Cray Inc.

- NASDAQ: CRAY
- Over 1,200 employees in over 30 countries

#### **Three Focus Areas**

- Compute Supercomputers and Clusters
- Storage High Performance Storage and Data Management
- Analytics Big Data and Graph Analytics



#### Seven Major Development Sites:

- Austin, TXBristol, UK
- Chippewa Falls, WI
- Pleasanton, CA

- San Jose, CA
- St. Paul, MN
- Seattle, WA

# **Cray's Global Growth**





# "The Supercomputing Company"

# Supercomputing

\$4B Market Growing at 7-9% (CAGR through '19)

# **Big Data**

Storage: \$2B at 8-10% Analytics: \$1B at 20-25% (CAGR through '19) **Our Vision** 



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### **Modeling The World** Convergence of Supercomputing with Big & Fast Data



**Focus Areas** 





### A Workflow Approach for a Data-Intensive World

# **Recent Highlighted Systems**











\$174M Next-Gen Cray XC 8X perf increase 82PB Sonexion 1.7 TB/s I/O

Argonne

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Cray/Intel partnership Cray XC & Next-Gen Cray "Shasta" 180PF (18x increase) Next-Gen Storage







### Cray Growth in Weather, Climate and Oceanography over the Last Two Years



# **Today Show on Weather Models**





**Beyond Lustre HSM** 



# Cray Storage for Big Data and HPC - Span Entire Data Lifecycle



### **Automated Coordination Across Storage Tiers**





(15)

Leadership in HPC Storage Solutions

Founder and Promoter of OpenSFS



End-to-End Data Tiering Solutions Strong Financials and Outlook



# **Questions?**

# The future is seldom the same as the past

Seymour Cray June 4, 1995

