Starting mid-2001, Cray will offer world’s first production-oriented clusters, based on Alpha Linux and scalable to 1000s of processors.

Superior performance and increasingly powerful data center features in the tradition of the world record-holding Cray T3E system.

Driven by customer demand for higher-capability large-scale clusters.

Combines innovative Cray architecture & system software with powerful, “network-aware” CS20 1U servers from API NetWorks, Inc.
Value Proposition

- Superior Performance On Wide Range of Problem Sizes & Workloads
  - Cray high-bandwidth architecture scales to 1000s of processors
  - Cray UNICOS/mk feature set re-implemented for use with Linux
  - API NetWorks’ “network-aware” CS20 1U servers based on Alpha, the fastest commercially available 64-bit processor
  - Myrinet cluster interconnect network from Myricom Corp.
  - Small (2-processor) SMP nodes enable higher per-processor bandwidth for scaling performance on large problems

- Superior Capabilities for Technical Data Centers (Cray UNICOS features):
  - Global checkpoint/restart
  - Global resource management
  - High availability (strong RAS features)
  - Efficient job scheduling, prioritization and accounting

- Superior Cost-Effectiveness:
  - Cray quality and service at attractive pricing (to be announced)
  - 2-processor SMP nodes permit expansion in small increments

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Target Market

- Technical data centers in large, production-oriented research & engineering supercomputer sites:
  - Government (classified, research)
  - Industry (automotive, life sciences, petroleum, weather/environmental)
  - Academia (leading university-based computing centers)

- Typical Requirements:
  - Support 100s-1000s of demanding users/jobs
  - Handle wide variety of jobs sizes and workloads
  - Efficiently scale large problems to large system sizes
Chassis Design
Cray – API Alliance

- Multi-year OEM and marketing alliance.
- Cray provides access to high-end supercomputing market (scalable to 1000s of processors) for API NetWorks.
- Cray provides data center production features, based on decades of experience in supercomputing.
- API NetWorks provides latest high-performance Alpha technology.
- API NetWorks’ densely packaged 2-processor CS20 servers will be the nodes for Cray SuperCluster systems.
- Cray and API NetWorks will co-promote their brands.
“In highly parallel computing, Cray’s pioneering T3E has long been the platform of choice for solving the most demanding technical problems. Cray’s new SuperCluster builds on that heritage and extends Cray’s parallel computing leadership by taking advantage of the rapid improvements in off-the-shelf technology while retaining the valued UNICOS/mk functionality.”

“Scyld believes the Supercluster is a pioneering initiative that will produce a strong, differentiated platform capable of fully exploiting the best available commercial technologies, such as Scyld's Beowulf operating system. Cray’s extensive experience with high performance computing will create a very powerful product that will meet the demanding requirements of mission critical and other production-oriented supercomputing customers.”
Donald Becker, CTO and founder of Scyld Computing Corporation

“We look forward to adding a SuperCluster to our arsenal of Cray products. Between the vector Cray SV1 systems and this new entry in the cluster market, Cray provides a powerful integrated approach for the gamut of grand challenge computational drug design problems.”
Dr. Fred Hausheer, CEO, BioNumerik Pharmaceuticals, Inc.

“Over the years, ARSC has taken delivery of a number of systems from Cray, allowing our users to be highly productive. We believe that Cray will bring the same high standard to their SuperCluster system that we have seen in their vector and MPP systems.”
Dr. Frank Williams, director, Arctic Region Supercomputing Center (ARSC)

“National supercomputer centers like ours, which provide leading-edge computational facilities to hundreds of researchers in academia and industry, will highly welcome Cray’s entry into the cluster market.”
Prof. Dr. Roland Rühle, director of the Regionales Rechenzentrum of the University of Stuttgart and the Stuttgart High Performance Computer Center (Germany).
“We are developing next-generation software to model arbitrary shapes with tens of millions of degrees of freedom. This software will require a system like the Cray SuperCluster that will deliver tens of teraflops of sustained computing power.”

Professor Shinobu Yoshimura, ADVENTURE Project, University of Tokyo

“At MCube, the demanding problems our customers bring to us are requiring higher and higher levels of scalability. The Cray SuperCluster’s exceptional scalability and production-oriented operating system environment will allow us to offer powerful solutions in a real-world environment.”

Dimitri Nicolopoulos, director of Marseille, France-based MCube, a leading provider of simulation software to automotive companies and other manufacturers worldwide

“We are very excited to hear about Cray’s plans for the SuperCluster. Our flow solvers are designed to map directly onto a distributed memory parallel architecture like that used for the new Cray platform. The direction Cray is taking is ideal for us at Fluent, since we also place a heavy emphasis on delivering the benefits of scalability to our customers.”

Dipankar Choudhury, CTO, Fluent

“In the 30 years we have been in business, we have witnessed the growth from central serial computers to distributed massively parallel UNIX and LINUX platforms. The current requirements for 3-D aerodynamic shape optimization demand a Beowulf concept with a supercomputer basis, and the Cray SuperCluster promises to deliver the necessary performance.”

Dr. Frank A. Dvorak, president, Analytical Methods, Inc.

“Our agreement with Cray opens new doors for our company and the Alpha platform. We have seen major growth in Alpha sales with the Linux platform. Our partnership with Cray promises to bring Alpha Linux into the largest engineering and research organizations, where it will be applied to some of the world’s most challenging problems.”

Gerry Talbot, president and CTO, API Networks
Market Reactions (3 of 3)
# Cray Product Family

<table>
<thead>
<tr>
<th>Product</th>
<th>Release Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cray SuperCluster</td>
<td>Mid-2001</td>
<td>Highest-capability clusters</td>
</tr>
<tr>
<td>Cray T3E</td>
<td>Current</td>
<td>Highest-capability MPP supercomputers</td>
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<tr>
<td>Cray SV1</td>
<td>Current</td>
<td>Cost-effective vector supercomputers</td>
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<td>Cray MTA-2</td>
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<td>Revolutionary multithreaded supercomputers</td>
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<td>Cray SV2</td>
<td>2h2002</td>
<td>Extreme supercomputing beyond the range of clusters</td>
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About Cray Inc.

*Providing the world’s most powerful supercomputing tools to help solve customers’ most challenging problems*

- Global supercomputer leader: MPP, vector, general-purpose parallel
- $2 billion installed base of about 600 supercomputers
- Formed April 2000: Tera Computer & Cray Research businesses
- 900 employees in Seattle (HQ), Midwest and around the world
- Current world record for sustained computing speed, 1.02 trillion calculations/second (teraflops)
- NASDAQ: CRAY   www.cray.com
- Contact Steve Conway: 651-592-7441
About API NetWorks, Inc.

Powering the world’s most advanced high performance computing (HPC) and network infrastructure solutions

- Established: June 1998
- Major investment from Samsung Electronics and Compaq
- Headquartered: Concord, Massachusetts
- Over $200 million in 2000 revenue ($130 million in 1999)
- Approximately 85 employees
- Key alliances with Samsung, Compaq, AMD, Cray et al.
- Contact Guy Ludden: 978-318-1142  www.api-networks.com