

# Orion Solves Scientists Problems: Supercomputer on a Desktop

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***96-node Deskside and 12-node Desktop Cluster Workstations are  
Highest Performance Office or Lab Computers***

Orion Multisystems, Inc., a company founded by computer industry veterans, today announced two models of the Orion Cluster Workstation, the highest performance general-purpose computing platform that can be plugged into a standard wall outlet and used in an office or laboratory environment. Designed for the individual user, the Orion Cluster Workstation **provides [supercomputer](#) performance for engineering, scientific, financial and creative professionals who need to solve computationally complex problems.**

"An important need exists in research and industry for very high performance computers for individual users, because currently available systems are either ad hoc collections of commodity PCs or data center-sized shared resources with expensive power and cooling costs, and systems software that lacks functionality and maturity," said Dr. Horst Simon, director, National Energy Research Scientific Computing Center (NERSC) at Lawrence Berkeley National Laboratory. The NERSC Center is the principal high performance computing resource for research funded by the U.S. Department of Energy's Office of Science, serving more than 2,500 scientists nationwide.

Orion's systems are based on clustering, which is the best means of exploiting parallelism to generate very high performance computing. An Orion Cluster Workstation is designed as a single computer. A single system board consists of twelve nodes for the desktop model, while the desktide model can scale up to 96 nodes using eight interconnected boards. The entire system boots with the push of a button and has the look, feel and ease-of-use of a personal computer. No assembly is needed and minimal configuration is required to immediately run all cluster applications.

Orion's DS-96 desktide Cluster Workstation has 96 nodes with 300 gigaflops (Gflops) peak performance (150 Gflops sustained), up to 192 gigabytes of memory and up to 9.6 terabytes of storage. It consumes less than 1500 watts and fits unobtrusively under a desk. Orion's DT-12 desktop Cluster Workstation has 12 nodes with 36 Gflops peak performance (18 Gflops sustained), up to 24 gigabytes of DDR SDRAM memory and up to 1 terabyte of internal disk storage.(1) The DT-12 consumes less than 220 watts and is scalable to 48 nodes by stacking up

to four systems.

"Orion has created a new category of systems for high performance computing," said Stacey Quandt, senior business analyst and open source practice leader, Robert Frances Group. "The first mover advantage is important for a young company looking to capitalize on transitioning shared computation resources to personalized computing across a range of industries."

Orion Cluster Workstations are the first to offer a standard Linux platform the development community can use for building cluster applications. Most current cluster installations are ad hoc systems that do not adhere to standard architectures or binary application footprints. Orion systems, with Transmeta's Efficeon(TM) processors, are built around industry standards for clustering: x86, the Linux operating system, and standard parallel programming libraries, including MPI, PVM, and SGE. Existing Linux cluster software runs on Orion Cluster Workstations without modification.

"The new Orion Cluster Workstations have the capability to significantly increase productivity in our research center, because we acquire gigabytes of imaging data per hour and there is a continuous backlog of jobs awaiting completion by our shared, high performance computing resource," said Dr. Ben Inglis, associate research physicist, Henry H. Wheeler, Jr. Brain Imaging Center, University of California at Berkeley. "The processing of these massive data sets has become a determining factor for our research progress."

Orion also announced a partnership with Wolfram Research, Inc., which pioneered the modern concept of technical computing when it launched Mathematica(R) 15 years ago. Millions of users on every continent currently use Mathematica technology. The company's gridMathematica(TM) combines the power of the world's leading

technical computing environment with modern computing clusters and grids to solve the most demanding problems in mathematics, science, engineering, and finance. With gridMathematica installed, the Orion Cluster Workstation provides a quick way to set up and run large calculations by offering a high-level programming language, a vast collection of fast and reliable mathematical algorithms, and easy-to-use parallel programming constructs on the most cost effective cluster architecture on the market.

Orion Cluster Workstations offer the first truly consistent platform upon which third party partners can build a reliable support strategy that takes advantage of the value of Linux clusters. Orion, together with The BioTeam, a highly respected Bio-IT consulting firm, is delivering a turnkey bioinformatics solution. The Orion Cluster Workstation for Bioinformatics is a 12-node Orion desktop cluster pre-installed with the award winning iNquiry software, a suite of more than 200 applications for life science researchers. Customers need only unpack the Orion Cluster Workstation, plug it into a standard outlet, boot the system in less than 90 seconds, and search gene databases on a personal Linux cluster within five minutes -- an unprecedented capability.

"We already have strong demand for our Cluster Workstations from major corporations and institutions in a variety of industries," said Colin Hunter, president and chief executive officer, Orion Multisystems. "We expect to take full advantage of the multi-billion dollar business opportunity that exists for high performance technical computing."

Orion Multisystems was founded in 2003 by computer industry veterans Colin Hunter and Ed Kelly. Both Hunter, president and CEO, and Kelly, vice president of engineering, co-founded Transmeta Corporation and have been integrally involved with several Silicon Valley companies such as Sun Microsystems, Ready Systems and others.

Orion Multisystems has a strong financial partner in Battery Ventures, a leading venture capital company in the technology industry. "We support the Orion Multisystems team, which is very well positioned to address emerging needs in high performance computing across a range of industries, academia and government," said Ollie Curme, general partner, Battery Ventures.

Orion's systems are manufactured by Flextronics, a worldwide leader in Electronics Manufacturing Services. Flextronics provides design, engineering, manufacturing, and logistics operations in 29 countries on five continents.

Orion Multisystems is engaged with multiple customers and in the coming months will announce specific companies and organizations implementing its systems.

## **System Dimensions**

Desktop Model: 18.4" (length) x 24" (width) x 3.8"(height)

Deskside Model: 25"(length) x 17" (width) x 27" (height)

## **Availability and Pricing**

The desktop model is priced at less than \$10,000 and will be available October 1st. The deskside model is priced at less than \$100,000 and will be available during the latter part of Q4.

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(1) Orion Cluster Workstation performance statements are based on the

Linpack benchmark.

Source: Orion Multisystems, Inc.

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