

New clusters emerge at supercomputing show

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Dell unveiled on Monday a new server that can be networked into a single high-performance technical computer.

Hewlett-Packard made a similar announcement on Monday.

The announcements, coinciding with the [SC2004](#) supercomputing show in Pittsburgh, reflect the growing popularity of computing clusters, which most often use the Linux operating system and processors from Intel or Advanced Micro Devices. While IBM, HP, Dell and Sun Microsystems all sell Linux clusters, smaller companies also are angling for the market, and two of them announced [new venture capital investments Thursday](#).

Dell's new server, the PowerEdge SC1425, is a stripped-down cousin to its 1850 that also uses Intel's newest "Nocona" generation of 64-bit Xeon processors, said Paul Gottsegen, vice president of worldwide enterprise marketing. However, it doesn't include redundant power supplies and advanced hard drive features not required by cluster customers, letting Dell sell the 1425 for about \$350 to \$400 less than the 1850.



Dell's PowerEdge SC1425 server

Photo: Dell

The systems also come with Platform Computing's Platform Rocks software, which is used for passing messages among servers in a high-performance cluster, managing servers, deploying software and other tasks. With no operating system, the SC1425 costs \$1,099. The systems can be purchased in groups of as many as 256, and Dell offers an eight-computer cluster for \$33,500 including Red Hat Linux, installation, and a service contract.

Hewlett-Packard, the top seller of machines for the high-performance computing market, also is introducing new cluster options, including servers based on new Itanium processors from Intel. The servers are a foundation of the company's new Unified Cluster Portfolio, which also includes HP's XC System Software to manage clusters, HP's Scalable File Share software for

storage, and services to install and configure clusters.

Cluster sales industry-wide are growing at 50 percent compared with the previous year, the company said. An HP Cluster Platform with 16 servers has a starting price of \$62,000.

HP also is working on a cluster-based graphics system that will be able to quickly display images as large as 100 million pixels. The HP Scalable Visualization System is in testing now and is scheduled for availability by the end of June 2005.

Meanwhile, some are trying more exotic cluster designs. Ciara Technologies announced its new Linux-based VXR-3DT cluster that has between 16 and 19,440 Xeon processors. Computing nodes are attached to each other and to a storage system with 12x InfiniBand high-speed networking. The system is scheduled for general availability by the end of the year.



And Appro showed off a new model of its own, the XtremeBlade products with a 12.25-inch tall chassis that can house blade servers with two, four or eight Opteron processors from Advanced Micro Devices. The product is scheduled to go on sale in the first quarter of 2005, the company said.

One XtremeBlade chassis will accommodate up to 12 dual-processor blades, six four-processor blades, or three eight-processor blades. The design has built-in InfiniBand and Gigabit Ethernet high-speed networking switches and connections.

Most clusters run Linux, but [Microsoft is trying to break into the market](#). At the show Monday, the company [demonstrated a forthcoming version](#) of Windows called Windows Server 2003 Compute Cluster Edition.

Itanium systems arrive

Clusters aren't the only products to be announced Monday. Hewlett-Packard also plans to announce a new collection of lower-end servers in its [Itanium 2](#)-based Integrity line.

The four-processor Integrity rx4640 now can be purchased with the [new high-end Itanium 2 model](#), a product running at 1.6GHz and including 9MB of built-in high-speed cache memory. The previous high-end Itanium 2 had 6MB of memory and topped out at 1.5GHz.

The faster Itanium processors won't reach HP's midrange and high-end Integrity products until early 2005.

In addition, HP's dual-processor rx1620 is available with a new lower-end Itanium 2 running at 1.6GHz and including 3MB of cache. This processor includes a faster memory data pathway running at 533MHz instead of the 400MHz most Itanium 2 chips use.



HP also is selling the dual-processor rx2620, a system that's more expandable than the rx1620 and has a thickness of 3.5 inches rather than 1.75 inches. All three servers are expected to go on sale in December and can run four operating systems: Linux, Windows, HP-UX and OpenVMS.

Starting prices are \$4,000 for the rx1620, \$5,000 for the rx2620 and \$15,000 for the rx4640.

HP, the co-inventor of Itanium, is its most aggressive advocate, but others sell the processor as well. Silicon Graphics announced its new [Itanium-based Altix 3700 Bx2](#) servers in October, and Unisys announced its model on Monday.

Unisys' high-end ES7000 line can accommodate Intel's Itanium and Xeon processors--including both at the same time running software in separate partitions. Itanium-based models start at \$39,500.

The company has a new hybrid model, the ES7000 460, that can accommodate up to 32 Xeon and up to 16 Itanium 2 processors simultaneously.



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