



[Micronews Home](#)

[Search Micronews](#)



[MSW Home](#)

[Micronews Home](#)

**Micronews Archives**

- [Articles](#)
- [Bug Bash](#)
- [Congratulations](#)
- [Executive E-mails](#)
- [In Brief](#)
- [Letters to the Editor](#)
- [Photo Gallery](#)

**Related Sites**

- [MSW Home](#)
- [MS Library](#)
- [Windows Live Expo](#)

## Hopes High, MS Vaults into Supercomputing Ring

By Aaron Halabe  
June 16, 2006

*relate*

- [Micros Perfor](#)
- [Superc](#)

Last November, customers and industry analysts began to take notice as Microsoft introduced Windows Compute Cluster Server (CCS) 2003, in beta, at the Supercomputing Conference.

At the time, more than 1,600 users were curious enough to try the software, which links, or clusters, multiple 64-bit servers to achieve supercomputer power.

### 'Disruptive Product'

**A June 6 e-mail from Bob Muglia** exuded the optimism held by many at Microsoft for us product: "We ship many great products every year. But there is something special when we ship something that will redefine a marketplace. CCS is such a product. CCS is our V1 entry into the high performance server market. Today, this market is owned by Linux. Not for long. CCS is a disruptive product coming into a market that is growing explosively. That's a great combination."

Today, more than 5,000 users are evaluating Windows CCS, which released to manufacturing June 9; 10 enterprise customers have deployed the product in production, and French bank BNP-Paribas signed a licensing agreement. The activity reflects Microsoft's increasing credibility in High Performance Computing (HPC), and customer interest in technical servers – a market that grew from \$5.6 billion to \$9.1 billion between 2003 and 2005.

Research firm IDC expects that server market to reach \$14.3 billion by 2010 and the number of units sold to grow 12.5 percent annually.

### What Credibility Could Bring

Clustering was once a technique used exclusively in UNIX and Linux environments to run high-end

government or research environments. Windows CCS now provides an HPC environment for Windows users who run algorithm-intensive applications in the financial and engineering industries, among others.

"Practically all of the server units (90 percent-plus) go to Linux," said Kyril Faenov, Microsoft's HPC director. "HPC also represents 20 to 25 percent of all Linux server shipments. So this is a great area to take share from Linux, both on the HPC front and the overall server front."

Industry heavyweights have endorsed Windows CCS, including Caltech faculty associate Thomas Sterling, a principal scientist at NASA's Jet Propulsion Laboratory. Considered the father of HPC clustering, he began testing Linux clusters 10 years ago.

"Let me congratulate you, the team and Microsoft for achieving this important [RTM] milestone," Sterling said. "It is my expectation that a stable Windows-based cluster solution will ignite a new wave of cluster applications in the commercial market space, and dramatically expand the use of commodity clusters throughout the world."

### Customer Northrop Grumman senses a 'Paradigm Shift'

Northrop Grumman, a global defense

company and one of 10 early adopters of Windows CCS, put Sterling's expectations into action. It had struggled for months to deploy Linux clusters. Within a few weeks they deployed a Windows cluster, and used Active Directory support to get it up and running in the enterprise network.

"Compute Cluster Server has caused a paradigm shift," said Thi Pham, a systems engineer in the company's Space Technology sector. "Before, I had to limit my problem size because I ran out of resources. Now I feel enabled to think bigger."

BAE Systems, a transatlantic defense and aerospace firm, runs key applications on CCS, Windows Workflow Foundation and SQL Server. Company principals say Microsoft technology will help them bring products to market faster, improve product performance and lower the costs of running high performance computers.

Faenov said IBM, HP, Dell and NEC, as well as the major interconnect vendors, are supporting Windows CSS: "A stable platform will bring the benefits of HPC to the mainstream."



"Years ago, employees ... laid the groundwork for Windows Compute Cluster Server. It's exciting to see it brought to reality," said HPC director Kyril Faenov.

### Real World Benefit: Seeking an HIV Vaccine

To better understand HPC intricacies, Microsoft is working with researchers who test Windows CCS with real-world applications. David Heckerman and Carl Kadie of Microsoft Research (MSR) are using software to comb through millions of strains of human immunodeficiency virus, or HIV. Their goal: To quickly find the genetic patterns necessary to develop vaccine designs.



"We're using the HPC approach to get results much more quickly," Kadie said. "A typical [analysis] can take 160 CPU days – a half a year on one computer. By running it on a cluster of 25 computers it finishes in a few days. The benefit is in getting results back quicker, allowing us to work with more and larger data sets. We can be more ambitious in what we investigate."

Microsoft is also building a 64-node, 256-processor production cluster to operate in the Partner Solution Center in Building 25. The company will donate time on the cluster to the research community. The University of Washington's Bioinformatics Lab – one of MSR's data providers on the HIV research project – is expected to

be the first to use the lab.

"Years ago, employees in MSR and many product groups laid the groundwork for Windows Compute Cluster Server," Faenov added. "It's exciting to see it brought to reality in a product that's meeting customer needs and enabling partners."

[Have an opinion or feedback on this story?](#)

[↑ Top of page](#)

©2007 Microsoft Corporation. For Internal Use Only. Contact Us