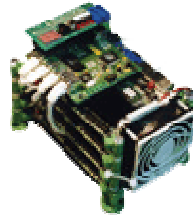




**WINNER**



## **2004 R&D 100 Awards Winner** **Clustermatic**

Originally designed as a low-cost version of a supercomputer, a computer cluster consists of a group of connected computers that work together as one. Unfortunately, setting up and managing such clusters is tedious and prone to mistakes, thus making clusters much more difficult to use than supercomputers. To address this problem, we developed the Clustermatic software suite. Clustermatic increases reliability and efficiency, decreases node autonomy, simplifies programming, reduces administration costs, and minimizes a user's reliance on unpredictable software. As a result, Clustermatic enables commodity-based cluster networks to compete with their higher-cost and higher-profile super-computer cousins by scaling to largest cluster configurations, providing predictive monitoring that reacts to mode failures, and creating a one-system view of an entire cluster.

### **Applications**

High-performance computing (HPC) applications include

- nuclear weapons and other defense programs,
- weather-pattern and climate simulation, forest-fire data gathering, and viral modeling.

Applications related to LinuxBIOS include – motherboard manufacturing,

- embedded systems (such as iRobot.com's PakBot), and
- caching appliances for Web content, DVD players, and fiber-channel analyzers