



FAIRCHILD SEMICONDUCTOR REDUCES COSTS AND EXPANDS FLEXIBILITY WITH RED HAT SOLUTIONS

FAST FACTS

Industry	Semiconducting
Geography	Worldwide
Opportunity	Replace aging, deficient UNIX-based system with a Linux solution that could deliver reduced costs, expanded flexibility, and heightened stability
Migration Path	RISC-based UNIX servers to Red Hat Enterprise Linux on Dell x86 servers
Software	Red Hat Enterprise Linux, Red Hat Network
Hardware	Dell x86 servers
Benefits	Reduced costs by 60 percent, enabled the sharing of data through flexible support of Network File System (NFS) protocols, gained flexibility in vendor selection, and increased work efficiency by more than four times



BACKGROUND

Fairchild Semiconductor is a leading global provider of semiconductor technology that powers products and makes them more energy efficient. Fairchild continues to build on its rich history of innovation to address one of the greatest challenges of today – reducing wasted energy and improving efficiency in an increasingly power-hungry world. Its headquarters are located in South Portland, Maine, and its main design and manufacturing facilities are located in Buchon, Korea.

CHALLENGE

Concerned with deploying systems that can support fast-developing semiconductor processing technology and semiconductor manufacturing designs, Fairchild became concerned when its former UNIX-based EDA system was not providing adequate performance, cost, and stability requirements for its systems.

Semiconductor manufacturing designs require complex and detailed operations, and Fairchild's systems were

experiencing instability with its systems. Closely related to the verification of design, an important step in semiconductor manufacturing, the instability issues that the company was experiencing needed to be addressed immediately. With a five-year internal lifecycle for its systems, Fairchild decided to quickly migrate its verification system to a new, more reliable solution.

SOLUTION

When considering alternative solutions, Fairchild became interested in Linux for its cost savings, stability, and interoperability with x86 servers. For compatibility with x86 servers, its choices were limited to Windows or Linux-based operating systems. "Windows did not support the functions and stability that we desired, so we decided to test various Linux solutions," said Seok-Ho Choi, Researcher at Fairchild Semiconductors. "Linux was not only able to provide a similar environment to our original UNIX solution, but it was more cost-effective."



“We were also very satisfied with the choices that we were presented with once we deployed Red Hat Enterprise Linux. Before, if we wanted to use an alternative operating system, we were locked in with a specific vendor. Now, we’re able to select vendors based on quality and stability and not brand.”

- Seok-Ho Choi, Researcher, Fairchild Semiconductor

Fairchild evaluated Red Hat solutions and after obtaining solid results, decided to migrate its UNIX-based EDA system to Red Hat Enterprise Linux. A large portion of the company’s 150 RISC UNIX servers were migrated to Dell x86 servers equipped with Red Hat Enterprise Linux. Each is managed using Red Hat Network.

BENEFITS

After migrating from UNIX to Red Hat Enterprise Linux, Fairchild benefited from elimination of system downtime and was able to load libraries that correspond with each EDA tool from the operating system without the

disconnection issues that it had experienced with its previous solution. It also reduced costs by 60 percent in terms of server maintenance, was able to freely share data with the support of NFS protocols, and was able to manage a heterogeneous architecture more easily due to the solution’s interoperability.

“We were also very satisfied with the choices that we were presented with once we deployed Red Hat Enterprise Linux,” said Seok-Ho Choi. “Before, if we wanted to use an alternative operating system, we were locked in with a specific vendor. Now, we’re able to select vendors based on quality and stability and not brand.”

Red Hat Network also provided Fairchild with ease of management of its Red Hat-based servers. “What satisfied us most after implementing Red Hat solutions was patch management,” said Seok-Ho Choi. “With Red Hat Enterprise Linux and Red Hat Network, we were able to ensure that our system was optimized with just one click. If solution patches were necessary, or just normal updates, it was a lot easier for us.”

Fairchild is currently working on a project that converts all of its graphics-related tasks to Linux systems in order to further reduce costs and improve the efficiency of its IT architecture. “We also plan to convert our UNIX workstations to Red Hat Enterprise Linux Desktop,” said Seok-Ho Choi.

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