

# Platform™

The Power of Sharing

*“With our computing resources running at over 90 percent utilization, Platform LSF has allowed us to push our design hardware and computing resources to the limit. With Platform as our technology partner, AMD can continue to deliver the most advanced products and services to the ever-evolving microprocessor industry.”*

Clive Dawson  
Manager of Systems Engineering  
Computation Products Group  
AMD

## AMD Relies on Platform LSF® to accelerate product innovation

Customer  
AMD

Solution  
Platform LSF

Industry  
Electronics

### Results

### Challenges

- Put more compute power into the hands of design engineers
- Manage and accelerate the computing workload across a growing IT environment
- Optimize existing computer resources to reduce the need for further spending
- Support transition to a 64-bit computing model

- Billions of design, simulation & verification jobs run faster than ever thought possible
- Better utilization of existing resources, and need to purchase additional hardware minimized
- Fault-tolerant & fail-over capabilities yield an always-available computing environment
- Smooth transition to 64-bit Linux environment increased IT performance and reduced costs
- AMD is able to get better products to market faster and at lower cost

### Platform LSF optimizes AMD's computing resources

In today's economically challenged high tech sector, Advanced Micro Devices, Inc. (AMD) is one of only a few key players in the highly competitive microprocessor chip market that is still a powerful force. With a number of award-winning processors to its credit, AMD continues to compete in this tough market by bringing better products to market faster and at lower prices.

Since 1995, AMD has been using Platform LSF® software to optimize the performance of its extensive computing environment to meet aggressive timelines for delivering these powerful microprocessor products. Using Platform LSF to cluster thousands of individual computers into a single virtual resource, AMD was able to make use of otherwise unused computing power across its entire technology infrastructure, reducing the need to purchase additional hardware.

As AMD's computing environment grew in response to demands to get even more complex microprocessor chips to market faster strong scalability features enabled Platform LSF to effectively manage the computing workload across clusters containing a significantly greater number of CPUs. In addition, enhancements to Platform LSF helped AMD transition to an even more powerful 64-bit computing environment.

### Quick and error free

Getting new microprocessor chips from design to silicon quickly—and error free—requires plenty of computer horsepower to use sophisticated design automation tools. The increased complexity and higher performance of AMD's newer chips Opteron processor however—and the need to get them to market even faster in order to stay competitive, placed even greater demands on AMD's engineers. Increasing amounts of computing power were needed to run millions of design automation, simulation and verification jobs quickly and efficiently.





AMD's traditional computing infrastructure however, which consisted of multiple high performance workstations on every designer's desk, was no longer efficient since many workstations could remain idle for long periods of time. AMD needed a better way to use existing computing resources to provide the power its engineers needed.

And as computing requirements continued to grow and more engineers were added to its design and development team, AMD added additional servers—and started replacing existing servers with new ones—that take advantage of the performance of AMD's own technology by using the company's latest processors. However, they needed to manage the growing size and complexity of their IT infrastructure, while holding the line on costs.

"With our computing resources running at over 90 percent utilization, Platform LSF has allowed us to push our design hardware and computing resources to the limit. With Platform as our technology partner, AMD can continue to deliver the most advanced products and services to the ever-evolving microprocessor industry," says Clive Dawson, Manager of Systems Engineering, Computation Products Group, at AMD.

### Evolving along with our customers' needs

Since first used at AMD in 1995 to cut the design-to-manufacture time of the AMD-K6 processor by as much as six months, Platform LSF has continued to play a critical role in the design of AMD chips. Platform LSF software offered an effective and reliable solution to AMD's computing workload management requirements by the compute power needed to run leading design simulation and verification applications, Platform LSF ensuring the right person has access to the right computing resources at the right time to handle any complex job. By making effective use of unused compute cycles, Platform LSF helped

AMD optimize the use of existing IT equipment, and reduce the need to purchase additional hardware.

With the variety and volume of work to be accomplished in the chip design cycle, high availability of computing resources was also of prime concern. With strong fail-over capabilities, including automatic job restart/rerun, Platform LSF provides a fail-safe, no-downtime computing environment that has played a key role in the success of AMD's microprocessor development program.

Initially, AMD's development environment consisted primarily of Unix-based systems from a variety of vendors. To take advantage of the industry-leading performance of its own chips, however, and to help keep down its IT costs, AMD has transformed most of its environment into Linux systems that are based on its own advanced chips. Supported by a 64-bit version of Platform LSF, this transition has gone smoothly for AMD, who continues to be impressed by how well Platform LSF performs and by the ability of Platform LSF to continue to scale up as the AMD compute farm grows ever larger.

Along with the increased complexity and speed of today's chips, AMD continues to push its computing resources—including Platform LSF—to the limits of performance and reliability. Platform LSF has also been a useful mechanism for automatically distributing software patches or performing other housekeeping tasks on the operating systems across all of AMD's servers.

By upgrading to newer versions of Platform LSF as they become available, AMD is able to support ever-larger clusters, intelligently prioritize workload, automate repetitive work, and allow more tasks to be completed faster. All of this helps AMD further reduce time-to-market and increase the quality of its next-generation microprocessors.

# Platform™

Platform Computing is the leader in grid and cloud computing software that dynamically connects IT resources to workload demand according to business policies. Over 2,000 of the world's largest organizations rely on our solutions to improve IT productivity and reduce data center costs. Platform has strategic relationships with Cray, Dell®, HP, IBM®, Intel®, Microsoft®, Red Hat®, and SAS®. Building on 16 years of market leadership, Platform continues to help data centers be more efficient, responsive and dynamic. Visit [www.platform.com](http://www.platform.com).

World Headquarters  
Platform Computing Inc.  
3760 14th Avenue  
Markham, Ontario  
Canada L3R 3T7  
Tel: +1 905 948 8448  
Fax: +1 905 948 9975  
Toll-free tel: 1 877 528 3676  
info@platform.com

Sales - Headquarters  
Toll-free tel: 1 877 710 4477  
Tel: +1 905 948 8448  
  
North America  
New York: +1 646 290 5070  
San Jose: +1 408 392 4900  
Detroit: +1 248 359 7820

Europe  
Basingstoke: +44 (0) 1256 883756  
London: +44 (0) 20 7977 1480  
Paris: +33 (0) 1 41 10 09 20  
Düsseldorf: +49 2102 61039 0  
Munich: +49 89 517397 52  
Oslo: +44 1256 883756  
info-europe@platform.com

Asia-Pacific  
Beijing: +86 10 82276000  
Xi'an: +86 029 87607400  
asia@platform.com  
Tokyo: +81(0)3-6302-2901  
info-japan@platform.com  
Singapore: +65 6307 6590  
lliew@platform.com