



# ACXIOM® STANDARDIZES ITS GRID COMPUTING ENVIRONMENT ON RED HAT SOLUTIONS

## FAST FACTS

Industry	Marketing services
Geography	Global
Business challenge	To increase the speed, scalability, and cost-effectiveness of the business' high-performance grid computing environment, which now records more than one trillion transactions per month
Migration path	UNIX to Red Hat® Enterprise Linux®
Software	Red Hat® Enterprise Linux®, JBoss® Enterprise Application Platform, Red Hat Network
Hardware	x86 Servers
Benefits	Standardizing its grid computing environment on Red Hat Enterprise Linux helped Acxiom achieve 100-fold performance gains and unmatched scalability while also reducing costs and increasing flexibility



## BACKGROUND

Acxiom® Corporation, a global leader in interactive marketing services, was founded in 1969. Headquartered in Little Rock, AR, Acxiom provides deep consumer insight to companies that want to better connect with customers and prospective customers for lasting relationships. The Acxiom team incorporates expertise in consumer data and analytics, information technology, data integration, and consulting solutions to enable marketing across digital, Internet, email, mobile, and direct mail channels.

Acxiom is widely recognized for its ability to successfully utilize advanced technology to meet its clients' marketing demands. The company's teams process and interpret massive volumes of client data for use in developing and executing strategic marketing campaigns.

## CHALLENGE

In 2001, Acxiom introduced a breakthrough marketing technology that delivered entity resolution and customer recognition. The technology quickly became vital to Acxiom's business proposition. Despite compelling growth opportunities, Acxiom discovered scalability and affordability challenges because the application was built on large SMP boxes running UNIX.

"Implementation of the application would not allow us to scale cost-effectively to meet our customers' needs," said Terry Talley, chief technology officer at Acxiom. "We needed to solve this problem with hardware, and the only way to do that was through commodity hardware. Then, we needed to find a reliable operating system to run successfully and easily on commodity hardware."

## SOLUTION

Needing an infrastructure that was faster, more scalable, and more affordable, the company decided to assess the use of open source technology for its operating system solution. Acxiom turned to Red Hat for its industry-leading solutions and support.

"We needed a reliable, stable, and supported version of Linux that was tested and production-ready to support millions-and now billions-of records per day through our application," Talley said. "Red Hat was that solution. Red Hat was sensitive to our unique support needs. Although we had thousands of machines, we had few distinct instances. Red Hat was very flexible in engaging with us, and as a result we are able to build stronger and smarter systems with our customers in mind."

Acxiom's grid infrastructure is designed to improve efficiency, maintain consistency across its systems and logically partition resources to meet Acxiom client's increasing demand.

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**"With Red Hat we have a very collaborative, partner-oriented discussion about the technology we need and what Red Hat can provide for us. As we venture into new technology areas, Red Hat has always been very responsive. We view it as a true partnership, and we are very happy with our relationship with Red Hat."**

**-Terry Talley, chief technology officer,  
Acxiom Corporation**

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"Red Hat Enterprise Linux is the standard operating system for Acxiom's grid computing environment that amounts to over 6,000 machines today, translating to 12,000 sockets. It is the foundation for all of Acxiom's scalable marketing business applications and bulk processing applications," Talley said.

An important goal for Acxiom in rolling out the deployment was to substantially reduce hardware costs. With a broad ecosystem of certified hardware and software solutions, Red Hat Enterprise Linux enabled Acxiom to make hardware choices independent of the operating system. In addition to hardware flexibility, Red Hat Enterprise Linux addressed Acxiom's need for increased performance and congruent scalability.

"If you considered a ratio of throughput to cost, the ratio for one of our key applications running on SMP boxes under UNIX was about 10 to one. After migrating our application to a grid computing environment running on Red Hat Enterprise Linux and commodity hardware, the ratio went to 1,000 to one. The 100-fold increase was a dramatic improvement in throughput to cost and an extremely successful strategy for us," Talley said.

Acxiom's grid environment is business-critical and can't afford unscheduled downtime or gaps in performance. "As all of the machines in our grid run Red Hat Enterprise Linux, it is the core of where we do all of our CDI processing, which is essential to our business," said Chuck Howland, technical group leader for Acxiom's CDI and marketing services line of business. "One of our applications is capable of handling a peak load of 15,000 transactions per second. On average across all applications, we process billions of transactions a day and over a trillion records per month. So it simply has to work."

Additionally, Acxiom uses Red Hat Network for management and procurement of the various instances of Red Hat Enterprise Linux in its grid computing environment. Acxiom has also utilized a Red Hat Technical Account Manager to assist in managing its Red Hat Enterprise Linux-based systems and for expert advice and hands-on training during new implementations.



In addition to its expansive use of Red Hat Enterprise Linux, Acxiom utilizes the JBoss Enterprise Application Platform. In 2004, it turned to JBoss to leverage its high-performance middleware solutions. Today, the company continues to expand its use of JBoss enterprise solutions to build its service-oriented architecture (SOA) environment.

“The open source community and open source standards are very important to us, as are the community-driven aspects of the products we use,” said Matt Hoggatt, technical unit leader, Acxiom Service Delivery Infrastructure. “The immediate performance benefits delivered by our JBoss solutions resulted from the ease and speed of the initial migration. The ability to easily integrate applications and meet our customers’ needs was another benefit we’ve experienced with JBoss.”

“We have a very good relationship with Red Hat and JBoss,” Hoggatt said. “In the future, as we continue to build out our on-demand capabilities, we fully expect to leverage the capabilities that we have come to expect from JBoss.”

## BENEFITS

Using Red Hat and JBoss solutions, Acxiom’s grid environment has achieved heightened scalability, increased stability, and 100-fold performance increases. Red Hat solutions have enabled Acxiom to focus on its business needs and trust that its technology is delivering high performance, low latency, and reduced costs.

Acxiom realized improvements from migrating to Red Hat Enterprise Linux in the grid, including an internal syndicated datamart process that accommodated one billion records and quickly grew to six billion records. “Using the standard SMP box, it ran in 28 days,” Howland said. “After migrating to the Red Hat environment in the grid with our scale-out approach, we were able to run it from 28 days down to 2.8 days, 16 hours to six minutes, six days to six hours—all significant improvements.”

“Red Hat is the leader in the open source community and is the industry standard for Linux,” Howland said. “Our long-standing relationship with Red Hat has allowed us to create business value. And with the reliability, scalability, and support it provides for our critical grid computing system, we can focus on our business goals.”

“Our use of Red Hat has grown along with our use of commodity hardware and our involvement in the open source community,” Talley said. “With Red Hat we have a very collaborative, partner-oriented discussion about the technology we need and what Red Hat can provide for us. As we venture into new technology areas, Red Hat has always been very responsive. We view it as a true partnership.”



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