

Customer Success Story

Platform LSF®

Red Bull Technology races forward with HPC



Customer

Red Bull Technology

Industry

Industrial manufacturing

Challenges

- Expensive IT infrastructure was not performing at full capacity
- Red Bull Technology wanted to maximize the significant investment they had made

Solution

- Platform LSF
- Platform EGO
- Platform LSF License Scheduler

Business results

- 20%+ increase in performance and throughput
- Reporting tools keep senior executives updated on progress
- Ability to optimize license scheduling means priority jobs can always run without needing to over-provision licenses

Reaching for pole position

The Red Bull Racing Formula One team was created in 2004 when Red Bull bought the Jaguar Racing team and achieved its first podium in Monaco in 2006. During 2006 there was investment in new staff and new equipment, while a key appointment was made, in the form of renowned designer Adrian Newey. Wind tunnels and other simulation tools were developed and as the team worked hard on the RB3, the first car to be designed by the new technical team, the team's foundations were

firmly established. The investments paid off and Red Bull Racing ended the 2007 season by finishing fifth in the Constructors' Championship, ahead of teams with far greater experience.

High Performance Computing (HPC) technology was a good addition to the team's vehicle design toolset. While Red Bull Technology had made hefty investments in a high quality IT infrastructure, without HPC management software, the compute resources were operating below its full potential. The team realized that by building a grid using the best dynamic resource management software available, they would be able to do significantly more simulations in less time than before.

Even with many hundreds of cores available, the demands of the CFD department were pretty well insatiable. Simulation is what drives improvements in design and the demands it was making on processing power was overwhelming.

Innovative, Powerful Platform Computing

Technology Helps Make Cars Go Faster

"Our team is always looking for innovation partnerships with companies who can bring to us contemporary and exciting new technologies that ultimately help us to make the car go faster," says Steve Nevey, Business Development Manager, Red Bull Technology. "Our HPC system is being used for various types of simulation, primarily for aerodynamic simulation with CFD or computational fluid dynamics. We'd known about Platform LSF, but it wasn't until our HPC cluster started to really expand that it became obvious that we needed a tool like this." Red Bull

"The Platform Computing partnership goes from strength to strength year on year."

Steve Nevey
Business Development Manager
Red Bull Technology

Technology began its discussions with Platform Computing in 2006 and the relationship has blossomed since then.

"It's an expensive investment that we've made," says Nevey, referring to the team's cluster, "and we need to fully optimize that investment. Platform LSF enables us to schedule some of the big analysis computation so that our engineers don't have to wait around for an analysis to finish before starting another. They can also run analyses in parallel with each other."

Platform Computing's solution intelligently schedules workload and dynamically allocates resources to ensure work is done according to business priorities and policies, and that the compute resources are utilized as fully as possible. "The Platform LSF environment has allowed us to increase the number of virtual engineering simulations needed to build the fastest and most aerodynamically efficient car possible. Its robust and scalable solution enables us to leverage fully our growing investments in engineering IT infrastructure. Platform LSF helps us optimize designs that maximize the downforce and reduce the drag the cars create on the track. With Platform Computing's technology behind us, we are confident that we can continue our rise up the rankings over the next few seasons," adds Nevey.

Keeping executives in the loop

Platform LSF includes a versatile reporting tool that allows the design team to easily justify its activities and budgets. The company's senior leadership can easily check on progress and make informed decisions about how to allocate resource in the future. "The great thing about Platform LSF is that it provides a reporting tool, a very easy to use reporting tool which is available to our senior executives so that they too can check on progress and the efficiency of the HPC system," says Nevey.

"One of Platform Computing's strengths is its support team which you don't necessarily get with those from other companies. We can turn to Platform Computing for help when something doesn't work and they are very responsive, no matter the time of the day."

Nathan Sykes
CFD Team Leader
Red Bull Technology

Like many of Platform Computing's customers, Red Bull Technology views the relationship with Platform Computing as a partnership. "The Platform Computing partnership just goes from strength to strength year on year and our plans for the future are to continue to develop our IT infrastructure to hopefully take full advantage of all of the compute resource that we have within the building," adds Nevey. "One of the things that Platform LSF allows us to do is to incorporate some of the desktop machines, all still powerful machines which are being used for computer-aided design at the moment, but to incorporate them into the virtual cluster when they're not being used, when our engineers have gone for the night."

Symbiotic relationship benefits both sides

"Platform Computing came to us as a true innovation partner, not a supplier of technology, but a partner who was able to understand our problems and provide appropriate solutions to us, and work with us to continuously improve the performance of our system," says Nevey. Of course this benefits Platform Computing too, as the company can use the knowledge and best practices developed with Red Bull Technology to continue to evolve its products in a way that benefits all customers.

Christian Horner, Team Principle of Red Bull Racing, underscores the importance of such a tight relationship. "We rely heavily on innovation partnerships and partnerships such as with Platform Computing are extremely important to us. We are at the cutting edge of technology and how we manage our data, how we manage our processing, how we apply our resources to all design applications, simulation applications are integral to our business. So our innovation partnerships are extremely important to us."



Platform Computing, an IBM Company, is a leader in cluster, grid, and cloud management software - serving more than 2,000 of the world's most demanding organizations. Since 1992 its workload and resource management solutions have delivered optimized IT infrastructures, ease of management, and lower costs for enterprise, HPC, and technical computing clients. Visit www.platform.com. Twitter: @Platform_Tweets. For more information about IBM Technical Computing: <http://www.ibm.com/deepcomputing>.

World Headquarters

Platform Computing,
an IBM Company
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: +1 212 888 6270
San Jose: +1 408 392 4900

Europe

Bramley: +44 (0) 1256 883756
London: +44 (0) 20 3206 1470
Paris: +33 (0) 1 41 10 09 20
Düsseldorf: +49 2102 61039 0

Asia-Pacific

Beijing: +86 10 82276000
Xi'an: +86 029 87607400
Tokyo: +81(0)3 6302 2901
Singapore: +65 6307 6590