Hewlett Packard Enterprise

Red Bull RACING
FORMULA ONE TEAM

Red Bull Racing accelerates performance with hyperconverged IT

HPE SimpliVity delivers
speed and responsiveness

"HPE SimpliVity's hyperconverged infrastructure enables us to get better answers quicker when we're on the racetrack and seconds count."

– Matt Cadieux, CIO, Red Bull Racing

Keeping up with the pace of change

Nothing matters more in Formula One racing than speed. In a sport where wins are decided by a hundredth of a second, every vehicle component and every decision matters. Since 2005, UK-based Red Bull Racing has been a competitive force in F1 racing. As of its 2016 season, the team has notched 53 wins and four double world championships, in part by adapting to design changes and new regulations with agility.

IT plays a pivotal role in the team's success. Red Bull Racing depends on IT to deliver high performance for everything from its business processes to vehicle design to onsite track support on race days.

With proprietary, F1-specific applications generating significant amounts of data, Red Bull Racing needed a solution for its growing storage needs for the virtualized estate. "We needed to be more agile," says Neil Bailey, head of IT infrastructure at Red Bull Racing. "Application performance affects how quickly we can react and make a change to enhance vehicle performance." With efficiency and

The high-pressure world of F1 racing

- Wins can result from a difference of .01 seconds
- Teams have little time to react to changing requirements
- Ultra-competitive field with the fastest race cars in the world
- Data-intensive environment has significant storage needs

speed being of the essence, the organization explored hyperconverged IT and ultimately decided on HPE SimpliVity.

Legacy infrastructure puts the brakes on performance

Based in Milton Keynes in Buckinghamshire, England, Red Bull Racing designs, manufactures, and races its high-performance F1 vehicles. In addition, the on-site IT organization supports administrative functions such as marketing, finance, and human resources.

A mix of traditional virtualized servers plus virtual desktop infrastructure resulted in roughly 500 VMs spread across disparate hardware, creating a disjointed and heterogeneous environment. With 50 TB of data, infrastructure sprawl was becoming a costly liability, and software engineers using virtual desktops were noticing performance lags.

F1-specific use cases added urgency to finding a faster storage solution. A race car may be a finely tuned machine driven by a gifted athlete, but it is also a technology platform, generating around 400 GB of data on a race weekend. Crucial decisions—such as when to "pit" a car during a race—depend on lightning-fast analysis conducted by a portable data center that is set up trackside on race day.

Red Bull Racing's proprietary F1 applications also demand fast and responsive infrastructure. "All of our cars are evolving prototypes, with 30,000 changes made a year," says CIO Matt Cadieux. "We need to make sure the infrastructure is there and

is very agile to support the needs of our engineers and new business demands."

In addition, each year may bring new competitive challenges, technological advances, and changing F1 regulations. When it comes to keeping up with the pace of change, Red Bull Racing's infrastructure has to be able to move at the pace of the sport.

A massive increase in performance

Red Bull Racing's IT team considered both traditional architectures and hyperconverged infrastructure in its search for faster IT. The competitive selection process involved rigorous testing. "We went through a formal benchmarking exercise," explains Cadieux. "We took real workloads and asked vendors to impress us, and HPE SimpliVity impressed both in terms of performance and ease of management."

HPE SimpliVity now provides the basis for Red Bull Racing's VMware and VDI estate, in addition to providing the team's trackside infrastructure for race-day analysis. The difference is noticeable. For example, on race days the team offloads data in real time from a car, then post-processes it for analytics. With HPE SimpliVity, the time required for post-processing has gone from nine minutes to two minutes. "It's a massive increase in performance," says Cadieux. "What that means is we can get better answers quicker when we're on the racetrack and seconds count."

Greater than

50%

reduction in time

needed to post-process critical race data workloads

Faster performance on and off the track

At the Milton Keynes factory, HPE SimpliVity is making a difference in the organization's backend systems. "We're in the process of migrating our email solution to HPE SimpliVity," says Bailey. "The performance gains are quite empowering."

But the organization has seen some of its biggest wins in its virtual desktop infrastructure. "Straight away users noticed a big difference in terms of responsiveness," says Bailey. Another area of improvement has been the ability to back up and recover the Citrix VDI environment in the event of failure. For developers who chafe at any delay, the improvements have brought welcome speed and agility. Says Bailey, "Our users were impressed."

With built-in backup and recovery, HPE SimpliVity also made a big impact to Red Bull Racing's workload and data recovery. When the research and development team experienced a corruption, they needed to recover their virtual workstations quickly. With HPE SimpliVity, the IT team recovered the workstation in about one minute with only three clicks. Today, anyone on the IT team can perform this simple task. "Before, the process would have taken over an hour with multiple, complex steps," says Bailey.

Learn more at
www.hpe.com/info/simplivity

"When we moved users over to HPE SimpliVity, the feedback was really positive. Users noticed a big difference in levels of performance."

– Neil Bailey, Head of IT Infrastructure, Red Bull Racing

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Objective

Improve performance and increase agility while reducing storage costs.

Approach

Rev up business performance with HPE SimpliVity.

IT Matters

- Expand application performance
- Increase responsiveness and flexibility
- Simplify management

Business Matters

- Reduce IT costs
- Accelerate speed of decision making
- Free up time to focus on F1 innovation

Customer at a Glance

Hardware
- HPE Simplivity

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