

DRIVING HIGH PERFORMANCE AND DATA-DRIVEN ENGINEERING

McLaren Group improves performance, design and engineering with a modernised data centre



Manufacturing

United Kingdom

Business needs

The McLaren Group needed to ensure high performance for its data centre technologies to power critical business applications and data analysis solutions.

Solutions at a glance

- [Dell EMC PowerEdge servers](#)
- [Dell EMC Storage](#)

Business results

- Improves car performance through fast trackside data analysis
- Accelerates business innovation through consolidation and automation

Enables data-driven design and engineering



Upgrades key applications in 2 days instead of 2 weeks



Performance is everything for the McLaren Group, which includes McLaren Automotive, its sports car business, McLaren Applied Technologies its technology and innovation business, as well as the McLaren Formula One team. The group relies on McLaren IT to support the growth and speed of innovation across its businesses and to deliver high-performance data centre technologies to power critical business applications used by thousands of its global employees.

For example, the faster the company's Formula One racing team can design and engineer car components, the faster it can deliver updated specifications on race days. "We need to find performance gains within our server and storage environment, because every small improvement we can pull from the IT system directly transfers into optimised design and engineering," says Paul Brimacombe, head of enterprise architecture at the McLaren Technology Group.

Improving car performance through high-performance technology

As part of its focus on deploying the right technology, McLaren must ensure that telemetry data can be accessed easily and quickly. "Data is the foundation of making the cars go faster," Brimacombe says. "There are around 300 sensors on a Formula One car, and we collect around 100 gigabytes of data on each car during a race weekend.

"That data needs to be accessed in real time by the engineers, both trackside and in mission control, in order to make crucial decisions about the cars such as when to make a tyre change."

McLaren can more easily use data to increase the speed of the cars using its new Dell EMC-supported environment. "At trackside, it's important that we have our telemetry data coming in at maximum speed, because we can see things like a gear change in the data before it's actually heard on the track," Brimacombe says.

"We use machine learning and analytics to dig into that data and optimise the performance of every component in the car to get the best racing results possible. This data is also a valuable tool in designing future cars. PowerEdge

servers give us that ability to rapidly access and analyse data on our cars faster."

Modernising the IT infrastructure with Dell Technologies

The company is getting more value from its data because it enables a data-based approach to automotive engineering. "Data-driven, high-performance engineering is what McLaren excels at, and we are supporting that approach by modernising our data centre with Dell EMC technology," Brimacombe says. To meet its needs for innovation and performance, McLaren is modernising its IT infrastructure and is currently in the process of moving to an infrastructure-as-code approach to support its expanding hybrid cloud operating model.

McLaren has implemented Dell Technologies solutions throughout its data centres, including Dell EMC PowerEdge chassis and blade servers, as well as Dell EMC storage arrays. With Dell EMC OpenManage Essentials, a systems management console, the organisation has simplified and automated the management of its 800 servers, saving time for employees to focus on more strategic tasks.



Upgrading software in 2 days instead of 2 weeks

McLaren is taking advantage of more powerful servers to improve business application performance. “Performance-wise, the Dell EMC PowerEdge servers and OpenManage Essentials have helped take us to the next level,” says Brimacombe. “We recently upgraded our design engineering system in two days, instead of the two weeks it would have taken us on the previous hardware. Our modernised infrastructure translates into higher-performing applications.”

“If our race simulator or monitoring applications need additional performance, we can easily scale the solution to deliver that. Having that direct link between infrastructure and applications for performance helps our engineers do their jobs more effectively.” Brimacombe says.

Accelerating innovation through consolidation and automation

Through the implementation of a virtualized server estate McLaren has modernised and consolidated its data centre footprint using Dell EMC PowerEdge servers, moving from hundreds of physical servers to just four blade chassis running high availability and high-performance compute. McLaren can now run workloads such as virtualized desktops, GPU-intensive workloads and simulation workloads within the server estate.

“Every time a server or storage array has a problem, we can fix it through a code-based solution with tools like Dell EMC OpenManage Essentials and our infrastructure-as-code model,” says Brimacombe.

“We can access and analyse data on our cars faster because of the Dell EMC PowerEdge servers we have. The faster we get the data, the faster we can design and engineer components and deliver changes trackside to optimise the cars to get the best racing results.”

Paul Brimacombe, Head of Enterprise Architecture, McLaren Technology Group

“Overall, this means we have less downtime in the business, and we can operate at the level we need to, instead of firefighting issues that our staff needed to work on before. Using Dell EMC technologies, we can accelerate innovation for Formula One and all our businesses. Dell Technologies gives us a one-stop shop across the entire IT infrastructure landscape,” Brimacombe says.

“Whether it is real-time data capture of sensors on a car, edge computing, the core computing that sits in the garage, or the distribution of that data securely, Dell Technologies is involved. We are never more than a metre away from a piece of Dell Technologies hardware.”



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