BUILDING A SAFER WORKPLACE WITH SELF-DRIVING VEHICLES

OTTO Motors designs and builds self-driving vehicles equipped to do the world's dullest, dirtiest, and most dangerous jobs

OTTO MOTORS

Manufacturing and robotics | Canada

Business needs

OTTO Motors knew it was different from a typical startup due to the volume of data processing it needed to complete daily. The firm runs thousands of software simulations before deploying one of its self-driving vehicles at a client site. Early on, OTTO set a goal of continuous IT transformation and chose Dell EMC as its IT partner.

Solutions at a glance

- Dell EMC PowerEdge FX2, R730, R430, and FC630 with Intel® Xeon® processors

- Integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller

- Dell EMC ProSupport

Business results

- Processes petabytes of data on a daily basis to power thousands of simulations

10x
cost savings with an
on-premises solution
vs. the cloud

Add computational
power
quickly to meet the
dynamic computing
needs of the business

OTTO Motors builds self-driving vehicles equipped to perform the world's dullest, dirtiest, and most dangerous jobs. The company's founders believe we're on the verge of an era in which the world will be profoundly impacted by robotics and self-driving vehicles. OTTO's self-driving vehicles are deployed across many industries including aerospace, healthcare, automotive, and e-commerce. They are useful to any business where physical goods need to be moved.

To support the advanced software development and engineering backing the design, test, and operation of its vehicles, OTTO needed a modern IT infrastructure that was fast, flexible, and powerful. According to IT manager PJ Camm, the company's IT transformation "started when we first founded OTTO Motors." From the beginning, it was different from a typical startup due to the sheer amount of processing it needed to do within the four walls of the company.

PowerEdge supports thousands of software simulations daily

OTTO Motors chose Dell EMC PowerEdge servers with Intel® Xeon® processors because they provide the flexibility OTTO needs. The company can dynamically add or reduce computational power. Every day, its developers run thousands of simulations on petabytes of data to test each vehicle before deploying it at a client's site. Gariepy, co-founder and chief technology officer at OTTO Motors, explains, "Every single piece of software that we develop is simulated dozens, hundreds, or thousands of times before it even sees a robot in test, much less a robot in one of our client sites. Having reliable compute infrastructure is critical for this."

Artificial intelligence is an essential workload allowing an OTTO vehicle to analyze its environment, internalize that information, and then render a decision quickly. The company's AI workloads require extreme processing power and very powerful sensors at a cost that's not prohibitive for OTTO or its customers. The ability to run compute-intensive AI workloads quickly and affordably is another reason the company chose PowerEdge servers.

DELLEMC

Tenfold savings with on-premises PowerEdge servers vs. offsite cloud

When choosing its IT infrastructure provider, OTTO was also concerned about cost. Camm ran a cost analysis comparing the cost of using the public cloud to building an onsite datacenter with Dell EMC PowerEdge servers. Camm says, "My jaw dropped when I finished the analysis and realized that on-premise with Dell EMC was much cheaper than going to the cloud by a factor of 10." OTTO built its datacenter with PowerEdge servers, at a fraction of the cost of outsourcing to a cloud provider.

Agent-free management with iDRAC

IT professionals at OTTO manage their PowerEdge servers through the automated intelligence inside their integrated Dell Remote Access Controller (iDRAC) devices. The iDRAC is an out-of-band management solution that helps IT managers simply and quickly deploy, update, monitor and maintain Dell EMC PowerEdge servers. And there's no need for additional systems management software agents. Even if the host server is powered off, iDRAC is ready to securely monitor and manage the system. Camm describes iDRAC as "a great tool for administrators and IT staff." If anyone would know a thing or two about automated intelligence, it would be the folks at OTTO.

The Dell EMC ProSupport team partnered with OTTO to deploy a complex storage area network and server infrastructure over the phone and via remote desktop applications. All this despite the fact that its IT staff was unfamiliar with the new system. Greg Jacobs, engineering manager of infrastructure, explains, "The people at Dell EMC work with us to understand what we're trying to achieve in the near term and long term. There's a shared interest in achieving our goals together."

Gariepy sums up the impact of Dell EMC PowerEdge servers on its business: "Dell EMC PowerEdge servers are the foundation of the work we do here. They provide the automation, security, flexibility and reliability to make sure that we can focus on what we do best as a company." OTTO Motors' continuous IT transformation is possible because of its ongoing partnership with Dell EMC and a modern IT infrastructure built on PowerEdge servers.

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