

TOTALTRAX

Fast-growing telematics developer leverages container architecture to maximize both availability and scalability.

BUSINESS

Provides real-time vehicle, driver and inventory tracking technologies for manufacturing and warehouse operations.

CHALLENGES

Migrating from an on-premises customer environment to a cloud model for more efficient deployments and scalability.

SOLUTION

Fanatical Support® for AWS, Professional Services – Application Services/DevOps

OUTCOME

Coupling recommendations from the Rackspace DevOps Accelerator engagement with expert advice from Rackspace applications specialists, TotalTrax deployed AWS and integrated cloud-based containers to manage customer deployments faster and automate processes.



Manufacturing and warehouse operations rely on critical vehicle and inventory tracking data to manage assets efficiently and improve safety. Facilities of all sizes rely on sophisticated inventory tracking technologies to gain greater visibility into their operations and increase inventory accuracy.

Established in 2011, TotalTrax, Inc. was born from the merger of three leading-edge warehouse telematics companies, combining their technologies to deliver a superior application to the marketplace. Using patented hardware, software, reporting and business intelligence tools, TotalTrax empowers customers to track vehicle usage, maintenance, load and location for each of their fork trucks to improve warehousing processes. Customers can increase productivity and ensure safety while keeping costs low.

Growing pains reveal a new need

Since its launch, TotalTrax has used an on-premises solution for customer deployment. The company's primary customer base required local installations, which generally involved installing applications on a Windows-based computer at the warehouse site, with annual updates and new releases. Although local data storage was adequate during early operations, the company's continued growth made the inefficient software development cycle process untenable.

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RYAN FAUTH :: PRODUCTION SOFTWARE ENGINEER, TOTALTRAX

"It became glaringly obvious that we needed to do something, and the question was just who do we turn to, how do we find somebody," said Ryan Fauth, Production Software Engineer at TotalTrax. "We also had a desire to bring in the experts – to bring in somebody that

could come in and tell us what the industry standard was, [and] what the best practices were," he added.

Deep dive identifies specific goals

TotalTrax turned to Rackspace to identify a pathway to its aspirational state through the DevOps Accelerator. The first step in service delivery was a three-day collaborative workshop on-site at the headquarters for TotalTrax in Newport, DE, during which Rackspace DevOps and application specialists gained a better understanding of the company's existing architecture and application delivery processes, as well as the corporate culture and business objectives.

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Fauth explained, "It started as a learning process. They interviewed a lot of the developers here and figured out what our problems were." The fundamental pain point was the time required for manual deployments, which triggered a need for improved application architecture. Automating these processes would give developers a push-button solution to create new customers or replicate issues from the field, freeing up resources to develop the firm's core products.

After reviewing the findings of the three-day deep dive, Rackspace provided TotalTrax with an in-depth discovery assessment summary report that included an audit of the company's current state, recommended solutions to improve processes and a strategic roadmap outlining the priorities to help the telematics firm achieve its objectives. "It was all very clear to me. They did a very good job of explaining why we should change, why the option they were

recommending was the best one, and what improvements we could expect to see," Fauth said.

Containers add efficiency to cloud computing

Understanding the need for TotalTrax to move to a multi-tenant architecture, Rackspace experts suggested using Docker containers, allocating a container for each customer, along with an orchestration tool. With help from Rackspace engineers, TotalTrax employed Rundeck to define the job characteristics and the computing nodes where jobs will run.

The containers are housed in the Fanatical Support for AWS cloud platform giving TotalTrax the capability to meet increasing demand. The Amazon Elastic Cloud Service will be used to manage the Docker containers, allowing Totaltrax to easily scale up the environment and add additional nodes as new customers are added. According to Fauth, "We're looking to much larger customers, and we've moved to cloud only, so that opens up the opportunity for us to do much more frequent releases with much faster customer feedback on new updates."

Thanks to the guidance they received through the Rackspace DevOps Accelerator, TotalTrax successfully rolled out its continuous integration and continuous delivery (CI/CD) package in 2017.

More than a lift-and-shift project

A key component of the project revolved around needing to do more than just move infrastructure, but to also transform how that infrastructure works. TotalTrax needed to redesign their mostly manual processes and make customer onboarding more efficient. "We realized we couldn't just lift and shift the application into the cloud because it wouldn't be scalable. We needed a way that we could reconfigure our application so that it could scale with growth as we added new customers," said Ryan.

Backed by Rackspace, they've implemented a more integrated, automated approach. Neil O'Connell, Senior Vice President

of Technology Product and Innovation for TotalTrax shared, "Deployment of an individual customer used to take us three to four days, and now it takes us three to four hours." Neil continued, "Rackspace has been open to helping us architect a way to work with the cloud and its various contracted variants, like Google, Azure and AWS so that we can be agnostic and flexible in the end."

Using Rackspace expertise to maintain and improve their environment allows them to concentrate resources on development and improvement instead of maintaining basic infrastructure. Neil stated, "We're able to focus on our core and spend on employees that are creating new things and doing the things that are specific to our own capabilities."

Their new infrastructure ties together containers, and the AWS cloud platform to deliver an integrated solution that eliminates the hardware-heavy and labor-intensive processes that threatened their growth.

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NEIL O'CONNELL :: SENIOR VICE PRESIDENT OF TECHNOLOGY PRODUCT AND INNOVATION, TOTALTRAX

The impact of transformation on their customers

FMC Corporation, a TotalTrax customer, produces components for the pharmaceutical and food industries. The TotalTrax system continuously collects data points around equipment location, condition, usage, incident rates, incident locations, and performance by shift. They use this data to help them maintain safety and track OSHA compliance activities.

The improvements to the TotalTrax system have already been beneficial to FMC Corporation. "The location data that we've gotten has helped us identify areas where fork truck incidents are a little more likely. So, we're able to develop corrective action plans to make that area of the plant safer and to protect critical equipment," said Gordon Wall, Operations Manager at FMC Corporation. TotalTrax's cloud revamp of their old manual installation process also streamlines FMC Corporation's operations, "The cloud availability is a big asset to the overall reliability of the system. We can add additional fork trucks and additional users without having any kind of hardware limitations or concerns," added Gordon.

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GORDON WALL :: OPERATIONS MANAGER, FMC CORPORATION
(TOTALTRAX CUSTOMER)

Making the lift and shift into the cloud has not only streamlined the operations of TotalTrax, but also allowed their clients to better manage the lifting and shifting of their workloads for maximum safety, efficiency, and performance.

ABOUT RACKSPACE

Rackspace, the #1 managed cloud company, helps businesses tap the power of cloud computing without the complexity and cost of managing it on their own. Rackspace engineers deliver specialized expertise, easy-to-use tools, and Fanatical Support® for leading technologies developed by AWS, Google, Microsoft, OpenStack, VMware and others. The company serves customers in 150 countries, including more than half of the FORTUNE 100. Rackspace is a leader in the 2017 Gartner Magic Quadrant for Public Cloud Infrastructure Managed Service Providers, Worldwide, and has been honored by Fortune, Forbes and others as one of the best companies to work for.

Learn more at www.rackspace.com/professional-services or call us at **1-800-961-2888**.

Watch the video: [How Do You Accelerate DevOps?](#)

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