IBM

# Fortune 500 transportation leader safely migrates from one cloud to another

How J.B. Hunt assures app performance in hybrid cloud with IBM Turbonomic

by Elizabeth Sheehan

4-minute read

In 2018, J. B. Hunt Transport, Inc's public cloud journey began when it migrated 25% of its on-premises workloads to Microsoft Azure. In 2019, the company decided to rearchitect its J.B. Hunt 360 platform, which included its Shipper 360 and Carrier 360 technologies, to improve usability and accelerate its time-to-market.

As this transition got underway, it soon became clear that J.B. Hunt needed a holistic view of its environment so it could ensure that its workloads were sized correctly as its environment grew increasingly complex. Overprovisioning and manual intervention were not long-term options. This is when Robert Auten, Senior Expert Software Engineer, Cloud Operations at J.B. Hunt and his team turned to the IBM® Turbonomic® hybrid cloud cost optimization solution.

Over the course of 12 months executed

# 2,000

resizing actions

Freed up

# 650

hours in 1 year

# Full-Stack Visibility and AI-powered Resourcing Decisions

Two key aspects of Turbonomic hybrid cloud cost optimization are the AI-powered resourcing recommendations and automated actions. For their on-premises environment, which consists of VMware and Microsoft Hyper V, Auten and his team are automating all non-disruptive actions 24x7 and are scaling non-production actions during a nightly maintenance window. Over the course of 12 months, Turbonomic executed nearly 2,000 resizing actions which — assuming manual intervention requires 20 minutes per action — freed up over 650 hours of the team's time to focus on strategic initiatives. Turbonomic has also supported the team in their planning process for their



on-premises environment and has given them tangible evidence to present to upper management when new hosts need to be purchased. Additionally, it has helped the team ensure there

is an audit trail as changes are implemented across their environment: Turbonomic calls J.B. Hunt's IT Service Management (ITSM) webhook to create change records for all scaling actions.

In their Azure environment, the team has been using a combination of recommendations and automated actions to manage their resources. In their lab and test environment, they rely on automated actions but in their production environment, they follow a governance process whereby they share Turbonomic recommendations across the broader team before executing. Once the team signs off on that action, Cloud Operations will move those resources into the group that has a policy to automatically execute on that action in the future.

Turbonomic has also helped Auten's team improve collaboration with application owners. It has empowered them to identify opportunities to reduce waste in their container environment by rearchitecting their applications. According to Auten, to assure performance of their containerized applications, t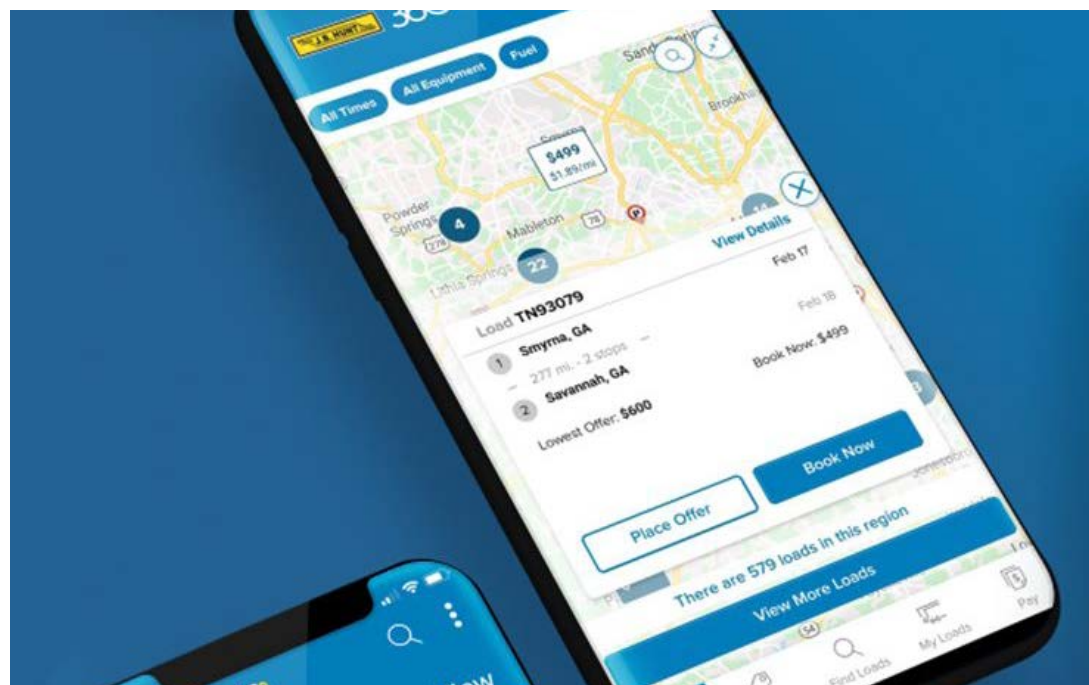he team sets CPU and memory limits based on what's required for startup, not what is required afterward. While this ensures those applications have the resources they need during startup, it also creates waste in their environment since they don't require this same volume of resources to run after startup. Turbonomic identifies this discrepancy and gives them clear evidence for cases where it would be best to rearchitect their application in order to utilize more resources within their container environment.

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**Robert Auten**, Senior Expert Software Engineer, Cloud Operations, J.B. Hunt Transport, Inc.

# Delivering ongoing optimization across hybrid cloud

At the start of 2021, J.B. Hunt leadership entered a strategic alliance with Google Cloud and tasked the team with migrating the bulk of their compute environment — which included 1,000 virtual machines, 90 Kubernetes clusters, 915 Kubernetes nodes, 27,000 pods and 500 databases — from Azure to Google Cloud. The team estimated the project would take six months. They were given six weeks to complete it. Due to their architecture, tools, and talent, they reduced a six to nine month project plan down to six weeks of execution. Because they already trusted Turbonomic to optimize their Azure environment, the team was confident their workloads were

correctly sized before the migration. Prior to the start of the migration, they knew the sizing they would need

in Google Cloud. In the end, they executed the shift in only 35 business days with zero down-time.

The team is already off to a strong start in their Google Cloud journey, but the migration phase is just the beginning. The team will continue to optimize their environment to reduce waste and assure the performance of their applications. An important aspect in this ongoing optimization process will be their ability to prevent resourcing issues before they occur. That's where Turbonomic's Google Cloud integration will help.

As early users of Turbonomic's Google Cloud integration, Auten and his team have started by targeting their non-production environment within Google Cloud. Their plan is to deploy Turbonomic across their production environment, so they can track utilization and savings resulting from Turbonomic's AI-powered resourcing recommendations and actions.

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**About J.B. Hunt Transport, Inc.**

Founded in 1961, J.B. Hunt (external link) is a Fortune 500 transportation and logistics company headquartered in Lowell, Arkansas. Since the very beginning, great customer service has been central to J.B. Hunt's mission. As it builds the most efficient transportation network in North America, J.B. Hunt seeks to deliver an industry-leading service while remaining committed to environmental sustainability.

**Solution component**

- IBM® Turbonomic®