



# Accelerating application modernization within IBM

The IBM CIO Organization optimizes resource allocation with Turbonomic automation

How does an IT team supporting 1,600 business applications and over 280,000 users all over the world continuously deliver reliable, performant, security-rich IT services while also accelerating its own digital transformation journey?

This is what the Chief Information Officer (CIO) Organization within IBM is focused on every single day. The CIO Organization manages the applications that keep IBM running, from supply chain and logistics to sales, marketing and finance systems as well as digital workplace solutions.

The team's guiding principle is to accelerate their pace of innovation and



reduce their carbon footprint at the same time. The team began adopting Red Hat® OpenShift® in 2019, as part of an overarching enterprise platform-oriented approach across IBM Z®, IBM® Power®, x86 and container architectures. This meant adopting standard platforms at enterprise scale to increase velocity. With OpenShift,

the migration to a large multi-tenant environment also made it increasingly difficult to rely on existing tools and processes to manage capacity and maintain optimal application density.

Even at IBM, application teams have often faced challenges in understanding proper infrastructure

resource configurations when they are deploying a new service. “Like other application teams in the industry, our teams historically have overprovisioned to avoid capacity-related disruption, but this introduces a new series of questions that our team then needs to answer. We are responsible for identifying and assigning the best resource allocation to maximize performance while minimizing cost in the long run,” notes Matt Lyteson, VP, CIO Hybrid Cloud Platforms at IBM.

As the complexity of their environment grew once they began adopting Red Hat OpenShift, Lyteson and his team quickly realized that manual remediation of overallocated resources was not an option. This process of optimizing resource allocation in a multi-tenant environment was beyond human scale. This is why the team turned to the [IBM Turbonomic®](#) hybrid cloud cost optimization solution.

Achieved a

3.8 TB

decrease in cumulative memory limits

IBM  
Turbonomic  
takes

45,000

automated resourcing actions per month



# Immediate value and lasting impact

This challenge of optimizing resource allocation across a multi-tenant OpenShift environment was complex, but once they implemented Turbonomic, the team found that the path forward was clear. “We didn’t have to change our platform nor the way we work to implement Turbonomic. Upon installation, actionable data was nearly instant,” explains Ryan DeJana, STSM, Hybrid Cloud Architect at IBM. Within a matter of hours, the team had a holistic view of capacity allocation across multiple OpenShift clusters, and they could see what needed to be optimized. Their next step was to explore automated resourcing actions. But first,



Lyteson needed to persuade the team that automation was the right approach.

“Even I had to be convinced to try out the automation. As a developer, that first step of transferring resourcing control over to a software platform can be a bit scary,” admits DeJana. Turbonomic’s full-stack visibility, the ability to see their entire environment from the application layer down to the infrastructure, was a critical point in alleviating this concern and moving forward.

Lyteson persuaded the team to try out the automation and see for

themselves that Turbonomic was taking the right actions to right-size their environment. The team began by migrating their non-production and development clusters. “Within a couple of days, it was clear to the team that Turbonomic’s AI-powered automation was contributing to a more performant and efficient environment,” remarks DeJana.

Today, the team is applying real-time application usage data from Turbonomic to automatically right-size resource allocations for 88% of their non-production applications and

42% of their production applications. “Turbonomic has helped us in terms of time and the pace of change. We’re not only asking the team to develop new business functions faster and get them delivered faster, but we were also asking them to know how much resources they actually need,” explains DeJana. “With Turbonomic, we can let automation right-size resources. We do not make our developers watch and understand how to manually make those resourcing changes themselves. We’re removing a friction from their life so they can focus on creating business value.”

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# Expanding adoption and accelerating transformation

Currently, the team is relying on Turbonomic's AI-powered automation to execute 45,000 actions a month. "When you look at the complexity of our environment and the impact Turbonomic has had, you can't count the amount of time that we've saved by implementing Turbonomic automated resourcing actions because we could not execute that volume of actions without Turbonomic automation," explains Lyteson. That said, they have achieved a 3.8 TB decrease in cumulative memory limits and a 64% decrease in CPU requests. These efficiencies have a meaningful financial impact on the business. They help minimize the team's

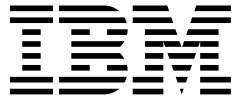


cost of labor by eliminating time spent on manual remediation and freeing up the team to focus on innovation. They also help the team extend the lifespan of their existing infrastructure and avoid unnecessary investment in new hardware, as well as further optimize Red Hat OpenShift estates running on IBM Cloud®.

As they look ahead, the team is planning on expanding their adoption of Turbonomic to support infrastructure as a service (IaaS) planning and monitoring as well as cluster resource optimization planning. They will also enable Turbonomic for mission-critical applications in production. “I’m so happy with the results we are achieving through Turbonomic so far, and I’m really excited to see where else we can go with this platform,” says DeJana.

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**Matt Lyteson**, VP, CIO Hybrid Cloud Platforms, IBM



## About IBM CIO Organization

The Chief Information Officer (CIO) Organization leads IBM's internal IT strategy and is responsible for delivering, securing, modernizing and supporting the IT solutions that IBMers use to do their jobs every day.

The CIO strategy encompasses creating an adaptive IT platform that makes IT easier to access across the enterprise, accelerates problem-solving and serves as an innovation engine for IBM, catalyzing business growth.

## Solution component

- IBM® Turbonomic®

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