Managing Kubernetes performance at scale with Turbonomic Application Resource Management for IBM Cloud® Paks

Minimal human intervention
No thresholds or autoscaling policies to set! Fully automatic AI-powered analytics makes the right resource decisions for you in real time.

Full-stack control and visibility
Turbonomic controls resources at every layer of the application stack and provides complete visibility so you understand the decisions the software makes.

Optimize any hybrid or multicloud
Turbonomic is platform agnostic, optimizing any flavor of Kubernetes anywhere along with your traditional virtualization and cloud environments.

Containers and Kubernetes offer developer speed, multicloud portability and elasticity. But they also create a perfect storm of complexity and dynamic, fluctuating demand that challenges the best of teams. Effectively managing Kubernetes at scale necessitates that the environment is continuously controlled by software, not people. Turbonomic automatically manages resources at every layer of the application stack so that applications always get what they need to perform. Turbonomic determines and automates:

1. How you should size containers
2. When you need to reschedule pods, and to which node
3. When you need to scale out—or back—the cluster, and by how much
4. Whether you have enough capacity to onboard new services

Container rightsizing: Turbonomic can scale container limits and requests up or down based on application demand. These actions can be executed automatically in real time or as part of your existing deployment process, such as continuous integration continuous delivery (CICD).

Pod "move" and rescheduling: Turbonomic can reschedule pods while maintaining service availability to avoid resource fragmentation and contention on the node. These actions safely increase density while helping ensure that pods can always be deployed—no pending pods!

Cluster scaling: When Turbonomic detects that pods have too little or too much capacity in the cluster, it gives the recommendation to spin up another node or suspend nodes. You always have exactly the right amount of infrastructure for continuous service performance.
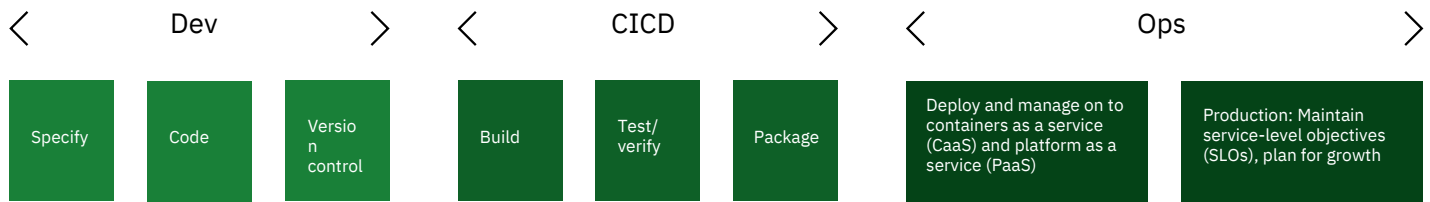
Container planning: Turbonomic allows you to model what-if scenarios based on your real-time environment. With a few clicks, you can determine how much headroom you have in your clusters or simulate adding or removing demand in terms of Kubernetes pods.

Turbonomic actions continuously and simultaneously facilitate application performance while minimizing cost and managing compliance with business policies for your Kubernetes clusters along with your private or public cloud infrastructure. The solution provides a unified control platform to manage application resources across your hybrid and multicloud estate.

Accelerating DevOps with a container feedback loop
Automation can increase both the number of deployments and the quality with repeatable delivery and testing. Turbonomic is continuously analyzing the resource needs of your services in production, determining the right actions to help ensure their performance. Container resizing actions can be executed as part of your deployment process to help ensure services are continuously optimized. In other words, Turbonomic provides a feedback loop regarding how your services are performing and how to predict what's needed from the infrastructure.

‹	Dev	›	‹	CICD	›	‹	Ops	›

Specify	Code	Version control	Build	Test/ verify	Package	Deploy and manage on to containers as a service (CaaS) and platform as a service (PaaS)	Production: Maintain service-level objectives (SLOs), plan for growth

Accelerate your platform-first initiatives

Containerization is a journey—one that starts with the first few applications and then expands as you demonstrate success and as demand for your next-generation application platforms rapidly grows. Turbonomic software scales with the complexity of hybrid and multicloud estates, carrying you through your container journey from day 1 and beyond. It can help you achieve your platform-first goals faster and within budget. When your services continuously perform, your customer experience is better, and your teams can more seamlessly operate together.

Turbonomic supports any upstream version of Kubernetes, including the Red Hat® OpenShift® Platform, Amazon Elastic Kubernetes Service (Amazon EKS), Azure Kubernetes Service (AKS) and Google Kubernetes Engine (GKE).

Learn more:
– Watch the demo video.
– Schedule a demo.
– Try Turbonomic.

About Turbonomic, an IBM Company

Turbonomic, an IBM Company, provides application resource management (ARM) software used by clients to help assure application performance and governance by dynamically resourcing applications across hybrid and multicloud environments. Turbonomic network performance management (NPM) provides modern monitoring and analytics solutions to help assure continuous network performance at scale across multivendor networks for enterprises, carriers and managed services providers.