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CISCO

Self-Managing Kubernetes

With Cisco Workload Optimization Manager

**Trustworthy actions
can be fully automated**

**Continuous health
elevates DevOps and IT**

**Multicloud optimization scales
with distributed environments**

What if your workloads could manage themselves anywhere, in real time?

IDC predicts that by 2020, 50% of the Global 2000 will see the majority of their business depend on their ability to create digitally enhanced products, services, and experiences.[1] Kubernetes is the new infrastructure standard for modern microservices applications. It gives developers the means to create better applications and services faster. For IT teams, it creates a more dynamic and complex environment.

Decision automation for Kubernetes

Cisco® Workload Optimization Manager adds essential capabilities to Kubernetes deployments so that workloads can be smart and self-managed. The platform simultaneously optimizes performance, compliance, and cost in real time. It helps ensure that workloads get precisely the resources they need when they need them. Cisco Workload Optimization Manager:

- **Automates** pod rescheduling to assure performance
- **Autoscales** clusters intelligently to implement elastic infrastructure
- **Unites** DevOps infrastructure with full-stack control

Key features

- **Trustworthy actions** can be fully automated to deliver self-managing clusters and assure performance.

- **Continuous health** frees DevOps and IT teams to work on more impactful projects.

- **Multicloud optimization** intelligently controls performance, compliance, and cost across public and private clouds.

Deliver on the promise of Kubernetes

- **Unified workload automation** controls Kubernetes clusters across multicloud environments

- **Minimal human intervention** with no thresholds to set

- **Intelligent cluster scaling** safely maximizes infrastructure

- **Continuous optimization of performance, compliance, and cost** allows you to accelerate your cloud-native initiatives

- **Full-stack control** unites DevOps teams and infrastructure

- **Supports** Red Hat OpenShift and is certified on Red Hat Enterprise Linux

Architectural overview

Cisco Workload Optimization Manager uses a container—KubeTurbo—that runs in your Kubernetes or Red Hat OpenShift cluster to discover and monitor your environment. KubeTurbo runs together with the default scheduler and sends this data back to the Workload Optimization Manager analytics engine. It then determines the right actions to drive ongoing health, including continuous placement for pods and continuous scaling for applications and the underlying cluster.

Conclusion

Digital business transformation increases both the dynamic complexity and the volume of workloads, seriously challenging your IT organization's capability to deliver cost-efficient quality of service. Cisco Workload Optimization Manager makes the right resource decisions at the right time, so you don't have to. With this innovative solution, you can have confidence that your workloads will continuously perform, while maintaining compliance and minimizing cost.

For more information

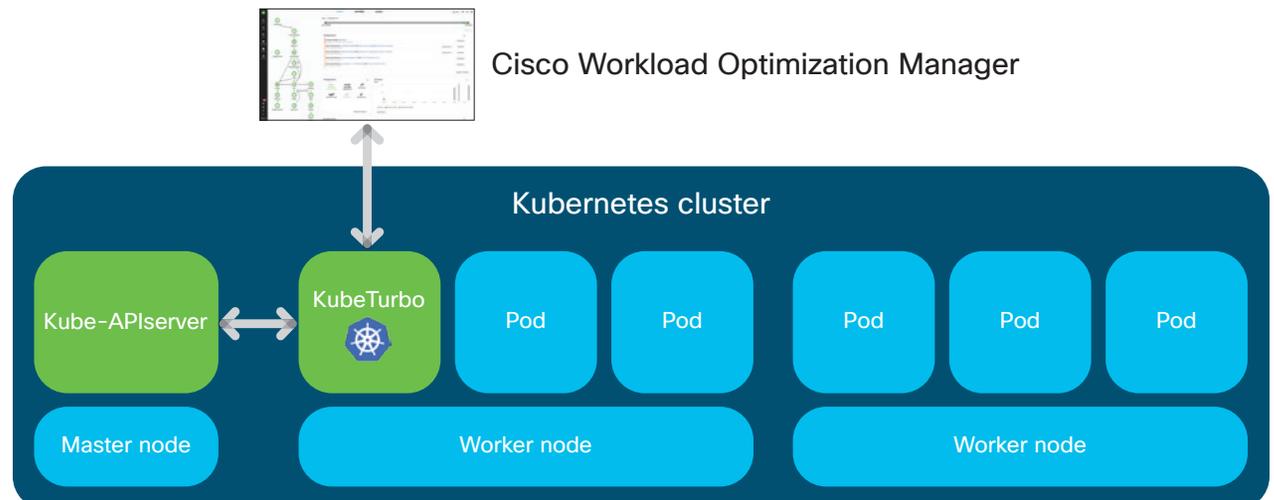- cisco.com/go/workloadoptimization

Figure 1 Cisco Workload Optimization Manager supports Kubernetes and Red Hat OpenShift on Amazon Web Services, Microsoft Azure Stack, and on-premises cloud environments

1. IDC: [IDC FutureScape: Worldwide IT Industry 2017 Predictions](), November 2016, document US41883016