



Revolutionize Application Resource Management for Hybrid Cloud

With Cisco Intersight Workload Optimizer

Change the way you think about application resource management

With more people accessing your business through a digital experience, application performance is more critical than ever. Managing workload placement and resources across your ever-changing IT environment is a complex, time-consuming task that has big implications on user experience and costs.

Cisco Intersight™ Workload Optimizer discovers how all the parts of your hybrid world are connected and automates these day-to-day operations for you. Supporting more than 50 common platforms and public clouds, it provides real-time, full-stack visibility across your applications and infrastructure. Now you can harness the power of data to continuously monitor supply and demand, match workloads and resources in the most efficient way and ensure that governance rules are always enforced. The result? Better application performance, reduced cost, faster troubleshooting, and more peace of mind.

Highlights

- **Radically simplify** application resource management with a single tool that dynamically optimizes resources in real time to ensure application performance
- **Continuously optimize critical IT resources**, resulting in more efficient use of existing infrastructure and lower operational costs on premises and in the cloud
- **Take the guesswork out of planning for the future** with the ability to quickly model what-if scenarios based on the real-time environment

Challenges

Siloed teams with different toolsets managing different layers of the stack and multiple types of resources.

Flying blind without a unified view of the complex interdependencies between layers of infrastructure and applications across on-premises and public cloud environments.

Separating the signal from the noise and prioritizing the constant flow of alerts coming from separate tools.

Lack of visibility into underutilized capacity in public clouds and cost overruns from unmanaged spikes in utilization.

Complexity beyond human scale

Managing application resources in a dynamic, hybrid cloud world is increasingly complex, and IT teams are struggling. With application components running on premises and in public clouds, end users can suffer outages or experience slow application performance because IT teams simply lack visibility to see how things are connected and manage their dynamic environment at scale.

Business impact

Unchecked complexity can result in:

- **Underutilized infrastructure on premises:** To ensure application performance, IT teams often allocate resources modeled to peak-load estimates and/or set conservative utilization limits
- **Public cloud overprovisioning and cost overruns:** When planning and placing workloads in public clouds, IT teams routinely overprovision computing instance sizes as a hedge to ensure application performance
- **Wasted time:** IT teams end up chasing alerts and meeting in war rooms to unravel problems instead of supporting innovation

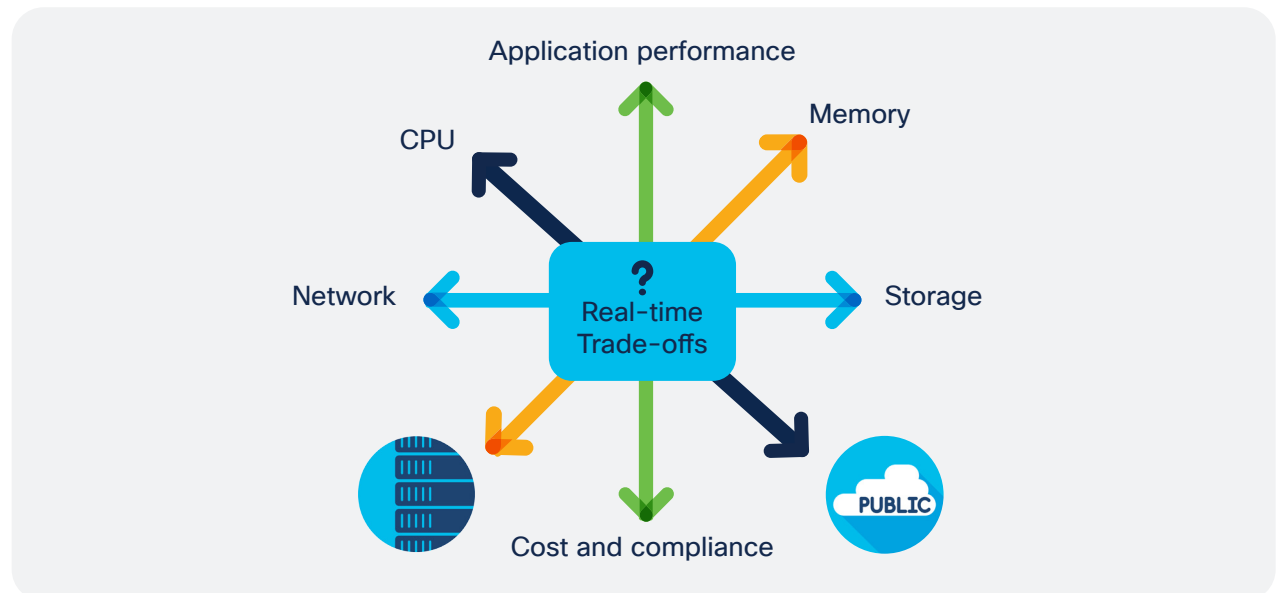


Figure 1. Managing hybrid cloud resources to ensure application performance and control costs is a complex problem

Extending the power of Cisco Intersight

Cisco Intersight is a cloud operations platform that delivers intelligent visualization, optimization, and orchestration for applications and infrastructure across public cloud and on-premises environments. It provides an essential control point for customers to get more value from hybrid cloud investments.

The Cisco Intersight Workload Optimizer service extends these capabilities with hybrid cloud application resource management and support for a broad third-party ecosystem. With this powerful solution, you can have confidence that your applications have continuous access to the IT resources they need to perform, at the lowest cost, whether they reside on premises or in a public cloud.

The Power of automation

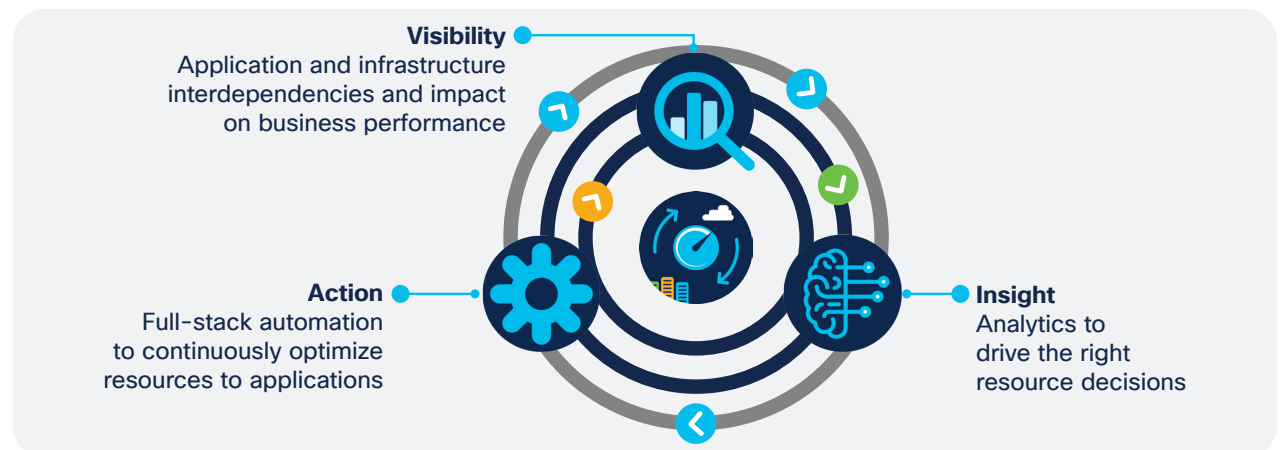
To deal with all this complexity, the only choice is to automate resource management and workload placement operations. But how? To optimize effectively, you need a way to collect and track streams of telemetry data from dozens, hundreds, perhaps thousands of sources. You need a way to correlate and continuously analyze all of this data to understand how everything fits together and what's important, and to decide what to do from moment to moment as things continue to change. New tooling is required to connect all the dots and give you the insight you need to stay ahead of demand, stay ahead of problems, and respond to new projects with confidence. What if you could create a unified view of your environment and continuously ensure that applications get the resources they need to perform all while increasing efficiency and lowering costs?

Deeper insights, smarter actions

Cisco Intersight Workload Optimizer is a real-time decision engine that ensures the health of applications across your on-premises and public cloud environments while lowering costs. The intelligent software continuously analyzes workload demand, resource consumption, resource costs, and policy constraints to determine an optimal balance. Cisco Intersight Workload Optimizer is an AIOps toolset that makes recommendations for operators and can trigger workload placement and resource allocations in your data center and the public cloud, fully automating real-time optimization.

With Cisco Intersight Workload Optimizer, infrastructure and operations teams are armed with visibility, insights, and actions that ensure SLAs are met while improving the bottom line. And application and DevOps teams get comprehensive situational awareness so they can deliver high-performing and continuously available applications.

Figure 2. Ensure application performance with continuous visibility, deep insights and informed actions



Closed-loop operating model with AppDynamics

Break down siloes between IT teams with the combination of Cisco Intersight Workload Optimizer and AppDynamics®. This integration provides a single source of truth for application and infrastructure teams to work together more effectively, avoiding finger pointing and late-night war rooms.

AppDynamics discovers and maps your business application topology and how it uses IT resources. Cisco Intersight Workload Optimizer correlates this data with your infrastructure stacks to create a dynamic dependency graph of your hybrid IT environment. It analyzes supply and demand and drives workload placement and resource allocation actions in your IT environment to help ensure that application components get the computing, storage, and network resources they need. Together, these intelligent tools replace sizing guesswork with real-time analytics and modeling so that you know how much infrastructure is needed to allow your applications and business to keep pace with demand.

Proactive vs. reactive

Intelligent, proactive workload optimization simplifies and automates operations. With many tools, the focus is on monitoring and alerting users after a problem has occurred. Cisco Intersight Workload Optimizer is a proactive tool that is designed to avoid application performance issues in the first place. It continuously analyzes workload performance, costs, and compliance rules and makes recommendations on what specific actions to take to avoid issues before they happen, radically simplifying and improving day-to-day operations.

Single tool with full-stack visibility

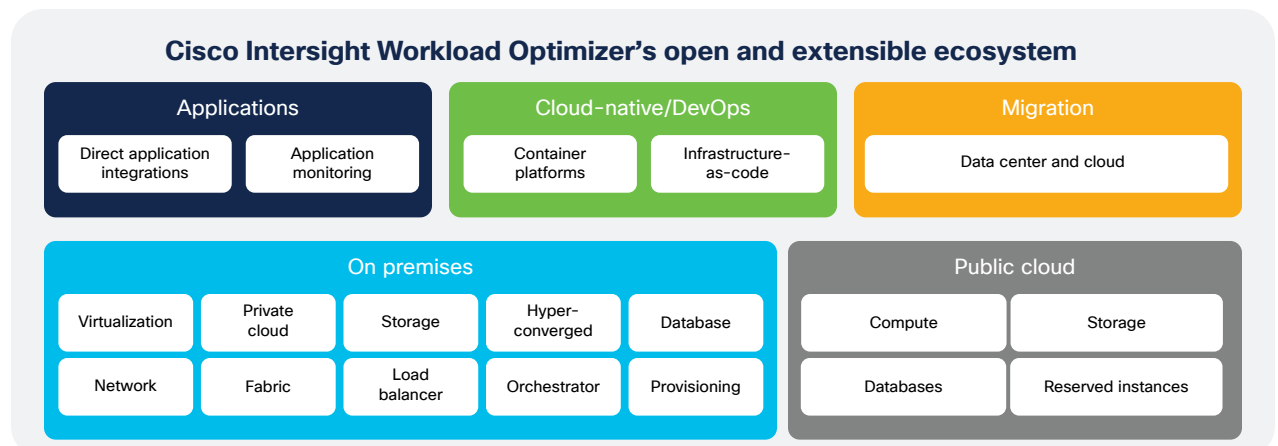
While some tools provide visibility into applications or visibility into an individual tier of physical or virtual infrastructure, Cisco Intersight Workload Optimizer bridges all these layers with a single tool. It creates a dynamic dependency graph that visualizes the connections between application elements and infrastructure throughout the layers

of the stack, all the way down to component resources within servers, networking, and storage.

Open and extensible

Optimize workloads in any infrastructure, any environment, and any cloud. Cisco Intersight Workload Optimizer works with the industry's top platforms, including VMware vSphere, Microsoft Hyper-V, Citrix XenServer, and OpenStack. It automatically manages compute, storage, and network resources across these platforms, both on premises and in the cloud. It analyzes telemetry data from a broad ecosystem of data-center and cloud technologies, with agentless support for over 50 targets across a range of hypervisors, compute platforms (including Cisco UCS® and HyperFlex™), container platforms, public clouds, and more. Cisco Intersight Workload Optimizer correlates these telemetry sources into a holistic view to deliver intelligent recommendations and trigger actions, including where to place workloads and how to size and scale resources.

Figure 3. Cisco Intersight Workload Optimizer analyzes telemetry data across your hybrid cloud environment to optimize resources and reduce cost



Let software do the work

Managing resources across your ever-changing multicloud environment to balance application performance with cost can be a complex task. Rethink resource management for all your applications across any environment with Cisco Intersight Workload Optimizer. The result? Better application performance, reduced cost, and more time for you to focus on what's important.

Learn more:

- [Cisco Intersight Workload Optimizer](#)
- [Cisco Intersight](#)

Accelerate success with services

Cisco Customer Experience (CX) offers a variety of services for Cisco Intersight and Cisco Intersight Workload Optimizer from deployment services to more advanced automation and customized integration services.

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Optimize your hybrid cloud deployments

If you have workloads running on premises and in public clouds, your IT teams need to make complex, on-going decisions about where to locate workloads and how to size resources in order to ensure performance and minimize cost.

Figuring out what workloads should run where is nearly impossible if you lack clear visibility into available resources and associated costs. And for workloads that run in the cloud, how do you determine what cloud instance or tier is the best fit at the lowest cost? Cloud costs can become volatile and get lost in a myriad of sizing, placement, and pricing decisions that can have very expensive consequences. Cisco Intersight Workload Optimizer can help:

- Manage resource allocation and workload placement in all your infrastructure environments, giving you full-stack visibility in a single pane of glass for supply and demand across your combined on-premises and cloud estate
- Optimize cloud costs with automated selection of instances, reserved instances (RIs), relational databases, and storage tiers based on workload consumption and optimal costs
- Dynamically scale, delete, and purchase the right cloud resources to ensure performance at the lowest cost
- Extend on-premises resources by continuously optimizing workload placement and cutting overprovisioning based on utilization trends

- De-risk migrations to and from the cloud with a data-driven scenario modeling engine

Manage Kubernetes at scale

In increasingly competitive markets, more organizations are adopting containerized deployment options to deliver business-differentiating applications quickly. Kubernetes has become the de facto standard for container orchestration and helps to build, deliver, and scale applications faster. For IT teams, Kubernetes has introduced new layers of complexity with interdependencies and fluctuating demand that make it nearly impossible to effectively manage modern IT at scale.

Cisco Intersight Workload Optimizer simplifies Kubernetes deployments and optimizes performance and cost in real time for on-going operations.

- **Container rightsizing:** Scale container limits/requests up or down based on application demand
- **Pod “move”/rescheduling:** Reschedule pods while maintaining service availability to avoid resource fragmentation and/or contention on the node
- **Cluster scaling:** When Cisco Intersight Workload Optimizer sees that pods have too little (or too much) capacity in a cluster, it will give the recommendation to spin up another node (or to suspend nodes)
- **Container planning:** 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 Kubernetes pods