

Cisco Intersight Workload Optimizer, HyperFlex AP, and UCS C240 SD M5

Overview



What are we announcing?



Cisco is delivering a closed-loop operating model that breaks down silos between application and infrastructure teams and a multicloud toolkit that bridges conventional and cloud-native workloads. It consists of the following:

- **Cisco Intersight Workload Optimizer:** New functionality that will be available as an option with Cisco Intersight™. It continuously optimizes on-premises and cloud resources to ensure that performance, compliance, and cost objectives are achieved. The Cisco Intersight Workload Optimizer analytics engine matches real-time workload demand to the underlying infrastructure supply. It dynamically recommends and initiates the necessary automated actions, ensuring application performance. When Cisco Intersight Workload Optimizer is combined with AppDynamics®, it enables a closed-loop operating model from application business logic to physical server components, to cost-effectively ensure the user experience.
- **Hyperflex Application Platform (HXAP):** HXAP for Containers, eliminates the cost of a third-party hypervisor to support Kubernetes. In future, it will support virtual machines, containers, bare-metal containers and serverless workloads on the same platform. Cisco Intersight container services automate cluster deployment and maintenance for simplified, turnkey operations. Multicloud deployment is enabled through integration with AKS-, EKS-, and GCP-managed Kubernetes services.

- **AppDynamics Experience Journey Map:** Maximizes business value with insight into users' most transited application journeys. Algorithms extract critical pathways in real time and paint them on a dashboard in the form of user flows overlaid with performance and business metrics, enabling IT organizations to clearly identify application bottlenecks and abandonment, and to triage efficiently.



What challenges does this solve for customers?



Applications used to support the business, now they are the business. The business demands agility to meet new customer requirements without compromising security and the customer experience. Unfortunately, IT operations were not designed to rapidly address customer demands, so they were left out. IT teams are struggling to respond, and this has led to "finger-pointing" when things don't go well. The complexity of technologies and scope is increasing. IT is becoming responsible for new technologies and methodologies – from cloud, edge, and IoT to containers, DevOps, and AI. IT teams are required to address them all with the same or a reduced set of resources.

So how did we get here? IT has optimized the domains of campus, branch, security, application development, data center, and cloud. Now, however, we need a more holistic, multidomain approach that can be continuously optimized to address:

- a. Adoption of hybrid cloud application architectures that are microservice-based and highly distributed
- b. Heightened requirements of agility, simplicity, and automation to meet customer needs in real time

Q How do these new products address these problems?

A These new solutions bridge domain silos in the following ways:

1. Establish a bridge between infrastructure and application delivery teams to provide the experience users want and the business outcomes the company desires.
2. Bridge traditional and hybrid applications through a future-ready architecture.
3. Enable operational simplicity and automation by bridging public/private/on-premises infrastructure, containers/VMs/bare-metal, and monolithic/microservices application architectures.

Q How is this different than the competition?

A Alternative approaches offered by other vendors have the following limitations:

- **Lack of visibility:** Virtualization-focused approaches that begin and end within just the infrastructure lack visibility and understanding of what is going on in the application realm.
- **Limited insight:** Application maps can't correlate application topologies to business transactions and customer pathways to the underlying on-premises and cloud infrastructure.

- **Missing pieces:** No other vendor provides a common management framework that includes a complex mix of open-source components and IP augmented with AI/ML and analytics. Plus these solutions provide heterogeneous support for containers, hypervisors, multicloud, bare-metal, and serverless architectures. The entire hardware and software stack is backed by support from a single vendor.
- **Owning the network:** As applications, data, and computing span across multidomain environments, current vendor tooling does a poor job of scaling to consistently manage these distributed infrastructure assets with ease.

Q Why Cisco?

A The solution needs to come from a player with technology and expertise in multidomain environments that can bridge the user experience, applications, and the underlying physical infrastructure. Only Cisco can provide tools that deliver the visibility to correlate performance and health data across domains. This data plus AI and analytics help derive real-time insights for remediation and optimization. It drives the necessary action to proactively solve for the application and infrastructure issues before they impact customers and your business.

Cisco is uniquely positioned to solve for these challenges and today we are announcing:

1. A closed-loop operating model that bridges the gap between infrastructure and applications.
2. An application modernization platform, so you can evolve from virtualization to hybrid-cloud, distributed applications that span multiple domains.



What are the trends in the market?

Here are some recent market trends and predictions

- 47 percentage of apps built with a modular framework and 20+ interdependencies within each application (**IDC InfoBrief Transforming Applications and Multicloud Operations**, Aug-19)
- “By 2022, 50 percentage of DevOps teams will invest in tools to focus on business KPIs (cost, revenue, etc.), and operations will play a larger role in end-to-end app performance and business impact.” (IDC FutureScape: Worldwide Developer and DevOps Predictions 2020, Oct., 2019)
- 100ms delay in website load time can hurt conversion rates by 7 percentage (Akamai Online Retail Performance Report, April, 2017)
- 50 percentage willing to pay more for a product/service if its digital experience is better than a competitor’s (**The App Attention Index, 2019**)
- 49 percentage of users surveyed switched suppliers due to poor digital experience (**The App Attention Index, 2019**)
- 90 percentage bounce rate if mobile page load time is over 6 seconds (source: Google/SOASTA Research, 2017)
- “By 2023, 60 percentage of digital business initiatives will require I&O to report on users’ digital experience, up from less than 15 percentage today.” (Gartner’s Market Guide for Digital Experience Monitoring)
- “By 2022, 70 percentage of enterprises will deploy unified VMs, Kubernetes, and multicloud management processes and tools to support robust multi-cloud management and governance across on-premises and public clouds.” (IDC FutureScape: Worldwide Cloud Predictions 2020, October, 2019)
- “By 2023, 40 percentage of DevOps teams will augment application and infrastructure monitoring tools with artificial intelligence for IT operations (AIOps) platform capabilities. (Gartner, “Market Guide for AIOps Platforms”, November, 2019)

- 78 percentage of enterprises have adopted containers and running them in production; the #1 reason is to “increase developer speed and efficiency” (2019 Container Adoption Report)
- “According to IDC, the container infrastructure software market is growing rapidly at a CAGR of 63 percentage.” (IDC, “Why Persistent Storage is Important for Containerized Applications”, September, 2019)

Details regarding the products and solutions

Cisco Intersight Workload Optimizer



What is Cisco Intersight?

Cisco Intersight is a management platform delivered as a service with embedded analytics for your Cisco and third-party IT infrastructure. This platform offers an intelligent level of management that enables IT organizations to analyze, simplify, and automate their environments in more advanced ways than ever before. Cisco Intersight provides an integrated and intuitive management experience for lifecycle management of IT resources in the traditional data center as well as at the edge.



What is the Cisco Intersight Workload Optimizer?

Cisco Intersight Workload Optimizer will be available as an option with Cisco Intersight. It extends the capabilities of Cisco Intersight with multidomain visibility across the full stack of applications and infrastructure, from on premises to the cloud. The Cisco Intersight Workload Optimizer analytics engine matches real-time workload demand to the underlying infrastructure supply. The supply includes public cloud, virtual machines, containers, third-party hardware, and Cisco infrastructure resources.

The optimization functionality is engineered for limitless scale and true SaaS multitenancy. It is architected to enable scaling to support the entirety of Cisco’s UCS and HyperFlex portfolio and third-party systems. Finally, it is a singular platform with common credentials, common accounting and a common user experience.

The Cisco Intersight Workload Optimizer, when combined with AppDynamics, correlates business, application-performance, and infrastructure metrics to provide full-stack visibility and common data for a single source of truth. Cisco Intersight Workload Optimizer applies machine intelligence to drive automation of physical and virtual resources. It cost-effectively optimizes the infrastructure dynamically while ensuring the user experience. This enables a top-to-bottom closed-loop system all the way from the business logic, across a hybrid cloud, to DIMMs on a server or links on a network.

Q How is Cisco Intersight Workload Optimizer licensed?

A Cisco Intersight Workload Optimizer will be licensed as an add-on to Cisco Intersight license editions (including the Cisco Intersight Base edition that is included with Cisco UCS and HyperFlex systems. Cisco Intersight Workload Optimizer will be available in three editions:

- Essentials
- Advantage
- Premier

Q What is the difference between the Cisco Intersight Workload Optimizer editions?

A See the table below for details.

Features	Cisco Intersight Workload Optimizer Essentials	Cisco Intersight Workload Optimizer Advantage	Cisco Intersight Workload Optimizer Premier
Coverage	Public and on premises	Public and on premises	Public and on premises
Visibility	Y	Y	Y
Dashboards and reporting	Y	Y	Y
Planning	Y	Y	Y
Manual compute actions	Y	Y	Y
Automatic placement	Y	Y	Y
Compliance policy	Y	Y	Y
Compute fabric actions	Y	Y	Y
Storage actions	N	Y	Y
Application actions	N	Y	Y
Self-service and workflow	N	Y	Y
Auto scaling	N	N	Y
Network-aware placement	N	Y	Y
SLA Adherence	N	N	Y

Q What meter is used to license Cisco Intersight Workload Optimizer?

A Cisco Intersight Workload Optimizer is licensed on a per-VM and per-VDI basis. The VM meter is the same regardless of the underlying infrastructure. Additional methods of metering will be added in the future.

Q How do the Intersight Workload Optimizer editions map to standalone Cisco Workload Optimization Manager (CWOM) editions?

A Intersight Workload Optimizer is based on CWOM, a standalone on-premises product. Initially, Optimizer editions will be very similar to CWOM editions, with a key difference: there are no limitations on the number of VMs for the Essentials tier.

Q What are the major differences between Cisco Intersight Workload Optimizer and Cisco Workload Optimization Manager (CWOM)?

A Cisco Intersight Workload Optimizer will be another consumption model for CWOM going forward. Cisco Intersight Workload Optimizer will offer the same capabilities as today's CWOM on premises offering in a SaaS model in Q3CY20. In the near term, customers interested in workload optimization capabilities can purchase the CWOM standalone version today and if they choose, can transition to the SaaS-based Intersight Workload Optimizer offering when it is available.

Q Are there any prerequisites for Cisco Intersight Workload Optimizer?

A Once Cisco Intersight Workload Optimizer is generally available, there will not be any prerequisites. For example, a customer with public-cloud-only targets (AWS, Azure) will be able to use the Workload Optimizer, and it will work with other platforms as well. During the beta phase, Cisco Intersight Essentials with UCS or HX will be required.

Q Do I need to buy any other Cisco Intersight licenses (any edition) if I am only interested in Cisco Intersight Workload Optimizer?

A Cisco Intersight licenses and/or HyperFlex or UCS are not prerequisites for using Cisco Intersight Workload Optimizer.

Q Will Cisco Intersight Workload Optimizer work with a licensed version of Cisco Intersight?

A Yes, the Optimizer will work in conjunction with Cisco Intersight across all editions.

Q Will Cisco Intersight Optimizer be integrated into a Smart Licensing framework?

A The Optimizer is a feature of Cisco Intersight, so it will be offered in the same Smart Licensing framework.

Q Will the Optimizer feature be available in the Cisco Intersight Virtual appliance?

A Yes. All the functionality available in the Cisco Intersight SaaS offering will be available for the appliance as well.

Q Will customers be able to upgrade from one edition of the Optimizer to another?

A Yes; however, all the licenses need to be upgraded together. Once multitier licensing is supported, a subset of the licenses can be upgraded.

Q Will existing or new CWOM customers be able to move to Cisco Intersight Workload Optimizer?

A Yes. CWOM customers, both existing and new, will be able to transition to Cisco Intersight Workload Optimizer, if they choose. Cisco will credit the customer for the remaining duration of their CWOM subscription towards a Workload Optimizer subscription.

Cisco will work with the customers to transition from their CWOM instance to Cisco Intersight Workload Optimizer over time, for a seamless experience. Data will not be moved between instances, but the overlap during the transition will help customers gather the necessary data in Cisco Intersight Workload Optimizer.

HyperFlex application platform

Q What is HyperFlex AP?

A HyperFlex Application Platform (HXAP) extends the HyperFlex architectural framework by expanding hyperconvergence to host modern, cloud-native workloads without the additional cost of hypervisor licensing. It includes the following technology:

- Software-defined storage functionality from the Cisco HyperFlex HX Data Platform
- SaaS infrastructure management and enhanced support from Cisco Intersight
- Multicloud and multitenancy Kubernetes capabilities from Cisco Container Platform

Cisco Intersight provides central cloud-based management of HXAP allowing for integrated management of compute, storage, virtualization, and containers across the data center and the edge.

Subsequent releases will add support for general-purpose VMs and bare-metal and serverless workloads. As production use of containers goes mainstream, IT operations teams need to stand up and maintain unfamiliar infrastructure stacks.

Q What is available in the initial release of HXAP?

A The initial release of HXAP for Kubernetes allows IT operators to deliver an integrated Container-as-a-Service (CaaS) appliance that automates Kubernetes cluster deployments and maintenance for simplified operations. This platform allows users to bring Virtual Machines (VMs) to Kubernetes instead of requiring a hypervisor to support Kubernetes.

Other products

Q What is the AppDynamics Experience Journey Map?

A This new functionality in AppDynamics provides insights into users' most transited application journeys. Algorithms extract critical pathways in real time and present them on a dashboard in the form of user flows overlaid with performance and business metrics. This capability enables applications and DevOps teams to clearly identify application bottlenecks and abandonment and to triage root cause analysis efficiently.

Q What is the Cisco UCS C240 SD M5?

A Cisco UCS C240 SD M5 Rack Server is a ruggedized server, similar to the Cisco UCS C240 M5 Rack Server (2RU). It includes the following:

- Two 2nd Gen Intel® Xeon® Scalable processors
- Up to 24 DDR4 DIMMs with Intel Optane™ DC persistent memory support
- M.2 drive option
- Dual 10 Gb Ethernet LOMs

Q **How is the Cisco UCS C240 SD M5 different from the UCS C240 M5?**

A There are three primary differences:

1. Depth: the C240 SD M5 is 22", the C240 M5 is 29".
2. The number of drives supported: the C240 SD M5 up to 6, where the C240 M5 supports up to 26 drives.
3. The C240 SD M5 also supports the Intel Arria 10 FPGA PCIe adapter for acceleration of packet distribution on the 5G edge network.

Q **When will each of these products be available?**

A The following is the scheduled general availability

- Cisco Intersight Workload Optimizer: Q3CY20
- HXAP: Q3CY20
- AppDynamics Experience Journey Map: Q3CY20
- Cisco UCS C240 SD M5 Rack Server: Q3CY20