

Cisco Ultra Cloud Core

Cisco Ultra Cloud Core provides a common execution environment and a Continuous-Integration-and-Continuous-Delivery (CI/CD) framework for Cisco’s container-based 5G applications.

Product overview

Cisco® Ultra Cloud Core is a Kubernetes-based solution that provides a common execution environment for Cisco’s container-based 5G applications. The platform is hardened, resilient, carrier-grade, and purpose-built to meet the high security and high availability requirements of service provider networks.

Using the Cisco Ultra Cloud Core, Cisco 5G applications are enabled with:

- Advanced analytics and advanced infrastructure health checks
- Simplified and low-risk methods to introduce new 5G services, new configurations, and upgrades
- Automated deployment and automated testing as part of a CI/CD workflow
- Consistent technology and software components across all Cisco 5G applications

Service providers who use the Cisco Ultra Cloud Core can benefit with faster time to market for new services, easier and automated deployments and upgrades, and overall lower operational costs.

Features and benefits

Table 1. Ultra Cloud Core features and benefits

Feature	Benefit
Cisco intelligent service mesh	<p>What it is: Intelligent service mesh routes traffic within the cluster to specific application instances.</p> <p>Result: Multiple variations and configurations of services can run concurrently.</p> <p>Result: New services and upgrades can be introduced with very low risk.</p>
Common execution environment	<p>What it is: Common components for logging, alarming, events, deployment, upgrades, configuration, and provisioning.</p> <p>Result: Cisco 5G applications are configured the same, deployed the same, and share the same logging, alarming, telemetry components.</p> <p>Result: Onboarding additional Cisco applications is easy.</p>
Cisco operations center	<p>What it is: An agent can deploy applications using a YANG schema, and expose NETCONF / RESTCONF interfaces to each product by integrating with Cisco Network Services Orchestrator.</p> <p>Result: Common API, Command-Line Interface (CLI), and GUI interface to each 5G application</p> <p>Result: All change management can be orchestrated.</p>
Granular tracing	<p>What it is: Integration with application dynamics and open tracing for traffic flow monitoring.</p> <p>Result: A new level of visibility of traffic flows across network functions and between and within services.</p>
Release automation framework	<p>What it is: This framework provides the ability to automate testing as part of the service deployment.</p> <p>Result: Testing becomes part of the service deployment workflow.</p> <p>Result: This automation reduces the time needed to certify new services, code, and new configurations, and reduces the time to market.</p>

Cisco intelligent service mesh (not a product, but a differentiator)

The Cisco Ultra Cloud Core provides an intelligent service mesh that connects all services in the platform. This service mesh allows granular control of traffic flows within the Cisco Ultra Cloud Core based on message attributes or subscriber details. New or upgraded services can run concurrently in the platform alongside existing services, and the service mesh controls which messages are directed to the new service. Per-service telemetry is available to compare and evaluate the success of the new service. As a result, rollouts and upgrades are low risk and can be entirely automated—removing the human element.

Platform support

Table 2. Platform support

Product family	Platforms supported	IOS Images (Feature Sets) Supported
Cisco Ultra Cloud Core	VMware 6.5	
	OpenStack	
	Bare metal	
	Google Cloud Amazon Cloud Microsoft Azure	

Licensing

Table 3. Licensing

Uses Cisco Smart Licensing – registers applications and number of sessions	
Application base	Per 5G application, per cluster
Sessions (increments of 10k)	Per 5G application, network-wide

Product specifications

Table 4. Product specifications

Cisco Ultra Cloud features
Cisco common execution environment
Cisco intelligent service mesh
Release automation framework
Custom data store adapters
Product training bundles

System requirements

Table 5. System requirements

Feature	Description
Disk space	2x800 GB SSD (RAID 1) or equivalent input/output operations per second (IOPS) and redundancy
Hardware	<ul style="list-style-type: none">• High-performance x86 64-bit chipset• CPU performance Passmark benchmark of 13K rating per chip and 1,365 rating per thread, or better• ESX-compatible if using VMware
Memory	<ul style="list-style-type: none">• At least DDR3-1600 or better than 1600 MT/s• ECC
Deployment requirement	Hardware oversubscription, network saturation, or CPU oversubscription reduces application performance and predictability. The Cisco Ultra Cloud Core will detect and take action when infrastructure requirements are not met.

Ordering information

Table 6. Ordering information

Product IDs	Ultra mobility platform capabilities
UMP-Base	Common execution environment – initial deployment
UMP-CICD-ACC	CICD updates (automated access to builds)
UMP-MESH	Advanced Cisco service mesh
UMP-CICD-RA	Advanced release automation framework
UMP-DB-ADPT	Data store adapters for other database technologies
UMP-Training	Product training (a quantity of 1 is mandatory; more are optional)
UMP-K8s-INSTALL	Kubernetes deployer

Warranty Information

Cisco Ultra Cloud Core has the standard Cisco software warranty.

Cisco and Partner Services

Using the Cisco lifecycle services approach, Cisco and our partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed, by technology and by network complexity, to help you deploy and operate Cisco technologies and optimize their performance throughout the network lifecycle.

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Custom Call to Action

Position your network for success with Cisco Ultra Cloud Core. For more information, contact your local account representative.



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