

Note: Coverage of container management has been discontinued. The Mirantis Container Management Product Brief is no longer receiving updates as of September, 2023.

Mirantis Overview

Mirantis offers a suite of container management offerings for Kubernetes-orchestrated containers – both a container management platform (customer self-managed) and a container management solution, managed services under which Mirantis deploys and operates the same capabilities (plus some added developer tooling) on behalf of the customer. Mirantis' recent investments have been predominantly around its full featured managed service offerings, which include the managed service for containers (Mirantis Flow) plus added developer productivity tools, including a Registry (Mirantis Registry), CI/CD pipeline (DevOpsCare) and Kubernetes IDE (Lens Spaces) as well as the capability for customers to share virtual machine/container workloads on a container-based architecture.

Both container management platform and container management service offerings include the deployment, update and support of Kubernetes-orchestrated containers operating on AWS and Azure public clouds as well as on Equinix bare metal cloud and on customer premises. For the managed service, Mirantis operates the entire environment for the customer from a management plane operated in Equinix Metal datacenters with a defined, financially-backed service level of 99.99%. The solution is cloud-agnostic, allowing enterprises to easily leverage containers across hybrid and multi-cloud (AWS or Azure) environments.

Mirantis builds and delivers solutions tightly aligned to upstream open-source, to allow customers full portability across hybrid and multi-cloud environments.

As the home of the original developers of Docker (and Swarm), Mirantis has onboard talent and expertise in containers. They offer packaged solution architecture consulting, custom professional services, and Kubernetes infrastructure training.

Highlights

- Container management platform and fully managed container management services provide deployment, operation and support of Kubernetes-orchestrated containers – built on upstream open source.
- Features and supported environments for K8s cluster management are equivalent for management platform and services.
- Managed service can include Mirantis Secure Registry, Mirantis DevOpsCare, which provides CI/CD pipeline and application performance management, a Kubernetes centric IDE (Lens), a lightweight edge K8s distribution (K0s) and common operation of VMs and containers on container architecture.
- On-premises deployment of K8s clusters on bare metal, virtual or Open Stack environments; Cloud-deployment on AWS, Azure or Equinix bare metal cloud.
- Hybrid and Cloud agnostic for consistent experience.
- Mirantis Secure Registry and Mirantis DevOpsCare are also available as separate offerings.
- Suite of Kubernetes infrastructure level services and training.

Note that Mirantis also continues to provide Swarm as a multi-container management offering, but this brief solely considers their Kubernetes-relevant offerings.

Functionality

Mirantis is a long-time participant in the cloud-native market, both with Open Stack and as the acquirer of Docker, giving the company the talent and expertise to create a complete offering for Kubernetes-orchestrated container management. Mirantis offers its suite of services as both a platform, with the customer managing the software (as a subscription) and as a managed service

On the platform side, many Container Management Platform companies deliver their functionality in a Core tier which enables customers to deploy, operate and manage Kubernetes-orchestrated containers, and an Advanced tier which includes features needed for scaled-out multi-cluster, multi-site management. Mirantis follows this model with their platform offering, with the Advanced-level offering (Mirantis Container Cloud) including the capability to manage multiple clusters across sites from a single pane of glass.

The company's container management platform offerings are packaged for ease of use with out-of-the-box dashboards, "single-click" cluster deployment and pre-configured network and load balancing options but customers can choose to substitute (or add) other certified networking, compute, and storage solutions ("Fuel Certified Plug-ins") for which Mirantis coordinates technical support (i.e., takes first call and provides central incident management). The solutions include full-stack lifecycle management. The company also provides a private registry solution (Mirantis Secure Registry) with policy-based governance and image scanning, as well as the Mirantis Open Stack for Kubernetes offering which customers can utilize to share a container architecture between containers and virtual machines (not managed by vSphere). Mirantis offers some developer productivity tools (e.g., the Lens IDE, which it contributed to the open-source community) but it does not integrate and support a full suite of application modernization tools in its platform offering. Customers must select and manage these offerings (e.g., CI/CD pipeline, API manager, etc.) separately. The primary focus is on providing features for a scalable managed and secure Kubernetes infrastructure. Customers who do want Mirantis to augment this with other application modernization tools and support, can contract for this as a custom offering through Mirantis Professional Services.

Mirantis' offerings can be deployed on-premises, in the AWS and Azure public clouds, in Equinix Metal, and at the edge. Customers with previously provisioned EKS and AKS clusters must continue to manage these separately; Mirantis does not support import.

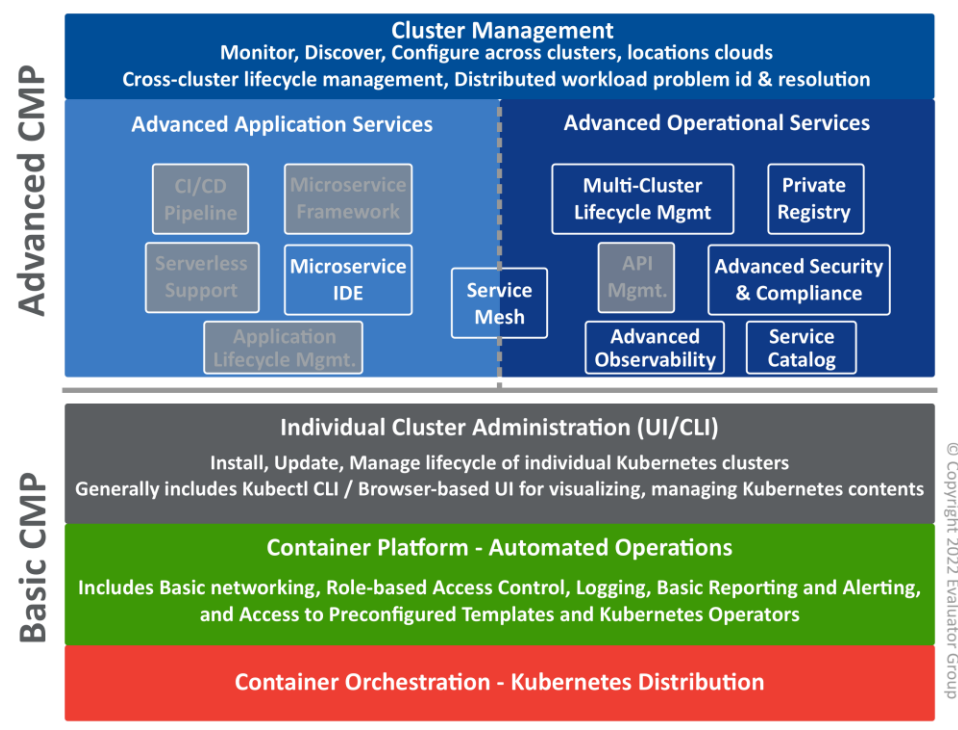
Mirantis also offers customers the option of a managed service, which includes all the functionality of the platform offering plus application development productivity tools, including Mirantis Registry, Lens Spaces (to create a shared developer environment) and DevOpsCare, a separate service offering which

provides a CI/CD pipeline and application performance management. The management console for this service operates on the distributed network of Equinix Metal datacenters, but customers can use Mirantis Flow to manage clusters on the infrastructure of their choosing.

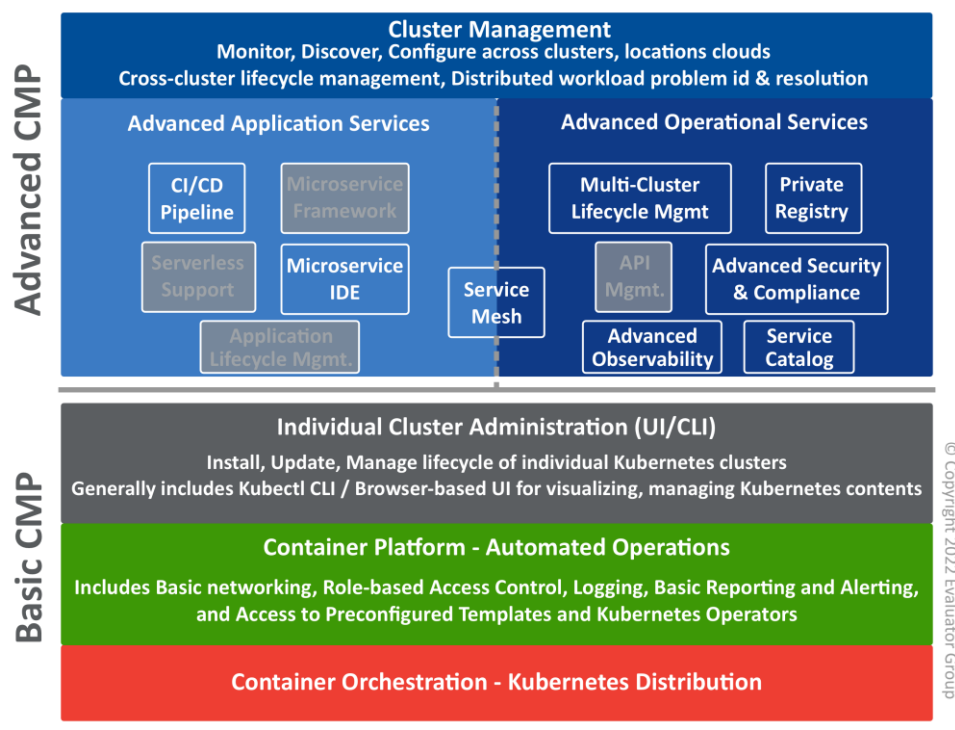
Mirantis secures its offerings at both the cluster and image level, including role-based access, integrated access control with LDAP/AD, SSO or PKI, fully encrypted communication, and integrated secrets management as well as image scanning, monitoring, and policy-based governance. The separate Platform and Services solution maps, included below, summarize the elements provided and/or supported directly by Mirantis in the respective Platform and Services offerings.

Included elements are in black; elements which are not included are in gray in the diagram.

Functionality Provided in the Mirantis Container Management Platform



Functionality Provided in the Mirantis Container Management Service



Packaging

Container Management Platform

Mirantis packages its self-managed (subscription-based) offerings as independent packages. Customers then choose a separate support package (described below).

Mirantis Kubernetes Engine is a container management platform for Kubernetes-orchestrated containers. This offering, built on the **Mirantis Container Runtime**, provides all the basic services needed to build, deploy and manage a Kubernetes orchestrated environment, including autoscaling, a CSI (container storage interface), native Kubernetes access control and automated lifecycle management. As noted above, features for easy use (e.g., out-of-the-box dashboards and export of metrics to Prometheus) and security are also included.

Mirantis Container Cloud enables secure deployment and management of a multi-cluster Kubernetes environment, attaching and managing multiple Mirantis Kubernetes Engine clusters through a global console (single pane of glass). MCC is the best alternative for customers who want to self-manage a multi-cluster, multi-site environment.

Mirantis Secure Registry is a private registry in which an enterprise can securely store its approved images for scanning and sharing. Images can be integrated with a customer's chosen CI/CD solution for faster application delivery. When combined with Mirantis Container Cloud, images can be policy managed for security and governance.

Mirantis Open Stack for Kubernetes is an Open Stack environment built on top of a Kubernetes-orchestrated container architecture. Customers can use this environment to operate traditional (non-vSphere-managed) virtual machines, enabling sharing of a container-based infrastructure between virtual machines and containers.

Lens is an open-source integrated development environment (IDE) specially built for Kubernetes. Originally developed by Mirantis, it is now open-source. Customers can obtain a multi-user version of Lens with added functionality (roles management and a shared catalog) from Mirantis under a subscription agreement ("Lens Teams"). Lens enables developers and operations to more easily manage, debug, monitor and troubleshoot applications across a multi-cluster environment. Lens supports *any* CNCF-conformant Kubernetes distribution. Lens Teams enables multiple developers, geographically distributed, to work collaboratively on shared development.

k0s is a lightweight Kubernetes distribution optimized for environments with lesser compute and storage resources, including both Intel and ARM-based servers. Originally built by Mirantis (and now open-source), Mirantis provides this offering with a support contract for customers who are deploying Mirantis solutions to manage Kubernetes at the edge.

Support

Each of these self-managed subscription offerings (except Lens and K0s) are available with OpsCare support. OpsCare provides 24x7x365 technical support service, proactive support from alerts (if desired by the customer) and response times based on problem severity. Technical support for Lens and k0s is available under DevCare, which offers business day (9x5) technical support via web or email and access to a knowledge base. This offering is priced per-seat.

Container Management Services

Mirantis Flow is an as-a-service offering delivered with OpsCare Plus. Mirantis deploys, operates, and maintains the necessary combination of software and operational services to deliver a fully managed Kubernetes environment across an on-premises, hybrid, or multi-cloud environment. Mirantis brands this as the Mirantis Cloud Native Data Center software stack; it includes all (or the relevant subset of) the functionality in Mirantis Container Cloud, Mirantis Kubernetes Engine, Mirantis Open Stack for Kubernetes, Mirantis Secure Registry and Lens Spaces. Mirantis delivers this service to a financially-backed 99.99% service level agreement (SLA).

DevOpsCare is a new managed service by Mirantis which is usable by customers using any version of Kubernetes (or container management platform). This new Software-as-a-Service offering leverages Lens Spaces and Lens Extensions to provide a development environment (based on the Lens IDE) with control, security and monitoring managed by Mirantis. It also includes the ability to create and manage CI/CD pipelines.

Special Use Cases

Combined management of Virtual Machines and Containers: Leveraging Mirantis Open Stack for Kubernetes

One of the more unique options in the Mirantis offerings is Mirantis Open Stack for Kubernetes. This offering (available by subscription or as a managed service under Mirantis Flow) provides the ability to operate containers and (non-vSphere) virtual machines side-by-side on shared container infrastructure. For enterprises migrating to cloud native, but with virtual machines that are not yet modernized, this can offer a means to eliminate some of the risk (and toil) of managing a heterogeneous environment. Unfortunately, vSphere virtual machines must be converted to leverage this offering; however, it does eliminate the need for the customer to use open-source Kubevirt to create a shared platform.

Edge

Mirantis has made visible investment in the telco-specific edge with 5G technology integration, particularly with NFVI, VIM and VNF management functionality. Mirantis has built a special edge platform, MCP Edge, which integrates OpenStack, Kubernetes and Mirantis' flexible infrastructure manager, DriveTrain, to enable operators to deploy a combination of container, VM and bare metal points of presence (POPs) connected by a unified management plane. The company has multiple telco reference customers like AT&T, Ericsson and Cox. The company also is the original developer of the open-source k0s lightweight Kubernetes distribution, which operates on either Intel x86 or ARM processors.

Air-Gapped Environments

The Mirantis Container Runtime (which underlies Mirantis Kubernetes Engine) is available to operate on an air-gapped system. This offering does not come with a support agreement.

Other Services

Mirantis provides a wide range of professional services, from cloud design assessments and workshops to custom services for deployment. The company also offers a number of training courses on Kubernetes operations and security as well as the basics of native cloud application development.

Evaluator Group *Evaluscale*™: Mirantis Container Management Platform

As noted at the start of this Brief, Mirantis offers both a platform and service; the service includes all the functionality of the platform, but also adds some developer tools and a combined management service for vSphere virtual machines and Kubernetes containers. The Evaluscale below refers to the functionality of the Container Management Platform; a second Evaluscale follows which adds the capabilities of the Service.

	Criteria	Description	EG View of Offerings	Explanation
1	Global Enterprise Functionality: Capable of managing multi-cluster, multi-site production environments	Ability to deploy, manage and support a fully scaled-out Kubernetes environment, including integrated advanced security and observability.	Meets Requirements	The Mirantis solution includes single pane of glass, proactive monitoring and alerting, proactive image governance and some security services but most Enterprise customers will need to add some security services and advanced observability from a third party vendor.
2	Ease of Development and Operation	Customer can effectively deploy and operate the platform themselves, with the vendor providing software update and technical help desk support	Exceeds Requirements	Mirantis includes templates and tools to create an easy out-of-the-box experience.
3	Integrated Application Modernization Tool set	Ability to acquire, maintain and expect support for a full container infrastructure including the application tools needed to run a modern development environment.	Area for Development	Mirantis Lens, a unique microservice IDE, is available only as (unsupported) open source or as a service from Mirantis. While Mirantis Lens has unique capabilities, the offering does not include an integrated pipeline, application lifecycle management or an API manager.
4	Hybrid: Manages a combined environment of on premises with a public cloud	Integrated operation across on-premises and public cloud environments	Meets Requirements	Mirantis solutions can manage a hybrid environment.
5	Management across multiple public clouds	Integrated operation across multiple public clouds	Area for Development	Mirantis does not offer the ability to manage clusters on GCP.
6	Solution Portability Across Public Clouds and On Premises	Ability to migrate containers easily between public clouds	Meets Requirements	The Mirantis management plane is based on open source but contains proprietary operational elements.
7	Combined	Ability to administer	Area for	Mirantis OpenStack for Kubernetes



	Management of VMware virtual machines and Kubernetes containers	VMware virtual machines and containers from a common administrative control plane.	Development	allows customers to operate VMware virtual machines and containers on a common infrastructure; however, customers with vSphere virtual machines must convert these to participate.
8	Integrated Solutions for AI/ML and Database Use Cases	Ability to rapidly get to productive use with a set of container and application tools needed to satisfy a particularly common, high value use case.	Area for Development	The Mirantis portfolio does not include any integrated solutions for AI/ML or database.
9	Management of Edge Containers	Ability to support K8s use cases at the edge.	Exceeds Requirements	Mirantis has invested in creating a number of integrated offerings for 5G telco use cases, with needed partner alliances and customer references. They are also the originator of K0s, a well-regarded CNCF conformant Kubernetes specifically designed for edge environments with scarce resources.
10	Professional Services/Training	Expert services by vendor supporting either/both strategic or operational needs.	Meets Requirements	Good suite of infrastructure-centered services and training – and the ability to add deployment and support of add-on application modernization offerings but no strategic service offerings (or visible partners to deliver these).
11	Vendor Market Strength	Vendor's odds of continuing to be a successful participant in the market	Meets Requirements	Due to Mirantis' extended heritage with Docker, the company has many Docker installs and has built some Kubernetes expertise. They are visibly investing engineering in the space with offerings like e.g., Lens and k0s

Evaluator Group *EvalScale™*: Mirantis Container Management Service

	Criteria	Description	EG View of Offerings	Explanation
1	Global Enterprise Functionality: Capable of managing multi-cluster, multi-site production environments	Ability to deploy, manage and support a fully scaled-out Kubernetes environment, including integrated advanced security and observability.	Meets Requirements	The Mirantis solution includes single pane of glass, proactive monitoring and alerting, proactive image governance and some security services but most Enterprise customers will need to add some security services and advanced observability from a third-party vendor.
2	Integrated Application Modernization Tool set	Ability to acquire, maintain and expect support for a full container infrastructure including the application tools needed to run a modern development environment.	Area for Development	With the addition of Mirantis DevOpsCare (powered by Lens), Mirantis offers an integrated CI/CD pipeline microservice IDE, but does not include an API management etc.
3	Hybrid: Manages a combined environment of on premises with a public cloud	Integrated operation across on-premises and public cloud environments	Meets Requirements	Mirantis solutions can manage a hybrid environment.
4	Management across multiple public clouds	Integrated operation across multiple public clouds	Area for Development	Mirantis does not offer the ability to manage clusters on GCP.
5	Solution Portability Across Public Clouds and On Premises	Ability to migrate containers easily between public clouds	Meets Requirements	Many of the elements of the Mirantis solution are tightly aligned with open source but their management plane is based on proprietary operational capabilities.
6	Combined Management of VMware virtual machines and Kubernetes containers	Ability to administer VMware virtual machines and containers from a common administrative control plane.	Meets Requirements	Mirantis' managed service allows customers to use VMware virtual machines and containers on a common infrastructure; however, customers with vSphere virtual machines must convert these to participate.
7	Integrated Solutions for AI/ML and Database Use Cases	Ability to rapidly get to productive use with a set of container and application tools needed to satisfy a particularly	Area for Development	The Mirantis portfolio does not include any integrated solutions for AI/ML or database.



		common, high value use case.		
8	Management of Edge Containers	Ability to support K8s use cases at the edge.	Exceeds Requirements	Mirantis has invested in creating a number of integrated offerings for 5G telco use cases, with needed partner alliances and customer references. They are also the originator of K0s, a well-regarded CNCF conformant Kubernetes specifically designed for edge environments with scarce resources.
9	Professional Services/Training	Expert services by vendor supporting either/both strategic or operational needs.	Meets Requirements	Good suite of infrastructure-centered services and training – and the ability to add deployment and support of add-on application modernization offerings but no strategic service offerings (or visible partners to deliver these).
10	Vendor Market Strength	Vendor's odds of continuing to be a successful participant in the market	Meets Requirements	Due to Mirantis' extended heritage with Docker, the company has many Docker installs and has built some Kubernetes expertise. They are visibly investing engineering in the space with offerings like e.g., Lens and k0s

Evaluator Group Opinion

For customers seeking a well-featured infrastructure-centric container management solution serving multi-site hybrid and/or multi-clouds (and who do not need to include GCP), Mirantis is a solid alternative to consider. The company appears to have constructed a good out-of-the-box experience for getting started with a self-managed container management platform, and, on the managed service side, Mirantis is one of few container management solution providers who will manage a true hybrid-multi-cloud managed service. And the company appears to have a reasonably deep bench of talent, expertise, and services to support larger enterprises.

With the operating plane of the Mirantis offerings built in tight alignment to upstream open source, and with a reasonable breadth of APIs to related open-source projects plus a non-agnostic approach to the cloud, the platform has reasonably good portability; however, customers who chose to later move away from Mirantis to another offering would need to invest and learn a new control plane.

Customers seeking a fully integrated application development environment (e.g., API server, etc.) will need to look at alternatives, as will those desiring a pre-packaged/pre-configured solution for AI/ML or big data use cases.

With regard to the edge, while Mirantis has made visible investment in the edge with 5G and k0s development (and won some footholds) in 5G telco, the near edge, telco edge and industrial/far edge have very different feature requirements. Assessing the fit of the Mirantis solution line to any particular use case will require added customer research.

Information that is more detailed is available at <http://evaluatorgroup.com>

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