

# Mirantis Container Cloud Release Notes

version latest

# Contents

<b>Copyright notice</b>	<b>1</b>
<b>Product highlights</b>	<b>2</b>
<b>Mirantis Container Cloud releases</b>	<b>3</b>
2.2.0 (current)	3
Enhancements	3
Support for VMWare vSphere provider on RHEL	3
Kernel parameters management through BareMetalHostProfile	4
Support of multiple subnets per cluster	4
Optimization of the Container Cloud logs collection	5
Container Cloud API documentation for bare metal	5
Known issues	5
AWS	6
[6222] Managed cluster deployment requiring PVs may fail	6
Bare metal	7
[6988] LVM fails to deploy if the volume group name already exists	7
[7655] Wrong status for an incorrectly configured L2 template	7
[8560] Manual deletion of BareMetalHosts leads to its silent removal	7
IAM	7
[2757] IAM fails to start during management cluster deployment	7
Storage	8
[7073] Cannot automatically remove a Ceph node	8
Addressed issues	8
Components versions	9
Artifacts	10
Obsolete releases	14
2.1.0	14
Enhancements	14
Node labeling for machines	14
AWS resources discovery in Container Cloud web UI	15
Credentials statuses for OpenStack and AWS	15

---

Known issues	16
AWS	16
[6222] Managed cluster deployment requiring PVs may fail	16
Bare metal	17
[6988] LVM fails to deploy if the volume group name already exists	17
IAM	17
[2757] IAM fails to start during management cluster deployment	17
Storage	18
[7073] Cannot automatically remove a Ceph node	18
Addressed issues	19
Components versions	19
Artifacts	21
Apply updates to the AWS-based management clusters	24
2.0.0	25
Known issues	25
AWS	26
[6222] Managed cluster deployment requiring PVs may fail	26
Bare metal	26
[6988] LVM fails to deploy if the volume group name already exists	26
IAM	27
[2757] IAM fails to start during management cluster deployment	27
StackLight	28
Storage	29
[7073] Cannot automatically remove a Ceph node	29
Bootstrap	30
Components versions	30
Artifacts	31
<b>Cluster releases (managed)</b>	<b>35</b>
6.8.1	35
5.9.0	35

---

Enhancements	35
Alerta upgrade	35
File descriptors monitoring	36
Alerts improvements	36
Components versions	36
Artifacts	38
Obsolete Cluster releases	43
5.x series	43
5.8.0	43
Enhancements	43
Alerts improvements	44
Components versions	44
Artifacts	46
5.7.0	51
Components versions	51
Artifacts	53

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## Product highlights

Mirantis Container Cloud enables you to create and manage Container Cloud clusters across multiple cloud and infrastructure platforms. Currently supported architectures include OpenStack, bare metal, AWS, and VMWare vSphere <sup>Technology Preview</sup> with more choice coming in the near future.

Container Cloud provides a web UI, CLI, and API to enable a self-service deployment of Container Cloud with Mirantis Kubernetes Engine (MKE) container clusters.

The major features of the Container Cloud GA release include:

- **Container Cloud with MKE multi-cluster**

- Create new fully managed Container Cloud with MKE container clusters on the Container Cloud supported infrastructure and operating system
- Attach existing MKE 3.3.3 clusters that run on any infrastructure and operating system with a core set of most critical LCM operations

- **Automated software LCM**

Provide automated zero-touch update for Container Cloud and MKE, including Ubuntu operating system updates, with no workload impact

- **Multi-cloud infrastructure support**

Deploy Container Cloud with MKE container clusters through automated provisioning on the following infrastructure platforms: OpenStack, AWS, bare metal

- **Logging, monitoring, alerting**

Monitor individual managed Container Cloud with MKE container clusters as well as provide cluster metrics and alerts on resource utilization aggregated to the Container Cloud level

- **Bare Metal as a Service**

Provision pools of bare metal machines to use as a bare metal provider, which reduces layers of virtualization and provides efficient support for compute-intensive workloads

- **Ceph storage for bare metal**

Deploy Ceph utilizing Rook to provide and manage a robust and scalable persistent storage that can be used by Kubernetes workloads

- **User management**

Integrate IdP and user RBAC to assimilate with corporate single source of truth and assign role-based access

- **Intuitive web UIs for cluster management**

Provide a single UI for multiple cluster management as well as the Container Cloud with MKE container clusters UI for single cluster management

## Mirantis Container Cloud releases

This section outlines the release notes for the Mirantis Container Cloud GA release. Within the scope of the Container Cloud GA release, minor releases are being published continuously with new features, improvements, and critical issues resolutions to enhance the Container Cloud GA version. For details, see [Mirantis Container Cloud releases and Cluster releases \(managed\)](#).

Once a new Container Cloud release is available, a management cluster automatically upgrades to a newer consecutive release unless this cluster contains managed clusters with a Cluster release unsupported by that Container Cloud release. For more details about the Container Cloud release mechanism, see [Reference Architecture: Release controller](#).

### 2.2.0 (current)

This section outlines release notes for the Mirantis Container Cloud GA release 2.2.0. This release introduces support for the Cluster release 5.9.0 that is based on Mirantis Kubernetes Engine 3.3.3, Mirantis Container Runtime 19.03.12, and Kubernetes 1.18. This release also introduces support for the Cluster release 6.8.1 that introduces the support of the Mirantis OpenStack on Kubernetes (MOSK) product.

#### Enhancements

This section outlines new features and enhancements introduced in the Mirantis Container Cloud release 2.2.0. For the list of enhancements in the Cluster release 5.9.0 and Cluster release 6.8.1 introduced by the Container Cloud release 2.2.0, see 5.9.0 and 6.8.1.

- Support for VMWare vSphere provider on RHEL
- Kernel parameters management through BareMetalHostProfile
- Support of multiple subnets per cluster
- Optimization of the Container Cloud logs collection
- Container Cloud API documentation for bare metal

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#### Support for VMWare vSphere provider on RHEL

##### TECHNICAL PREVIEW

Introduced the Technology Preview support for the VMWare vSphere cloud provider on RHEL, including support for creation and operating of managed clusters using the Container Cloud web UI.

Deployment of an additional regional VMWare vSphere-based cluster or attaching an existing Mirantis Kubernetes Engine (MKE) cluster to a VMWare vSphere-based management cluster is on the development stage and will be announced in one of the following Container Cloud releases.

#### Note

For the Technology Preview feature definition, refer to the Container Cloud [Reference Architecture](#).

#### Learn more

- [Reference Architecture: System requirements for a VMWare vSphere-based Container Cloud cluster](#)
- [Deployment Guide: Deploy a VMWare vSphere-based management cluster](#)
- [Operations Guide: Create a VMWare vSphere-based managed cluster](#)

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#### Kernel parameters management through BareMetalHostProfile

Implemented the API for managing kernel parameters typically managed by sysctl for bare metal hosts through the BareMetalHost and BareMetalHostProfile objects fields.

#### Learn more

- [Operations Guide: Create a custom host profile](#)
- [Operations Guide: Bare metal BareMetalHostProfile in API](#)

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#### Support of multiple subnets per cluster

Implemented support of multiple subnets per a Container Cloud cluster with an ability to specify a different network type for each subnet. Introduced the SubnetPool object that allows for automatic creation of the Subnet objects. Also, added the L3Layout section to L2Template.spec. The L3Layout configuration allows defining the subnets scopes to be used and to enable auto-creation of subnets from a subnet pool.



## Learn more

[Operations Guide: Advanced networking configuration](#)

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## Optimization of the Container Cloud logs collection

Optimized user experience with the Container Cloud resources logs collection:

- Added a separate file with a human-readable table that contains information about cluster events
- Implemented collecting of system logs from cluster nodes

## Learn more

- [Deployment Guide: Collect the bootstrap logs](#)
  - [Operations Guide: Collect the cluster logs](#)
- 

## Container Cloud API documentation for bare metal

On top of continuous improvements delivered to the existing Container Cloud guides, added the Mirantis Container Cloud API section to the Operations Guide. This section is intended only for advanced Infrastructure Operators who are familiar with Kubernetes Cluster API.

Currently, this section contains descriptions and examples of the Container Cloud API resources for the bare metal cloud provider. The API documentation for the OpenStack, AWS, and VMWare vSphere API resources will be added in the upcoming Container Cloud releases.

## Learn more

[Operations Guide: Mirantis Container Cloud API](#)

## Known issues

This section lists known issues with workarounds for the Mirantis Container Cloud release 2.2.0 including the Cluster release 5.9.0.

**Note**

This section also outlines still valid known issues from previous Container Cloud releases.

- AWS
- Bare metal
- IAM
- Storage

**AWS****[6222] Managed cluster deployment requiring PVs may fail**

On a management cluster with multiple AWS-based managed clusters, some clusters fail to complete the deployments that require persistent volumes (PVs), for example, Elasticsearch. Some of the affected pods get stuck in the Pending state with the pod has unbound immediate PersistentVolumeClaims and node(s) had volume node affinity conflict errors.

**Warning**

The workaround below applies to HA deployments where data can be rebuilt from replicas. If you have a non-HA deployment, back up any existing data before proceeding, since all data will be lost while applying the workaround.

**Workaround:**

1. Obtain the persistent volume claims related to the storage mounts of the affected pods:

```
kubectl get pod/<pod_name1> pod/<pod_name2> \
-o jsonpath='{.spec.volumes[?(@.persistentVolumeClaim)].persistentVolumeClaim.claimName}'
```

**Note**

In the command above and in the subsequent steps, substitute the parameters enclosed in angle brackets with the corresponding values.

2. Delete the affected Pods and PersistentVolumeClaims to reschedule them: For example, for StackLight:

```
kubectl -n stacklight delete \  
  
pod/<pod_name1> pod/<pod_name2> ...  
pvc/<pvc_name2> pvc/<pvc_name2> ...
```

---

## Bare metal

### [6988] LVM fails to deploy if the volume group name already exists

During a management or managed cluster deployment, LVM cannot be deployed on a new disk if an old volume group with the same name already exists on the target hardware node but on the different disk.

#### Workaround:

In the bare metal host profile specific to your hardware configuration, add the `wipe: true` parameter to the device that fails to be deployed. For the procedure details, see [Operations Guide: Create a custom host profile](#).

### [7655] Wrong status for an incorrectly configured L2 template

If an L2 template is configured incorrectly, a bare metal cluster is deployed successfully but with the runtime errors in the `IpamHost` object.

#### Workaround:

If you suspect that the machine is not working properly because of incorrect network configuration, verify the status of the corresponding `IpamHost` object. Inspect the `I2RenderResult` and `ipAllocationResult` object fields for error messages.

### [8560] Manual deletion of BareMetalHosts leads to its silent removal

If `BareMetalHost` is manually removed from a managed cluster, it is silently removed without a power-off and deprovision that leads to a managed cluster failures.

#### Workaround:

Do not manually delete a `BareMetalHost` that has the `Provisioned` status.

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## IAM

### [2757] IAM fails to start during management cluster deployment

During a management cluster deployment, IAM fails to start with the IAM pods being in the `CrashLoopBackOff` status.

#### Workaround:

1. Log in to the bootstrap node.

2. Remove the iam-mariadb-state configmap:

```
kubectl delete cm -n kaas iam-mariadb-state
```

3. Manually delete the mariadb pods:

```
kubectl delete po -n kaas mariadb-server-{0,1,2}
```

Wait for the pods to start. If the mariadb pod does not start with the connection to peer timed out exception, repeat the step 2.

4. Obtain the MariaDB database admin password:

```
kubectl get secrets -n kaas mariadb-dbadmin-password \
-o jsonpath='{.data.MYSQL_DBADMIN_PASSWORD}' | base64 -d ; echo
```

5. Log in to MariaDB:

```
kubectl exec -it -n kaas mariadb-server-0 -- bash -c 'mysql -uroot -p<mysqlDbadminPassword>'
```

Substitute <mysqlDbadminPassword> with the corresponding value obtained in the previous step.

6. Run the following command:

```
DROP DATABASE IF EXISTS keycloak
```

7. Manually delete the Keycloak pods:

---

## Storage

### [7073] Cannot automatically remove a Ceph node

When removing a worker node, it is not possible to automatically remove a Ceph node. The workaround is to manually remove the Ceph node from the Ceph cluster as described in [Operations Guide: Add, remove, or reconfigure Ceph nodes](#) before removing the worker node from your deployment.

## Addressed issues

The following issues have been addressed in the Mirantis Container Cloud release 2.2.0 including the Cluster release 5.9.0:

- [8012] Fixed the issue with helm-controller pod being stuck in the CrashLoopBackOff state after reattaching of a Mirantis Kubernetes Engine (MKE) cluster.

- [7131] Fixed the issue with the deployment of a managed cluster failing during the Ceph Monitor or Manager deployment.
- [6164] Fixed the issue with the number of placement groups (PGs) per Ceph OSD being too small and the Ceph cluster having the HEALTH\_WARN status.
- [8302] Fixed the issue with deletion of a regional cluster leading to the deletion of the related management cluster.
- [7722] Fixed the issue with the Internal Server Error or similar errors appearing in the HelmBundle controller logs after bootstrapping the management cluster.

## Components versions

The following table lists the major components and their versions of the Mirantis Container Cloud release 2.2.0.

### Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

Container Cloud release components versions

Component	Application/Service	Version
AWS <sup>Updated</sup>	aws-provider	1.14.0
	aws-credentials-controller	1.14.0
Bare metal	baremetal-operator <sup>Updated</sup>	3.1.3
	baremetal-public-api <sup>Updated</sup>	3.1.3
	baremetal-provider <sup>Updated</sup>	1.14.0
	httpd	2.4.46-20201001171500
	ironic <sup>Updated</sup>	ussuri-bionic-20201021180016
	ironic-operator <sup>Updated</sup>	base-bionic-20201023172943
	kaas-ipam <sup>Updated</sup>	3.1.3
	local-volume-provisioner	1.0.4-mcp
	mariadb	10.4.14-bionic-20200812025059
IAM	iam <sup>Updated</sup>	1.1.22
	iam-controller <sup>Updated</sup>	1.14.0

	keycloak	9.0.0
Container Cloud <sup>Updated</sup>	admission-controller	1.14.0
	byo-credentials-controller	1.14.0
	byo-provider	1.14.3
	kaas-public-api	1.14.0
	kaas-exporter	1.14.0
	kaas-ui	1.14.2
	lcm-controller	0.2.0-178-g8cc488f8
	release-controller	1.14.0
OpenStack <sup>Updated</sup>	openstack-provider	1.14.0
	os-credentials-controller	1.14.0

## Artifacts

This section lists the components artifacts of the Mirantis Container Cloud release 2.2.0.

- Bare metal artifacts
- Core artifacts
- IAM artifacts

### Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible <sup>Updated</sup>.

### Bare metal artifacts

Artifact	Component	Path
Binaries	Target system image (ubuntu-bionic)	<a href="https://binary.mirantis.com/bm/bin/efi/ubuntu/qcow2-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/efi/ubuntu/qcow2-bionic-debug-20200730084816</a>
	baremetal-operator <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/helm/baremetal-operator-3.1.3.tgz">https://binary.mirantis.com/bm/helm/baremetal-operator-3.1.3.tgz</a>
	baremetal-public-api <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/helm/baremetal-public-api-3.1.3.tgz">https://binary.mirantis.com/bm/helm/baremetal-public-api-3.1.3.tgz</a>

	ironic-python-agent.kernel <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/kernel-ussuri-bionic-debug-20201022084817">https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/kernel-ussuri-bionic-debug-20201022084817</a>
	ironic-python-agent.initramfs <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/initramfs-ussuri-bionic-debug-20201022084817">https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/initramfs-ussuri-bionic-debug-20201022084817</a>
	kaas-ipam <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/helm/kaas-ipam-3.1.3.tgz">https://binary.mirantis.com/bm/helm/kaas-ipam-3.1.3.tgz</a>
	local-volume-provisioner	<a href="https://binary.mirantis.com/bm/helm/local-volume-provisioner-1.0.4-mcp.tgz">https://binary.mirantis.com/bm/helm/local-volume-provisioner-1.0.4-mcp.tgz</a>
Docker images	baremetal-operator <sup>Updated</sup>	mirantis.azurecr.io/bm/baremetal-operator:base-bionic-20201028131325
	httpd	mirantis.azurecr.io/bm/external/httpd:2.4.46-20201001171500
	ironic <sup>Updated</sup>	mirantis.azurecr.io/openstack/ironic:ussuri-bionic-20201021180016
	ironic-inspector <sup>Updated</sup>	mirantis.azurecr.io/openstack/ironic-inspector:ussuri-bionic-20201021180016
	ironic-operator <sup>Updated</sup>	mirantis.azurecr.io/bm/ironic-operator:base-bionic-20201023172943
	kaas-ipam <sup>Updated</sup>	mirantis.azurecr.io/bm/kaas_ipam:base-bionic-20201026094912
	mariadb	mirantis.azurecr.io/general/mariadb:10.4.14-bionic-20200812025059

Core artifacts

Artifact	Component	Path
Bootstrap tarball <sup>Updated</sup>	bootstrap-linux	<a href="https://binary.mirantis.com/core/bin/bootstrap-linux-1.14.0.tar.gz">https://binary.mirantis.com/core/bin/bootstrap-linux-1.14.0.tar.gz</a>
	bootstrap-darwin	<a href="https://binary.mirantis.com/core/bin/bootstrap-darwin-1.14.0.tar.gz">https://binary.mirantis.com/core/bin/bootstrap-darwin-1.14.0.tar.gz</a>
Helm charts <sup>Updated</sup>	admission-controller	<a href="https://binary.mirantis.com/core/helm/admission-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/admission-controller-1.14.0.tgz</a>
	aws-credentials-controller	<a href="https://binary.mirantis.com/core/helm/aws-credentials-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/aws-credentials-controller-1.14.0.tgz</a>
	aws-provider	<a href="https://binary.mirantis.com/core/helm/aws-provider-1.14.0.tgz">https://binary.mirantis.com/core/helm/aws-provider-1.14.0.tgz</a>

	baremetal-provider	<a href="https://binary.mirantis.com/core/helm/baremetal-provider-1.14.0.tgz">https://binary.mirantis.com/core/helm/baremetal-provider-1.14.0.tgz</a>
	byo-credentials-controller	<a href="https://binary.mirantis.com/core/helm/byo-credentials-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/byo-credentials-controller-1.14.0.tgz</a>
	byo-provider	<a href="https://binary.mirantis.com/core/helm/byo-provider-1.14.3.tgz">https://binary.mirantis.com/core/helm/byo-provider-1.14.3.tgz</a>
	iam-controller	<a href="https://binary.mirantis.com/core/helm/iam-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/iam-controller-1.14.0.tgz</a>
	kaas-exporter	<a href="https://binary.mirantis.com/core/helm/kaas-exporter-1.14.0.tgz">https://binary.mirantis.com/core/helm/kaas-exporter-1.14.0.tgz</a>
	kaas-public-api	<a href="https://binary.mirantis.com/core/helm/kaas-public-api-1.14.0.tgz">https://binary.mirantis.com/core/helm/kaas-public-api-1.14.0.tgz</a>
	kaas-ui	<a href="https://binary.mirantis.com/core/helm/kaas-ui-1.14.2.tgz">https://binary.mirantis.com/core/helm/kaas-ui-1.14.2.tgz</a>
	lcm-controller	<a href="https://binary.mirantis.com/core/helm/lcm-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/lcm-controller-1.14.0.tgz</a>
	openstack-provider	<a href="https://binary.mirantis.com/core/helm/openstack-provider-1.14.0.tgz">https://binary.mirantis.com/core/helm/openstack-provider-1.14.0.tgz</a>
	os-credentials-controller	<a href="https://binary.mirantis.com/core/helm/os-credentials-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/os-credentials-controller-1.14.0.tgz</a>
	release-controller	<a href="https://binary.mirantis.com/core/helm/release-controller-1.14.0.tgz">https://binary.mirantis.com/core/helm/release-controller-1.14.0.tgz</a>
Docker images for Container Cloud deployment	admission-controller <sup>Updated</sup>	mirantis.azurecr.io/core/admission-controller:1.14.0
	aws-cluster-api-controller	mirantis.azurecr.io/core/aws-cluster-api-controller:1.14.0
	aws-credentials-controller <sup>Updated</sup>	mirantis.azurecr.io/core/aws-credentials-controller:1.14.0
	byo-credentials-controller <sup>Updated</sup>	mirantis.azurecr.io/core/byo-credentials-controller:1.14.0
	cluster-api-provider-baremetal <sup>Updated</sup>	mirantis.azurecr.io/core/cluster-api-provider-baremetal:1.14.0
	frontend	mirantis.azurecr.io/core/frontend:1.14.2
	iam-controller <sup>Updated</sup>	mirantis.azurecr.io/core/iam-controller:1.14.0
	lcm-controller <sup>Updated</sup>	mirantis.azurecr.io/core/lcm-controller:v0.2.0-178-g8cc488f8



	openstack-cluster-api-controller	mirantis.azurecr.io/core/openstack-cluster-api-controller:1.14.0
	os-credentials-controller <sup>Updated</sup>	mirantis.azurecr.io/core/os-credentials-controller:1.14.0
	release-controller <sup>Updated</sup>	mirantis.azurecr.io/core/release-controller:1.14.0

IAM artifacts

Artifact	Component	Path
Binaries	hash-generate-linux	<a href="http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-268-3cf7f17-linux">http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-268-3cf7f17-linux</a>
	hash-generate-darwin	<a href="http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-268-3cf7f17-darwin">http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-268-3cf7f17-darwin</a>
	iamctl-linux	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-linux">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-linux</a>
	iamctl-darwin	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-darwin">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-darwin</a>
	iamctl-windows	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-windows">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-windows</a>
Helm charts	iam <sup>Updated</sup>	<a href="http://binary.mirantis.com/iam/helm/iam-1.1.22.tgz">http://binary.mirantis.com/iam/helm/iam-1.1.22.tgz</a>
	iam-proxy	<a href="http://binary.mirantis.com/iam/helm/iam-proxy-0.2.2.tgz">http://binary.mirantis.com/iam/helm/iam-proxy-0.2.2.tgz</a>
	keycloak-proxy <sup>Updated</sup>	<a href="http://binary.mirantis.com/core/helm/keycloak_proxy-1.14.3.tgz">http://binary.mirantis.com/core/helm/keycloak_proxy-1.14.3.tgz</a>
Docker images	api	mirantis.azurecr.io/iam/api:0.3.18
	auxiliary	mirantis.azurecr.io/iam/auxiliary:0.3.18
	kubernetes-entrypoint	mirantis.azurecr.io/iam/external/kubernetes-entrypoint:v0.3.1
	mariadb	mirantis.azurecr.io/iam/external/mariadb:10.2.18
	keycloak <sup>Updated</sup>	mirantis.azurecr.io/iam/keycloak:0.3.19
	keycloak-gatekeeper	mirantis.azurecr.io/iam/keycloak-gatekeeper:6.0.1

#### Seealso

- [Cluster releases \(managed\)](#)
- [release-history](#)

## Obsolete releases

### 2.1.0

This section outlines release notes for the Mirantis Container Cloud GA release 2.1.0. This release introduces support for the Cluster release 5.8.0 that is based on Mirantis Kubernetes Engine 3.3.3, Mirantis Container Runtime 19.03.12, and Kubernetes 1.18.

#### Enhancements

This section outlines new features and enhancements introduced in the Mirantis Container Cloud release 2.1.0. For the list of enhancements in the Cluster release 5.8.0 introduced by the KaaS release 2.1.0, see 5.8.0.

- Node labeling for machines
- AWS resources discovery in Container Cloud web UI
- Credentials statuses for OpenStack and AWS

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#### Node labeling for machines

Implemented the possibility to assign labels to specific machines with dedicated system and hardware resources through the Container Cloud web UI. For example, you can label the StackLight nodes that run Elasticsearch and require more resources than a standard node to run the StackLight components services on the dedicated nodes. You can label a machine before or after it is deployed. The list of available labels is taken from the current Cluster release.

Node labeling greatly improves cluster performance and prevents pods from being quickly exhausted.

#### Learn more

- [Add a machine to an AWS-based managed cluster](#)
- [Add a machine to an OpenStack-based managed cluster](#)
- [Add a machine to a baremetal-based managed cluster](#)

### AWS resources discovery in Container Cloud web UI

Improved the user experience during a managed cluster creation using the Container Cloud web UI by implementing drop-down menus with available supported values for the following AWS resources:

- AWS region
- AWS AMI ID
- AWS instance type

To apply the feature to existing deployments, update the IAM policies for AWS as described in [Apply updates to the AWS-based management clusters](#).

#### Learn more

- [Deploy an AWS-based management cluster](#)
  - [Deploy AWS-based regional cluster](#)
  - [Create and operate an AWS-based managed cluster](#)
- 

### Credentials statuses for OpenStack and AWS

Implemented the following statuses for the OpenStack-based and AWS-based credentials in the Container Cloud web UI:

- Ready  
Credentials are valid and ready to be used for a managed cluster creation.
- In Use  
Credentials are being used by a managed cluster.
- Error  
Credentials are invalid. You can hover over the Error status to determine the reason of the issue.

#### Learn more

- [Create an AWS-based managed cluster](#)
- [Create an OpenStack-based managed cluster](#)

## Known issues

This section lists known issues with workarounds for the Mirantis Container Cloud release 2.1.0.

### Note

This section also outlines still valid known issues from previous Container Cloud releases.

- AWS
- Bare metal
- IAM
- Storage

## AWS

### [6222] Managed cluster deployment requiring PVs may fail

On a management cluster with multiple AWS-based managed clusters, some clusters fail to complete the deployments that require persistent volumes (PVs), for example, Elasticsearch. Some of the affected pods get stuck in the Pending state with the pod has unbound immediate PersistentVolumeClaims and node(s) had volume node affinity conflict errors.

### Warning

The workaround below applies to HA deployments where data can be rebuilt from replicas. If you have a non-HA deployment, back up any existing data before proceeding, since all data will be lost while applying the workaround.

### Workaround:

1. Obtain the persistent volume claims related to the storage mounts of the affected pods:

```
kubectl get pod/<pod_name1> pod/<pod_name2> \
-o jsonpath='{.spec.volumes[?(@.persistentVolumeClaim)].persistentVolumeClaim.claimName}'
```

### Note

In the command above and in the subsequent steps, substitute the parameters enclosed in angle brackets with the corresponding values.

2. Delete the affected Pods and PersistentVolumeClaims to reschedule them: For example, for StackLight:

```
kubectl -n stacklight delete \  
  
pod/<pod_name1> pod/<pod_name2> ...  
pvc/<pvc_name2> pvc/<pvc_name2> ...
```

---

## Bare metal

[6988] LVM fails to deploy if the volume group name already exists

During a management or managed cluster deployment, LVM cannot be deployed on a new disk if an old volume group with the same name already exists on the target hardware node but on the different disk.

Workaround:

In the bare metal host profile specific to your hardware configuration, add the `wipe: true` parameter to the device that fails to be deployed. For the procedure details, see [Operations Guide: Create a custom host profile](#).

---

## IAM

[2757] IAM fails to start during management cluster deployment

During a management cluster deployment, IAM fails to start with the IAM pods being in the `CrashLoopBackOff` status.

Workaround:

1. Log in to the bootstrap node.
2. Remove the `iam-mariadb-state` configmap:

```
kubectl delete cm -n kaas iam-mariadb-state
```

3. Manually delete the mariadb pods:

```
kubectl delete po -n kaas mariadb-server-{0,1,2}
```

Wait for the pods to start. If the mariadb pod does not start with the connection to peer timed out exception, repeat the step 2.

4. Obtain the MariaDB database admin password:

```
kubectl get secrets -n kaas mariadb-dbadmin-password \
-o jsonpath='{.data.MYSQL_DBADMIN_PASSWORD}' | base64 -d ; echo
```

5. Log in to MariaDB:

```
kubectl exec -it -n kaas mariadb-server-0 -- bash -c 'mysql -uroot -p<mysqlDbadminPassword>'
```

Substitute `<mysqlDbadminPassword>` with the corresponding value obtained in the previous step.

6. Run the following command:

```
DROP DATABASE IF EXISTS keycloak
```

7. Manually delete the Keycloak pods:

## Storage

### [6164] Small number of PGs per Ceph OSD

Fixed in 2.2.0

After deploying a managed cluster with Ceph, the number of placement groups (PGs) per Ceph OSD may be too small and the Ceph cluster may have the HEALTH\_WARN status:

```
health: HEALTH_WARN
too few PGs per OSD (3 < min 30)
```

The workaround is to enable the PG balancer to properly manage the number of PGs:

```
kexec -it $(k get pod -l "app=rook-ceph-tools" --all-namespaces -o jsonpath='{.items[0].metadata.name}') -n rook-ceph bash
ceph mgr module enable pg_autoscaler
```

### [7073] Cannot automatically remove a Ceph node

When removing a worker node, it is not possible to automatically remove a Ceph node. The workaround is to manually remove the Ceph node from the Ceph cluster as described in [Operations Guide: Add, remove, or reconfigure Ceph nodes](#) before removing the worker node from your deployment.

### [7131] rook-ceph-mgr fails during managed cluster deployment

Fixed in 2.2.0

Occasionally, the deployment of a managed cluster may fail during the Ceph Monitor or Manager deployment. In this case, the Ceph cluster may be down and a stack trace similar to the following one may be present in Ceph Manager logs:

```
kubectll -n rook-ceph logs rook-ceph-mgr-a-c5dc846f8-k68rs
/home/jenkins-build/workspace/ceph-build/ARCH/x86_64/AVAILABLE_ARCH/x86_64/AVAILABLE_DIST/centos7/DIST/centos7/MACHINE_SIZE/gigantic/release/14.2.9/rpm/ef7/BUILD/ceph-14.2.9/src/mon/MonMap.h: In function 'void MonMap::add(const mon_info_t&)' thread 7f63d3744b80 time 2020-09-03 10:16:46.586388
/home/jenkins-build/workspace/ceph-build/ARCH/x86_64/AVAILABLE_ARCH/x86_64/AVAILABLE_DIST/centos7/DIST/centos7/MACHINE_SIZE/gigantic/release/14.2.9/rpm/ef7/BUILD/ceph-14.2.9/src/mon/MonMap.h:195: FAILED ceph_assert(addr_mon.count() == 0)
ceph version 14.2.9 (581f22da52345dbaf6ee232b73b990f6e029a2a0) nautilus (stable)
1: (ceph) ceph_assert.fail(char const*, char const*, int, char const*)+0x144 [0x7f63ca9b2875]
2: (i)+0x253a3d [0x7f63ca9b2a3d]
3: (MonMap::add(mon_info_t const&)+0x80) [0x7f63cad49190]
4: (MonMap::add(std::string const&, entity_addrvec_t const&, int)+0x110) [0x7f63cad493a0]
5: (MonMap::init_with_ips(std::string const&, bool, std::string const&)+0xc9) [0x7f63cad43849]
6: (MonMap::build_initialCephContext* bool, std::ostream&)+0x314 [0x7f63cad45af4]
7: (MonClient::build_initial_monmap()+0x130) [0x7f63cad2e401]
8: (MonClient::get_monmap_and_config()+0x5f) [0x7f63cad363af]
9: (global_pre_init(std::map<std::string, std::string, std::less<std::string>, std::allocator<std::pair<std::string const, std::string>> >> const*, std::vector<char const*, std::allocator<char const*>> >> &, unsigned int, code_environment_t, int)+0x524) [0x55ce86711444]
10: (global_pre_init(std::map<std::string, std::string, std::less<std::string>, std::allocator<std::pair<std::string const, std::string>> >> const*, std::vector<char const*, std::allocator<char const*>> >> &, unsigned int, code_environment_t, int, char const*, bool)+0x76) [0x55ce86711b56]
11: (main)+0x136 [0x55ce864f99e4]
12: (__libc_start_main)+0x5 [0x7f63ce735551]
13: (i)+0xf010 [0x55ce86505010]
```

The workaround is to start the managed cluster deployment from scratch.

### Addressed issues

In the Mirantis Container Cloud release 2.1.0, the following issues have been addressed:

- [7281] Fixed the issue with a management cluster bootstrap script failing if there was a space in the PATH environment variable.
- [7205] Fixed the issue with some cluster objects being stuck during deletion of an AWS-based managed cluster due to unresolved VPC dependencies.
- [7304] Fixed the issue with failure to reattach a Mirantis Kubernetes Engine (MKE) cluster with the same name.
- [7101] Fixed the issue with the monitoring of Ceph and Ironic being enabled when Ceph and Ironic are disabled on the baremetal-based clusters.
- [7324] Fixed the issue with the monitoring of Ceph being disabled on the baremetal-based managed clusters due to the missing provider: BareMetal parameter.
- [7180] Fixed the issue with lcm-controller periodically failing with the invalid memory address or nil pointer dereference runtime error.
- [7251] Fixed the issue with setting up the OIDC integration on the MKE side.
- [7326] Fixed the issue with the missing entry for the host itself in etc/hosts causing failure of services that require node FQDN.
- [6989] Fixed the issue with baremetal-operator ignoring the clean failed provisioning state if a node fails to deploy on a baremetal-based managed cluster.
- [7231] Fixed the issue with the baremetal-provider pod not restarting after the ConfigMap changes and causing the telemeter-client pod to fail during deployment.

### Components versions

The following table lists the major components and their versions of the Mirantis Container Cloud release 2.1.0.

Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

Container Cloud release components versions

Component	Application/Service	Version
AWS <sup>Updated</sup>	aws-provider	1.12.2
	aws-credentials-controller	1.12.2
Bare metal	baremetal-operator <sup>Updated</sup>	3.1.0
	baremetal-public-api <sup>New</sup>	3.1.0
	baremetal-provider <sup>Updated</sup>	1.12.2
	httpd <sup>Updated</sup>	2.4.46-20201001171500
	ironic	train-bionic-20200803180020
	ironic-operator	base-bionic-20200805144858
	kaas-ipam <sup>Updated</sup>	3.1.0
	local-volume-provisioner	1.0.4-mcp
	mariadb <sup>Updated</sup>	10.4.14-bionic-20200812025059
IAM	iam <sup>Updated</sup>	1.1.18
	iam-controller <sup>Updated</sup>	1.12.2
	keycloak	9.0.0
Container Cloud <sup>Updated</sup>	admission-controller	1.12.3
	byo-credentials-controller	1.12.2
	byo-provider	1.12.2
	kaas-public-api	1.12.2
	kaas-exporter	1.12.2
	kaas-ui	1.12.2
	lcm-controller	0.2.0-169-g5668304d
	release-controller	1.12.2
OpenStack <sup>Updated</sup>	openstack-provider	1.12.2
	os-credentials-controller	1.12.2



Artifacts

This section lists the components artifacts of the Mirantis Container Cloud release 2.1.0.

- Bare metal artifacts
- Core artifacts
- IAM artifacts

Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

Bare metal artifacts

Artifact	Component	Path
Binaries	Target system image (ubuntu-bionic)	<a href="https://binary.mirantis.com/bm/bin/efi/ubuntu/cow2-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/efi/ubuntu/cow2-bionic-debug-20200730084816</a>
	baremetal-operator <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/helm/baremetal-operator-3.1.0.tgz">https://binary.mirantis.com/bm/helm/baremetal-operator-3.1.0.tgz</a>
	baremetal-public-api <sup>New</sup>	<a href="https://binary.mirantis.com/bm/helm/baremetal-public-api-3.1.0.tgz">https://binary.mirantis.com/bm/helm/baremetal-public-api-3.1.0.tgz</a>
	ironic-python-agent.kernel	<a href="https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/kernel-train-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/kernel-train-bionic-debug-20200730084816</a>
	ironic-python-agent.initramfs	<a href="https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/initramfs-train-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/initramfs-train-bionic-debug-20200730084816</a>
	kaas-ipam <sup>Updated</sup>	<a href="https://binary.mirantis.com/bm/helm/kaas-ipam-3.1.0.tgz">https://binary.mirantis.com/bm/helm/kaas-ipam-3.1.0.tgz</a>
	local-volume-provisioner	<a href="https://binary.mirantis.com/bm/helm/local-volume-provisioner-1.0.4-mcp.tgz">https://binary.mirantis.com/bm/helm/local-volume-provisioner-1.0.4-mcp.tgz</a>
Docker images	baremetal-operator <sup>Updated</sup>	mirantis.azurecr.io/bm/baremetal-operator:base-bionic-20201005150946
	httpd <sup>Updated</sup>	mirantis.azurecr.io/bm/external/httpd:2.4.46-20201001171500

	ironic	mirantis.azurecr.io/openstack/ironic:train-bionic-20200803180020
	ironic-inspector	mirantis.azurecr.io/openstack/ironic-inspector:train-bionic-20200803180020
	ironic-operator	mirantis.azurecr.io/bm/ironic-operator:base-bionic-20200805144858
	kaas-ipam <sup>Updated</sup>	mirantis.azurecr.io/bm/kaas_ipam:base-bionic-20201007180518
	mariadb <sup>Updated</sup>	mirantis.azurecr.io/general/mariadb:10.4.14-bionic-20200812025059

## Core artifacts

Artifact	Component	Path
Bootstrap tarball <sup>Updated</sup>	bootstrap-linux	<a href="https://binary.mirantis.com/core/bin/bootstrap-linux-1.12.2.tar.gz">https://binary.mirantis.com/core/bin/bootstrap-linux-1.12.2.tar.gz</a>
	bootstrap-darwin	<a href="https://binary.mirantis.com/core/bin/bootstrap-darwin-1.12.2.tar.gz">https://binary.mirantis.com/core/bin/bootstrap-darwin-1.12.2.tar.gz</a>
Helm charts <sup>Updated</sup>	admission-controller	<a href="https://binary.mirantis.com/core/helm/admission-controller-1.12.3.tgz">https://binary.mirantis.com/core/helm/admission-controller-1.12.3.tgz</a>
	aws-credentials-controller	<a href="https://binary.mirantis.com/core/helm/aws-credentials-controller-1.12.2.tgz">https://binary.mirantis.com/core/helm/aws-credentials-controller-1.12.2.tgz</a>
	aws-provider	<a href="https://binary.mirantis.com/core/helm/aws-provider-1.12.2.tgz">https://binary.mirantis.com/core/helm/aws-provider-1.12.2.tgz</a>
	baremetal-provider	<a href="https://binary.mirantis.com/core/helm/baremetal-provider-1.12.2.tgz">https://binary.mirantis.com/core/helm/baremetal-provider-1.12.2.tgz</a>
	byo-credentials-controller	<a href="https://binary.mirantis.com/core/helm/byo-credentials-controller-1.12.2.tgz">https://binary.mirantis.com/core/helm/byo-credentials-controller-1.12.2.tgz</a>
	byo-provider	<a href="https://binary.mirantis.com/core/helm/byo-provider-1.12.2.tgz">https://binary.mirantis.com/core/helm/byo-provider-1.12.2.tgz</a>
	iam-controller	<a href="https://binary.mirantis.com/core/helm/iam-controller-1.12.2.tgz">https://binary.mirantis.com/core/helm/iam-controller-1.12.2.tgz</a>
	kaas-exporter	<a href="https://binary.mirantis.com/core/helm/kaas-exporter-1.12.2.tgz">https://binary.mirantis.com/core/helm/kaas-exporter-1.12.2.tgz</a>
	kaas-public-api	<a href="https://binary.mirantis.com/core/helm/kaas-public-api-1.12.2.tgz">https://binary.mirantis.com/core/helm/kaas-public-api-1.12.2.tgz</a>
	kaas-ui	<a href="https://binary.mirantis.com/core/helm/kaas-ui-1.12.2.tgz">https://binary.mirantis.com/core/helm/kaas-ui-1.12.2.tgz</a>

	lcm-controller	<a href="https://binary.mirantis.com/core/helm/lcm-controller-1.12.2.tgz">https://binary.mirantis.com/core/helm/lcm-controller-1.12.2.tgz</a>
	openstack-provider	<a href="https://binary.mirantis.com/core/helm/openstack-provider-1.12.2.tgz">https://binary.mirantis.com/core/helm/openstack-provider-1.12.2.tgz</a>
	os-credentials-controller	<a href="https://binary.mirantis.com/core/helm/os-credentials-controller-1.12.2.tgz">https://binary.mirantis.com/core/helm/os-credentials-controller-1.12.2.tgz</a>
	release-controller	<a href="https://binary.mirantis.com/core/helm/release-controller-1.12.2.tgz">https://binary.mirantis.com/core/helm/release-controller-1.12.2.tgz</a>
Docker images for Container Cloud deployment <sup>Updated</sup>	admission-controller	mirantis.azurecr.io/core/admission-controller:1.12.3
	aws-cluster-api-controller	mirantis.azurecr.io/core/aws-cluster-api-controller:1.12.2
	aws-credentials-controller	mirantis.azurecr.io/core/aws-credentials-controller:1.12.2
	byo-credentials-controller	mirantis.azurecr.io/core/byo-credentials-controller:1.12.2
	cluster-api-provider-baremetal	mirantis.azurecr.io/core/cluster-api-provider-baremetal:1.12.2
	frontend	mirantis.azurecr.io/core/frontend:1.12.2
	iam-controller	mirantis.azurecr.io/core/iam-controller:1.12.2
	lcm-controller	mirantis.azurecr.io/core/lcm-controller:v0.2.0-169-g5668304d
	openstack-cluster-api-controller	mirantis.azurecr.io/core/openstack-cluster-api-controller:1.12.2
	os-credentials-controller	mirantis.azurecr.io/core/os-credentials-controller:1.12.2
	release-controller	mirantis.azurecr.io/core/release-controller:1.12.2

IAM artifacts

Artifact	Component	Path
Binaries	hash-generate-linux	<a href="http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-linux">http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-linux</a>
	hash-generate-darwin	<a href="http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-darwin">http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-darwin</a>
	iamctl-linux	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-linux">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-linux</a>

	iamctl-darwin	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-darwin">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-darwin</a>
	iamctl-windows	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-windows">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-windows</a>
Helm charts	iam <sup>Updated</sup>	<a href="http://binary.mirantis.com/iam/helm/iam-1.1.18.tgz">http://binary.mirantis.com/iam/helm/iam-1.1.18.tgz</a>
	iam-proxy	<a href="http://binary.mirantis.com/iam/helm/iam-proxy-0.2.2.tgz">http://binary.mirantis.com/iam/helm/iam-proxy-0.2.2.tgz</a>
	keycloak-proxy <sup>Updated</sup>	<a href="http://binary.mirantis.com/core/helm/keycloak_proxy-1.12.2.tgz">http://binary.mirantis.com/core/helm/keycloak_proxy-1.12.2.tgz</a>
Docker images	api	mirantis.azurecr.io/iam/api:0.3.18
	auxiliary	mirantis.azurecr.io/iam/auxiliary:0.3.18
	kubernetes-entry point	mirantis.azurecr.io/iam/external/kubernetes-entrypoint:v0.3.1
	mariadb	mirantis.azurecr.io/iam/external/mariadb:10.2.18
	keycloak	mirantis.azurecr.io/iam/keycloak:0.3.18
	keycloak-gatekeeper	mirantis.azurecr.io/iam/keycloak-gatekeeper:6.0.1

Apply updates to the AWS-based management clusters

To complete the AWS-based management cluster upgrade to version 2.1.0, manually update the IAM policies for AWS before updating your AWS-based managed clusters.

To update the IAM policies for AWS:

1. Choose from the following options:

- Update the IAM policies using `get_container_cloud.sh`:

1. On any local machine, download and run the latest version of the Container Cloud bootstrap script:

```
wget https://binary.mirantis.com/releases/get_container_cloud.sh
chmod 0755 get_container_cloud.sh
./get_container_cloud.sh
```

2. Change the directory to the `kaas-bootstrap` folder created by the `get_container_cloud.sh` script.

3. Export the following parameters by adding the corresponding values for the AWS admin credentials:

```
export AWS_SECRET_ACCESS_KEY=XXXXXXX
export AWS_ACCESS_KEY_ID=XXXXXXX
export AWS_DEFAULT_REGION=us-east-2
```

4. Update the AWS CloudFormation template for IAM policy:

```
./kaas bootstrap aws policy
```

• Update the IAM policies using the AWS Management Console:

1. Log in to your AWS Management Console.
2. Verify that the `controllers.cluster-api-provider-aws.kaas.mirantis.com` role or another AWS role that you use for Container Cloud users contains the following permissions:

```
"ec2:DescribeRegions", "ec2:DescribeInstanceTypes"
```

Otherwise, add these permissions manually.

2. Proceed to updating your AWS-based managed clusters as described in [Operations Guide: Update a managed cluster](#).

See also

- Cluster releases (managed)
- release-history

## 2.0.0

This section outlines release notes for the initial Mirantis Container Cloud GA release 2.0.0. This release introduces support for the Cluster release 5.7.0 that is based on Mirantis Kubernetes Engine 3.3.3, Mirantis Container Runtime 19.03.12, and Kubernetes 1.18.

Known issues

This section lists known issues with workarounds for the Mirantis Container Cloud release 2.0.0.

- AWS
- IAM
- Storage
- Bare metal
- StackLight
- Bootstrap

## AWS

### [6222] Managed cluster deployment requiring PVs may fail

On a management cluster with multiple AWS-based managed clusters, some clusters fail to complete the deployments that require persistent volumes (PVs), for example, Elasticsearch. Some of the affected pods get stuck in the Pending state with the pod has unbound immediate PersistentVolumeClaims and node(s) had volume node affinity conflict errors.

#### Warning

The workaround below applies to HA deployments where data can be rebuilt from replicas. If you have a non-HA deployment, back up any existing data before proceeding, since all data will be lost while applying the workaround.

#### Workaround:

1. Obtain the persistent volume claims related to the storage mounts of the affected pods:

```
kubectl get pod/<pod_name1> pod/<pod_name2> \
-o jsonpath='{.spec.volumes[?(@.persistentVolumeClaim)].persistentVolumeClaim.claimName}'
```

#### Note

In the command above and in the subsequent steps, substitute the parameters enclosed in angle brackets with the corresponding values.

2. Delete the affected Pods and PersistentVolumeClaims to reschedule them: For example, for StackLight:

```
kubectl -n stacklight delete \

pod/<pod_name1> pod/<pod_name2> ...
pvc/<pvc_name2> pvc/<pvc_name2> ...
```

## Bare metal

### [6988] LVM fails to deploy if the volume group name already exists

During a management or managed cluster deployment, LVM cannot be deployed on a new disk if an old volume group with the same name already exists on the target hardware node but on the different disk.

**Workaround:**

In the bare metal host profile specific to your hardware configuration, add the `wipe: true` parameter to the device that fails to be deployed. For the procedure details, see [Operations Guide: Create a custom host profile](#).

---

**IAM****[2757] IAM fails to start during management cluster deployment**

During a management cluster deployment, IAM fails to start with the IAM pods being in the `CrashLoopBackOff` status.

**Workaround:**

1. Log in to the bootstrap node.
2. Remove the `iam-mariadb-state` configmap:

```
kubectl delete cm -n kaas iam-mariadb-state
```

3. Manually delete the mariadb pods:

```
kubectl delete po -n kaas mariadb-server-{0,1,2}
```

Wait for the pods to start. If the mariadb pod does not start with the connection to peer timed out exception, repeat the step 2.

4. Obtain the MariaDB database admin password:

```
kubectl get secrets -n kaas mariadb-dbadmin-password \
-o jsonpath='{.data.MYSQL_DBADMIN_PASSWORD}' | base64 -d ; echo
```

5. Log in to MariaDB:

```
kubectl exec -it -n kaas mariadb-server-0 -- bash -c 'mysql -uroot -p<mysqlDbadminPassword>'
```

Substitute `<mysqlDbadminPassword>` with the corresponding value obtained in the previous step.

6. Run the following command:

```
DROP DATABASE IF EXISTS keycloak;
```

7. Manually delete the Keycloak pods:

```
kubectl delete po -n kaas iam-keycloak-{0,1,2}
```

## StackLight

### [7101] Monitoring of disabled components

Fixed in 2.1.0

On the baremetal-based clusters, the monitoring of Ceph and Ironic is enabled when Ceph and Ironic are disabled. The issue with Ceph relates to both management or managed clusters, the issue with Ironic relates to managed clusters only.

Workaround:

1. Open the StackLight configuration manifest as described in [Operations Guide: Configure StackLight](#).
2. Add the following parameter to the StackLight helmReleases values of the Cluster object to explicitly disable the required component monitoring:

- For Ceph:

```
helmReleases:  
- name: stacklight  
  values:  
    ...  
    ceph:  
      disabledOnBareMetal: true  
    ...
```

- For Ironic:

```
helmReleases:  
- name: stacklight  
  values:  
    ...  
    ironic:  
      disabledOnBareMetal: true  
    ...
```

### [7324] Ceph monitoring disabled

Fixed in 2.1.0

Ceph monitoring may be disabled on the baremetal-based managed clusters due to a missing provider: BareMetal parameter.

Workaround:

1. Open the StackLight configuration manifest as described in [Operations Guide: Configure StackLight](#).



2. Add the provider: BareMetal parameter to the StackLight helmReleases values of the Cluster object:

```
spec:
  providerSpec:
    value:
      helmReleases:
        - name: stacklight
          values:
            ...
            provider: BareMetal
            ...
```

## Storage

### [6164] Small number of PGs per Ceph OSD

Fixed in 2.2.0

After deploying a managed cluster with Ceph, the number of placement groups (PGs) per Ceph OSD may be too small and the Ceph cluster may have the HEALTH\_WARN status:

```
health: HEALTH_WARN
       too few PGs per OSD (3 < min 30)
```

The workaround is to enable the PG balancer to properly manage the number of PGs:

```
kexec -it $(k get pod -l "app=rook-ceph-tools" --all-namespaces -o jsonpath='{.items[0].metadata.name}') -n rook-ceph bash
ceph mgr module enable pg_autoscaler
```

### [7073] Cannot automatically remove a Ceph node

When removing a worker node, it is not possible to automatically remove a Ceph node. The workaround is to manually remove the Ceph node from the Ceph cluster as described in [Operations Guide: Add, remove, or reconfigure Ceph nodes](#) before removing the worker node from your deployment.

### [7131] rook-ceph-mgr fails during managed cluster deployment

Fixed in 2.2.0

Occasionally, the deployment of a managed cluster may fail during the Ceph Monitor or Manager deployment. In this case, the Ceph cluster may be down and a stack trace similar to the following one may be present in Ceph Manager logs:

```
kuibectl -n rook-ceph logs rook-ceph-mgr-a-c5dc846f8-k68rs
/home/jenkins-build/workspace/ceph-build/ARCH/x86_64/AVAILABLE_ARCH/x86_64/AVAILABLE_DIST/centos7/DIST/centos7/MACHINE_SIZE/gigantic/release/14.2.9/rpm/ie17/BUILD/ceph-14.2.9/src/mon/MonMap.h: In function 'void MonMap::add(const mon_info_t&)' thread 7f63d3744b80 time 2020-09-03 10:16:46.586388
```

```

/home/jenkins-build/build/workspace/ceph-build/ARCH/x86_64/AVAILABLE_ARCH/x86_64/AVAILABLE_DIST/centos7/DIST/centos7/MACHINE_SIZE/gigantic/release/14.2.9/rpm/elf7/BUILD/ceph-14.2.9/src/mon/MonMap.h:195: FAILED ceph_assert(addr_mons.count() == 0)
ceph version 14.2.9 (581f22da52345db46ee232b73b990f06029a240) nautilus (stable)
1: ceph::ceph_assert_fail(char const*, char const*, int, char const*)+0x34a [0x7f3ca928751]
2: (()+0x253a3d [0x7f3ca92a34]
3: (MonMap::add(mon_info_t const&)+0x80) [0x7f3cad49190]
4: (MonMap::add(std::string const&, entity_addrvec_t const&, int)+0x110) [0x7f3cad493a0]
5: (MonMap::init_with_ips(std::string const&, bool, std::string const&)+0xc9) [0x7f3cad43849]
6: (MonMap::build_initialCephContext*, bool, std::ostream&+0x314) [0x7f3cad45a4]
7: (MonClient::build_initial_monmap()+0x130) [0x7f3cad2e240]
8: (MonClient::get_monmap_and_config()+0x5f) [0x7f3cad355a]
9: (global_pre_init(std::map<std::string, std::string, std::less<std::string>, std::allocator<std::pair<std::string const, std::string>>> const*, std::vector<char const*, std::allocator<char const*>> >> &, unsigned int, code_environment_t, int)+0x524) [0x55ce86711444]
10: (global_init(std::map<std::string, std::string, std::less<std::string>, std::allocator<std::pair<std::string const, std::string>>> const*, std::vector<char const*, std::allocator<char const*>> >> &, unsigned int, code_environment_t, int, char const*, bool)+0x76) [0x55ce86711b56]
11: (main()+0x130) [0x55ce864f9a4]
12: (_libc_start_main()+0xf5) [0x7f3c6e73555]
13: (()+0x1c010) [0x55ce8650510]
    
```

The workaround is to start the managed cluster deployment from scratch.

## Bootstrap

### [7281] Space in PATH causes failure of bootstrap process

Fixed in 2.1.0

A management cluster bootstrap script fails if there is a space in the PATH environment variable. As a workaround, before running the bootstrap.sh script, verify that there are no spaces in the PATH environment variable.

## Components versions

The following table lists the major components and their versions of the Mirantis Container Cloud release 2.0.0.

Container Cloud release components versions

Component	Application/Service	Version
AWS	aws-provider	1.10.12
	aws-credentials-controller	1.10.12
Bare metal	baremetal-operator	3.0.7
	baremetal-provider	1.10.12
	httpd	2.4.43-20200710111500
	ironic	train-bionic-20200803180020
	ironic-operator	base-bionic-20200805144858
	kaas-ipam	3.0.7
	local-volume-provisioner	1.0.4-mcp
IAM	mariadb	10.4.12-bionic-20200803130834
	iam	1.1.16
	iam-controller	1.10.12
Container Cloud	keycloak	9.0.0
	admission-controller	1.10.12

	byo-credentials-controller	1.10.12
	byo-provider	1.10.12
	kaas-public-api	1.10.12
	kaas-exporter	1.10.12
	kaas-ui	1.10.12
	lcm-controller	0.2.0-149-g412c5a05
	release-controller	1.10.12
OpenStack	openstack-provider	1.10.12
	os-credentials-controller	1.10.12

## Artifacts

This section lists the components artifacts of the Mirantis Container Cloud release 2.0.0.

- Bare metal artifacts
- Core components artifacts
- IAM artifacts

### Bare metal artifacts

Artifact	Component	Path
Binaries	Target system image (ubuntu-bionic)	<a href="https://binary.mirantis.com/bm/bin/efi/ubuntu/cow2-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/efi/ubuntu/cow2-bionic-debug-20200730084816</a>
	baremetal-operator	<a href="https://binary.mirantis.com/bm/helm/baremetal-operator-3.0.7.tgz">https://binary.mirantis.com/bm/helm/baremetal-operator-3.0.7.tgz</a>
	ironic-python-agent.kernel	<a href="https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/kernel-train-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/kernel-train-bionic-debug-20200730084816</a>
	ironic-python-agent.initramfs	<a href="https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/initramfs-train-bionic-debug-20200730084816">https://binary.mirantis.com/bm/bin/ironic/ipa/ubuntu/initramfs-train-bionic-debug-20200730084816</a>
	kaas-ipam	<a href="https://binary.mirantis.com/bm/helm/kaas-ipam-3.0.7.tgz">https://binary.mirantis.com/bm/helm/kaas-ipam-3.0.7.tgz</a>
	local-volume-provisioner	<a href="https://binary.mirantis.com/bm/helm/local-volume-provisioner-1.0.4-mcp.tgz">https://binary.mirantis.com/bm/helm/local-volume-provisioner-1.0.4-mcp.tgz</a>
Docker images	baremetal-operator	<a href="https://mirantis.azurecr.io/bm/baremetal-operator:base-bionic-20200812172956">mirantis.azurecr.io/bm/baremetal-operator:base-bionic-20200812172956</a>

	httpd	mirantis.azurecr.io/bm/external/httpd:2.4.43-20200710111500
	ironic	mirantis.azurecr.io/openstack/ironic:train-bionic-20200803180020
	ironic-inspector	mirantis.azurecr.io/openstack/ironic-inspector:train-bionic-20200803180020
	ironic-operator	mirantis.azurecr.io/bm/ironic-operator:base-bionic-20200805144858
	kaas-ipam	mirantis.azurecr.io/bm/kaas_ipam:base-bionic-20200807130953
	mariadb	mirantis.azurecr.io/general/mariadb:10.4.12-bionic-20200803130834

Core components artifacts

Artifact	Component	Path
Bootstrap tarball	bootstrap-linux	<a href="https://binary.mirantis.com/core/bin/bootstrap-linux-1.10.12.tar.gz">https://binary.mirantis.com/core/bin/bootstrap-linux-1.10.12.tar.gz</a>
	bootstrap-darwin	<a href="https://binary.mirantis.com/core/bin/bootstrap-darwin-1.10.12.tar.gz">https://binary.mirantis.com/core/bin/bootstrap-darwin-1.10.12.tar.gz</a>
Helm charts	admission-controller	<a href="https://binary.mirantis.com/core/helm/admission-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/admission-controller-1.10.12.tgz</a>
	aws-credentials-controller	<a href="https://binary.mirantis.com/core/helm/aws-credentials-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/aws-credentials-controller-1.10.12.tgz</a>
	aws-provider	<a href="https://binary.mirantis.com/core/helm/aws-provider-1.10.12.tgz">https://binary.mirantis.com/core/helm/aws-provider-1.10.12.tgz</a>
	baremetal-provider	<a href="https://binary.mirantis.com/core/helm/baremetal-provider-1.10.12.tgz">https://binary.mirantis.com/core/helm/baremetal-provider-1.10.12.tgz</a>
	byo-credentials-controller	<a href="https://binary.mirantis.com/core/helm/byo-credentials-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/byo-credentials-controller-1.10.12.tgz</a>
	byo-provider	<a href="https://binary.mirantis.com/core/helm/byo-provider-1.10.12.tgz">https://binary.mirantis.com/core/helm/byo-provider-1.10.12.tgz</a>
	iam-controller	<a href="https://binary.mirantis.com/core/helm/iam-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/iam-controller-1.10.12.tgz</a>
	kaas-exporter	<a href="https://binary.mirantis.com/core/helm/kaas-exporter-1.10.12.tgz">https://binary.mirantis.com/core/helm/kaas-exporter-1.10.12.tgz</a>
	kaas-public-api	<a href="https://binary.mirantis.com/core/helm/kaas-public-api-1.10.12.tgz">https://binary.mirantis.com/core/helm/kaas-public-api-1.10.12.tgz</a>

	kaas-ui	<a href="https://binary.mirantis.com/core/helm/kaas-ui-1.10.12.tgz">https://binary.mirantis.com/core/helm/kaas-ui-1.10.12.tgz</a>
	lcm-controller	<a href="https://binary.mirantis.com/core/helm/lcm-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/lcm-controller-1.10.12.tgz</a>
	openstack-provider	<a href="https://binary.mirantis.com/core/helm/openstack-provider-1.10.12.tgz">https://binary.mirantis.com/core/helm/openstack-provider-1.10.12.tgz</a>
	os-credentials-controller	<a href="https://binary.mirantis.com/core/helm/os-credentials-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/os-credentials-controller-1.10.12.tgz</a>
	release-controller	<a href="https://binary.mirantis.com/core/helm/release-controller-1.10.12.tgz">https://binary.mirantis.com/core/helm/release-controller-1.10.12.tgz</a>
Docker images for Container Cloud deployment	aws-cluster-api-controller	mirantis.azurecr.io/core/aws-cluster-api-controller:1.10.12
	aws-credentials-controller	mirantis.azurecr.io/core/aws-credentials-controller:1.10.12
	byo-credentials-controller	mirantis.azurecr.io/core/byo-credentials-controller:1.10.12
	cluster-api-provider-baremetal	mirantis.azurecr.io/core/cluster-api-provider-baremetal:1.10.12
	frontend	mirantis.azurecr.io/core/frontend:1.10.12
	iam-controller	mirantis.azurecr.io/core/iam-controller:1.10.12
	lcm-controller	mirantis.azurecr.io/core/lcm-controller:v0.2.0-149-g412c5a05
	openstack-cluster-api-controller	mirantis.azurecr.io/core/openstack-cluster-api-controller:1.10.12
	os-credentials-controller	mirantis.azurecr.io/core/os-credentials-controller:1.10.12
	release-controller	mirantis.azurecr.io/core/release-controller:1.10.12

IAM artifacts

Artifact	Component	Path
Binaries	hash-generate-linux	<a href="http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-linux">http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-linux</a>
	hash-generate-darwin	<a href="http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-darwin">http://binary.mirantis.com/iam/bin/hash-generate-0.0.1-236-9cea809-darwin</a>
	iamctl-linux	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-linux">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-linux</a>

	iamctl-darwin	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-darwin">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-darwin</a>
	iamctl-windows	<a href="http://binary.mirantis.com/iam/bin/iamctl-0.3.18-windows">http://binary.mirantis.com/iam/bin/iamctl-0.3.18-windows</a>
Helm charts	iam	<a href="http://binary.mirantis.com/iam/helm/iam-1.1.16.tgz">http://binary.mirantis.com/iam/helm/iam-1.1.16.tgz</a>
	iam-proxy	<a href="http://binary.mirantis.com/iam/helm/iam-proxy-0.2.2.tgz">http://binary.mirantis.com/iam/helm/iam-proxy-0.2.2.tgz</a>
	keycloak-proxy	<a href="http://binary.mirantis.com/core/helm/keycloak_proxy-1.10.12.tgz">http://binary.mirantis.com/core/helm/keycloak_proxy-1.10.12.tgz</a>
Docker images	api	mirantis.azurecr.io/iam/api:0.3.18
	auxiliary	mirantis.azurecr.io/iam/auxiliary:0.3.18
	kubernetes-entry point	mirantis.azurecr.io/iam/external/kubernetes-entrypoint:v0.3.1
	mariadb	mirantis.azurecr.io/iam/external/mariadb:10.2.18
	keycloak	mirantis.azurecr.io/iam/keycloak:0.3.18
	keycloak-gatekeeper	mirantis.azurecr.io/iam/keycloak-gatekeeper:6.0.1

#### Seealso

- [Cluster releases \(managed\)](#)
- [release-history](#)

#### Seealso

- [Container Cloud release compatibility matrix](#)
- [Releases summary](#)

## Cluster releases (managed)

This section outlines the release notes for the Mirantis Container Cloud Cluster releases that are supported by specific Container Cloud releases. For details about the Container Cloud releases, see: [Mirantis Container Cloud releases](#).

### 6.8.1

The Cluster release 6.8.1 is introduced in the Mirantis Container Cloud release 2.2.0. This Cluster release is based on the Cluster release 5.8.0 and the main difference is support of the Mirantis OpenStack on Kubernetes (MOSK) product.

For details about MOSK, see [MOSK Release Notes](#).

For details about the Cluster release 5.8.0, refer to the 5.8.0 section.

#### Seealso

- [Container Cloud release 2.2.0](#)
- [Cluster release 5.9.0](#)

### 5.9.0

This section outlines release notes for the Cluster release 5.9.0 that is introduced in the Mirantis Container Cloud release 2.2.0 and supports Mirantis Kubernetes Engine 3.3.3, Mirantis Container Runtime 19.03.12, and Kubernetes 1.18.

For the list of known and resolved issues, refer to the Container Cloud release 2.2.0 section.

## Enhancements

This section outlines new features and enhancements introduced in the Cluster release 5.9.0.

- Alerta upgrade
- File descriptors monitoring
- Alerts improvements

---

#### Alerta upgrade

Upgraded Alerta from version 7.4.4 to 8.0.2.

---

### File descriptors monitoring

Enhanced StackLight to monitor the number of file descriptors on nodes and raise FileDescriptorUsage\* alerts when a node uses 80%, 90%, or 95% of file descriptors.

Learn more

[General node alerts](#)

### Alerts improvements

- Added the SSLProbesFailing alert that raises in case of an SSL certificate probes failure.
- Improved alerts descriptions and raise conditions.

Learn more

- [SSL certificates alerts](#)
- [Available StackLight alerts](#)

### Components versions

The following table lists the components versions of the Cluster release 5.9.0.

#### Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

Components versions of the Cluster release 5.9.0

Component	Application/Service	Version
Distributed storage	Ceph <sup>Updated</sup>	14.2.11 (Nautilus)
	Rook <sup>Updated</sup>	1.4.4
Docker Enterprise	Mirantis Container Runtime	19.03.12 <sup>1</sup>



	Mirantis Kubernetes Engine	3.3.3 <sup>2</sup>
LCM	ansible-docker <sup>Updated</sup>	0.3.5-147-g18f3b44
	descheduler	0.8.0
	Helm	2.16.9-39
	helm-controller <sup>Updated</sup>	0.2.0-178-g8cc488f8
	lcm-ansible <sup>Updated</sup>	0.2.0-132-g49f7591
	lcm-agent <sup>Updated</sup>	0.2.0-178-g8cc488f8
	metallb-controller	0.9.3-1
	metrics-server	0.3.6-1
StackLight	Alerta <sup>Updated</sup>	8.0.2-20201014133832
	Alertmanager	0.21.0
	Elasticsearch	7.6.1
	Elasticsearch curator	5.7.6
	Elasticsearch exporter	1.0.2
	Fluentd	1.10.2-20200609085335
	Grafana	7.1.5
	Grafana Image Renderer	2.0.0
	IAM Proxy	6.0.1
	Kibana	7.6.1
	MCC Metric Collector	0.1-20201005141816
	Metricbeat	7.6.1
	Netchecker	1.4.1
	Patroni	12-1.6p3
	Prometheus <sup>Updated</sup>	2.19.3
	Prometheus Blackbox Exporter	0.14.0
	Prometheus ES Exporter	0.5.1-20201002144823
	Prometheus libvirt Exporter	0.1-20200610164751
	Prometheus Memcached Exporter	0.5.0
	Prometheus MySQL Exporter	0.11.0
	Prometheus Node Exporter	1.0.1
	Prometheus NGINX Exporter	0.6.0
	Prometheus Patroni Exporter	0.1-20200428121305

	Prometheus Postgres Exporter	0.8.0-20201006113956
	Prometheus RabbitMQ Exporter	0.29.0
	Prometheus Relay	0.3-20200519054052
	Pushgateway	1.2.0
	telegraf-ds	1.9.1-20200901112858
	telegraf-s	1.9.1-20200901112858
	Telemeter	4.4.0-20200424

- 1 For the Mirantis Container Runtime release highlights, see [Docker Enterprise documentation: Mirantis Container Runtime release notes](#).
- 2 For the Mirantis Kubernetes Engine 3.3.3 release highlights and components versions, see [Docker Enterprise documentation: Mirantis Kubernetes Engine release notes](#).

## Artifacts

This section lists the components artifacts of the Cluster release 5.9.0.

- Ceph artifacts
- LCM artifacts
- StackLight artifacts

### Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

### Ceph artifacts

Artifact	Component	Path
Helm chart	ceph-controller <sup>Updated</sup>	mirantis.azurecr.io/ceph/helm/ceph-controller-1.0.0-mcp-33.tgz
Docker images	ceph <sup>Updated</sup>	mirantis.azurecr.io/ceph/ceph:v14.2.11
	ceph-controller <sup>Updated</sup>	mirantis.azurecr.io/ceph/mcp/ceph-controller:v1.0.0-20201022081323

	cephcsi <sup>Updated</sup>	mirantis.azurecr.io/ceph/cephcsi/cephcsi:v3.1.0
	csi-node-driver-registrar	mirantis.azurecr.io/ceph/k8scsi/csi-node-driver-registrar:v1.2.0
	csi-provisioner <sup>Updated</sup>	mirantis.azurecr.io/ceph/k8scsi/csi-provisioner:v1.6.0
	csi-snapshotter <sup>Updated</sup>	mirantis.azurecr.io/ceph/k8scsi/csi-snapshotter:v2.1.1
	csi-attacher	mirantis.azurecr.io/ceph/k8scsi/csi-attacher:v2.1.0
	rook <sup>Updated</sup>	mirantis.azurecr.io/ceph/rook/ceph:v1.4.4

LCM artifacts

Artifact	Component	Path
Binaries	ansible-docker <sup>Updated</sup>	<a href="https://binary.mirantis.com/lcm/bin/ansible-docker/v0.3.5-147-g18f3b44/ansible-docker.tar.gz">https://binary.mirantis.com/lcm/bin/ansible-docker/v0.3.5-147-g18f3b44/ansible-docker.tar.gz</a>
	lcm-ansible <sup>Updated</sup>	<a href="https://binary.mirantis.com/lcm/bin/lcm-ansible/v0.2.0-132-g49f7591-1/lcm-ansible.tar.gz">https://binary.mirantis.com/lcm/bin/lcm-ansible/v0.2.0-132-g49f7591-1/lcm-ansible.tar.gz</a>
	lcm-agent <sup>Updated</sup>	<a href="https://binary.mirantis.com/lcm/bin/lcm-agent/v0.2.0-178-g8cc488f8/lcm-agent">https://binary.mirantis.com/lcm/bin/lcm-agent/v0.2.0-178-g8cc488f8/lcm-agent</a>
Docker images	descheduler	mirantis.azurecr.io/lcm/descheduler/v0.8.0
	helm	mirantis.azurecr.io/lcm/helm/tiller:v2.16.9-39
	helm-controller <sup>Updated</sup>	mirantis.azurecr.io/lcm/lcm-controller:v0.2.0-178-g8cc488f8
	metallb-controller	mirantis.azurecr.io/lcm/metallb/controller:v0.9.3-1
	metallb-speaker	mirantis.azurecr.io/lcm/metallb/speaker:v0.9.3-1
	metrics-server	mirantis.azurecr.io/lcm/metrics-server-amd64/v0.3.6-1

StackLight artifacts

Artifact	Component	Path
Helm charts	alerta <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/alerta-0.1.0-mcp-13.tgz">https://binary.mirantis.com/stacklight/helm/alerta-0.1.0-mcp-13.tgz</a>

	elasticsearch	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-7.1.1-mcp-20.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-7.1.1-mcp-20.tgz</a>
	elasticsearch-curator	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-curator-1.5.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-curator-1.5.0-mcp-2.tgz</a>
	elasticsearch-exporter	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-exporter-1.2.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-exporter-1.2.0-mcp-2.tgz</a>
	fluentd	<a href="https://binary.mirantis.com/stacklight/helm/fluentd-2.0.3-mcp-15.tgz">https://binary.mirantis.com/stacklight/helm/fluentd-2.0.3-mcp-15.tgz</a>
	fluentd-elasticsearch <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/fluentd-elasticsearch-3.0.0-mcp-28.tgz">https://binary.mirantis.com/stacklight/helm/fluentd-elasticsearch-3.0.0-mcp-28.tgz</a>
	grafana <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/grafana-3.3.10-mcp-66.tgz">https://binary.mirantis.com/stacklight/helm/grafana-3.3.10-mcp-66.tgz</a>
	kibana	<a href="https://binary.mirantis.com/stacklight/helm/kibana-3.2.1-mcp-20.tgz">https://binary.mirantis.com/stacklight/helm/kibana-3.2.1-mcp-20.tgz</a>
	mcc-metric-collector	<a href="https://binary.mirantis.com/stacklight/helm/mcc-metric-collector-0.1.0-mcp-22.tgz">https://binary.mirantis.com/stacklight/helm/mcc-metric-collector-0.1.0-mcp-22.tgz</a>
	metricbeat	<a href="https://binary.mirantis.com/stacklight/helm/metricbeat-1.7.1-mcp-8.tgz">https://binary.mirantis.com/stacklight/helm/metricbeat-1.7.1-mcp-8.tgz</a>
	netchecker	<a href="https://binary.mirantis.com/core/helm/netchecker-1.4.1.tgz">https://binary.mirantis.com/core/helm/netchecker-1.4.1.tgz</a>
	patroni	<a href="https://binary.mirantis.com/stacklight/helm/patroni-0.15.1-mcp-17.tgz">https://binary.mirantis.com/stacklight/helm/patroni-0.15.1-mcp-17.tgz</a>
	prometheus <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-8.11.4-mcp-83.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-8.11.4-mcp-83.tgz</a>
	prometheus-blackbox-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-blackbox-exporter-0.3.0-mcp-3.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-blackbox-exporter-0.3.0-mcp-3.tgz</a>
	prometheus-es-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-es-exporter-1.0.0-mcp-3.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-es-exporter-1.0.0-mcp-3.tgz</a>
	prometheus-libvirt-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-libvirt-exporter-0.1.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-libvirt-exporter-0.1.0-mcp-2.tgz</a>
	prometheus-memcached-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-memcached-exporter-0.1.0-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-memcached-exporter-0.1.0-mcp-1.tgz</a>
	prometheus-mysql-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-mysql-exporter-0.3.2-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-mysql-exporter-0.3.2-mcp-1.tgz</a>
	prometheus-nginx-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-nginx-exporter-0.1.0-mcp-4.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-nginx-exporter-0.1.0-mcp-4.tgz</a>
	prometheus-rabbitmq-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-rabbitmq-exporter-0.4.1-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-rabbitmq-exporter-0.4.1-mcp-1.tgz</a>
	stacklight <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/stacklight-0.1.2-mcp-325.tgz">https://binary.mirantis.com/stacklight/helm/stacklight-0.1.2-mcp-325.tgz</a>

	telegraf-ds	<a href="https://binary.mirantis.com/stacklight/helm/telegraf-ds-1.1.5-mcp-16.tgz">https://binary.mirantis.com/stacklight/helm/telegraf-ds-1.1.5-mcp-16.tgz</a>
	telegraf-s	<a href="https://binary.mirantis.com/stacklight/helm/telegraf-s-1.1.5-mcp-16.tgz">https://binary.mirantis.com/stacklight/helm/telegraf-s-1.1.5-mcp-16.tgz</a>
	telemeter-server	<a href="https://binary.mirantis.com/stacklight/helm/telemeter-server-0.1.0-mcp-11.tgz">https://binary.mirantis.com/stacklight/helm/telemeter-server-0.1.0-mcp-11.tgz</a>
	telemeter-client	<a href="https://binary.mirantis.com/stacklight/helm/telemeter-client-0.1.0-mcp-11.tgz">https://binary.mirantis.com/stacklight/helm/telemeter-client-0.1.0-mcp-11.tgz</a>
Docker images	alerta <sup>Updated</sup>	mirantis.azurecr.io/stacklight/alerta-web:8.0.2-20201014133832
	alertmanager	mirantis.azurecr.io/stacklight/alertmanager:v0.21.0
	alpine-python3-requests <sup>Updated</sup>	mirantis.azurecr.io/stacklight/alpine-python3-requests:latest-20200618
	busybox	mirantis.azurecr.io/stacklight/busybox:1.30
	configmap-reload	mirantis.azurecr.io/stacklight/configmap-reload:v0.3.0
	curl	mirantis.azurecr.io/stacklight/curl:7.69.0
	elasticsearch	mirantis.azurecr.io/stacklight/elasticsearch:7.6.1
	elasticsearch-curator	mirantis.azurecr.io/stacklight/curator:5.7.6
	elasticsearch-exporter	mirantis.azurecr.io/stacklight/elasticsearch_exporter:1.0.2
	fluentd	mirantis.azurecr.io/stacklight/fluentd:1.10.2-20200609085335
	gce-proxy	mirantis.azurecr.io/stacklight/gce-proxy:1.11
	grafana	mirantis.azurecr.io/stacklight/grafana:7.1.5
	grafana-image-renderer	mirantis.azurecr.io/stacklight/grafana-image-renderer:2.0.0
	kubectx <sup>Updated</sup>	mirantis.azurecr.io/stacklight/kubectx:1.19.2
	k8s-netchecker-agent	mirantis.azurecr.io/lcm/kubernetes/k8s-netchecker-agent/2019.1/
	k8s-netchecker-server	mirantis.azurecr.io/lcm/kubernetes/k8s-netchecker-server/2019.1/
	k8s-sidecar	mirantis.azurecr.io/stacklight/k8s-sidecar:0.1.178
	kibana	mirantis.azurecr.io/stacklight/kibana:7.6.1

	kube-state-metrics	mirantis.azurecr.io/stacklight/kube-state-metrics:v1.9.2
	mcc-metric-collector	mirantis.azurecr.io/stacklight/mcc-metric-collector:v0.1-20201005141816
	metricbeat	mirantis.azurecr.io/stacklight/metricbeat:7.6.1
	node-exporter	mirantis.azurecr.io/stacklight/node-exporter:v1.0.1
	origin-telemeter	mirantis.azurecr.io/stacklight/origin-telemeter:4.4.0-20200424
	prometheus Updated	mirantis.azurecr.io/stacklight/prometheus:v2.19.3
	prometheus-blackbox-exporter	mirantis.azurecr.io/stacklight/blackbox-exporter:v0.14.0
	prometheus-es-exporter	mirantis.azurecr.io/stacklight/prometheus-es-exporter:v0.5.1-20201002144823
	prometheus-libvirt-exporter	mirantis.azurecr.io/stacklight/libvirt-exporter:v0.1-20200610164751
	prometheus-memcached-exporter	mirantis.azurecr.io/stacklight/memcached-exporter:v0.5.0
	prometheus-mysql-exporter	mirantis.azurecr.io/stacklight/mysql-exporter:v0.11.0
	prometheus-nginx-exporter	mirantis.azurecr.io/stacklight/nginx-prometheus-exporter:0.6.0
	prometheus-patroni-exporter	mirantis.azurecr.io/stacklight/prometheus-patroni-exporter:v0.1-20200428121305
	prometheus-postgres-exporter	mirantis.azurecr.io/stacklight/prometheus-postgres-exporter:v0.8.0-20201006113956
	prometheus-rabbitmq-exporter	mirantis.azurecr.io/stacklight/rabbitmq-exporter:v0.29.0
	prometheus-relay	mirantis.azurecr.io/stacklight/prometheus-relay:v0.3-20200519054052
	pushgateway	mirantis.azurecr.io/stacklight/pushgateway:v1.2.0
	spilo	mirantis.azurecr.io/stacklight/spilo:12-1.6p3
	telegraf	mirantis.azurecr.io/stacklight/telegraf:v1.9.1-20200901112858
	telemeter-token-auth	mirantis.azurecr.io/stacklight/telemeter-token-auth:v0.1-20200406175600

**Seealso**

- Container Cloud release 2.2.0
- Cluster release 6.8.1

## Obsolete Cluster releases

This section describes the release notes for the obsolete Cluster releases.

### 5.x series

This section outlines release notes for the obsolete Cluster releases of the 5.x series.

#### 5.8.0

This section outlines release notes for the Cluster release 5.8.0 that is introduced in the Mirantis Container Cloud release 2.1.0 and supports Mirantis Kubernetes Engine 3.3.3, Mirantis Container Runtime 19.03.12, and Kubernetes 1.18.

For the list of known issues, refer to the Container Cloud release 2.1.0 Known issues.

#### Enhancements

This section outlines new features and enhancements introduced in the Cluster release 5.8.0.

- Grafana improvements
- Clusters telemetry improvement in StackLight
- Alerts improvements

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#### Grafana improvements

- Upgraded Grafana from version 6.6.2 to 7.1.5.
- Introduced Grafana Image Renderer, a separate Grafana container in a pod to offload rendering of images from charts. Grafana Image Renderer is enabled by default.
- Configured a home dashboard to replace the Installation/configuration panel that opens when you access Grafana. By default, Kubernetes Cluster is set as a home dashboard. However, you can set any of the available Grafana dashboards.

### Learn more

- [Grafana release notes](#)
- [StackLight configuration parameters: Grafana](#)

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### Clusters telemetry improvement in StackLight

- Split the regional and management cluster function in StackLight telemetry. Now, the metrics from managed clusters are aggregated on regional clusters, then both regional and managed clusters metrics are sent from regional clusters to the management cluster.
- Added the capability to filter panels by regions in the Clusters Overview and Telemeter Server Grafana dashboards.

### Learn more

[StackLight deployment architecture](#)

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### Alerts improvements

- Improved alerts descriptions and raise conditions.
- Changed severity in some alerts to improve operability.
- Improved raise conditions of some alerts by adding the for clause and unifying the existing for clauses.

### Learn more

[Available StackLight alerts](#)

### Components versions

The following table lists the components versions of the Cluster release 5.8.0.



**Note**

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

## Components versions of the Cluster release 5.8.0

Component	Application/Service	Version
Distributed storage	Ceph	14.2.9 (Nautilus)
	Rook	1.3.8
Docker Enterprise	Mirantis Container Runtime	19.03.12 <sup>3</sup>
	Mirantis Kubernetes Engine	3.3.3 <sup>4</sup>
LCM	ansible-docker <sup>Updated</sup>	0.3.5-141-g1007cc9
	descheduler	0.8.0
	Helm <sup>Updated</sup>	2.16.9-39
	helm-controller <sup>Updated</sup>	0.2.0-169-g5668304d
	lcm-ansible <sup>Updated</sup>	0.2.0-119-g8f05f58-1
	lcm-agent	0.2.0-149-g412c5a05
	metallb-controller	0.9.3-1
	metrics-server	0.3.6-1
StackLight	Alerta	7.4.4-20200615123606
	Alertmanager	0.21.0
	Elasticsearch	7.6.1
	Elasticsearch curator	5.7.6
	Elasticsearch exporter	1.0.2
	Fluentd	1.10.2-20200609085335
	Grafana <sup>Updated</sup>	7.1.5
	Grafana Image Renderer <sup>New</sup>	2.0.0
	IAM Proxy	6.0.1
	Kibana	7.6.1
MCC Metric Collector <sup>Updated</sup>	MCC Metric Collector <sup>Updated</sup>	0.1-20201005141816
	Metricbeat	7.6.1
	Netchecker	1.4.1

	Patroni	12-1.6p3
	Prometheus	2.19.2
	Prometheus Blackbox Exporter	0.14.0
	Prometheus ES Exporter <small>Updated</small>	0.5.1-20201002144823
	Prometheus libvirt Exporter	0.1-20200610164751
	Prometheus Memcached Exporter	0.5.0
	Prometheus MySQL Exporter	0.11.0
	Prometheus Node Exporter	1.0.1
	Prometheus NGINX Exporter	0.6.0
	Prometheus Patroni Exporter	0.1-20200428121305
	Prometheus Postgres Exporter <small>Updated</small>	0.8.0-20201006113956
	Prometheus RabbitMQ Exporter	0.29.0
	Prometheus Relay	0.3-20200519054052
	Pushgateway	1.2.0
	telegraf-ds <small>Updated</small>	1.9.1-20200901112858
	telegraf-s <small>Updated</small>	1.9.1-20200901112858
	Telemeter	4.4.0-20200424

- 3 For the Mirantis Container Runtime release highlights, see [Docker Enterprise documentation: Mirantis Container Runtime release notes](#).
- 4 For the Mirantis Kubernetes Engine 3.3.3 release highlights and components versions, see [Docker Enterprise documentation: Mirantis Kubernetes Engine release notes](#).

### Artifacts

This section lists the components artifacts of the Cluster release 5.8.0.

- Ceph artifacts
- LCM artifacts
- StackLight artifacts

Note

The components that are newly added, updated, deprecated, or removed as compared to the previous release version, are marked with a corresponding superscript, for example, lcm-ansible<sup>Updated</sup>.

Ceph artifacts

Artifact	Component	Path
Helm chart	ceph-controller <sup>Updated</sup>	mirantis.azurecr.io/ceph/helm/ceph-controller-1.0.0-mcp-18.tgz
Docker images	ceph	mirantis.azurecr.io/ceph/ceph:v14.2.9
	ceph-controller <sup>Updated</sup>	mirantis.azurecr.io/ceph/mcp/ceph-controller:v1.0.0-20200903151423
	cephcsi	mirantis.azurecr.io/ceph/cephcsi/cephcsi:v2.1.2
	csi-node-driver-registrar	mirantis.azurecr.io/ceph/k8scsi/csi-node-driver-registrar:v1.2.0
	csi-provisioner	mirantis.azurecr.io/ceph/k8scsi/csi-provisioner:v1.4.0
	csi-snapshotter	mirantis.azurecr.io/ceph/k8scsi/csi-snapshotter:v1.2.2
	csi-attacher	mirantis.azurecr.io/ceph/k8scsi/csi-attacher:v2.1.0
	rook	mirantis.azurecr.io/ceph/rook/ceph:v1.3.8

LCM artifacts

Artifact	Component	Path
Binaries	ansible-docker <sup>Updated</sup>	<a href="https://binary.mirantis.com/lcm/bin/ansible-docker/v0.3.5-141-g1007cc9/ansible-docker.tar.gz">https://binary.mirantis.com/lcm/bin/ansible-docker/v0.3.5-141-g1007cc9/ansible-docker.tar.gz</a>
	lcm-ansible <sup>Updated</sup>	<a href="https://binary.mirantis.com/lcm/bin/lcm-ansible/v0.2.0-119-g8f05f58-1/lcm-ansible.tar.gz">https://binary.mirantis.com/lcm/bin/lcm-ansible/v0.2.0-119-g8f05f58-1/lcm-ansible.tar.gz</a>
	lcm-agent <sup>Updated</sup>	<a href="https://binary.mirantis.com/lcm/bin/lcm-agent/v0.2.0-169-g5668304d/lcm-agent">https://binary.mirantis.com/lcm/bin/lcm-agent/v0.2.0-169-g5668304d/lcm-agent</a>
Docker images	descheduler	mirantis.azurecr.io/lcm/descheduler/v0.8.0
	helm <sup>Updated</sup>	mirantis.azurecr.io/lcm/helm/tiller:v2.16.9-39

	helm-controller Updated	mirantis.azurecr.io/lcm/lcm-controller:v0.2.0-169-g5668304d
	metallb-controller	mirantis.azurecr.io/lcm/metallb/controller:v0.9.3-1
	metallb-speaker	mirantis.azurecr.io/lcm/metallb/speaker:v0.9.3-1
	metrics-server	mirantis.azurecr.io/lcm/metrics-server-amd64/v0.3.6-1

## StackLight artifacts

Artifact	Component	Path
Helm charts	alerta	<a href="https://binary.mirantis.com/stacklight/helm/alerta-0.1.0-mcp-12.tgz">https://binary.mirantis.com/stacklight/helm/alerta-0.1.0-mcp-12.tgz</a>
	elasticsearch	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-7.1.1-mcp-20.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-7.1.1-mcp-20.tgz</a>
	elasticsearch-curator	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-curator-1.5.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-curator-1.5.0-mcp-2.tgz</a>
	elasticsearch-exporter	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-exporter-1.2.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-exporter-1.2.0-mcp-2.tgz</a>
	fluentd Updated	<a href="https://binary.mirantis.com/stacklight/helm/fluentd-2.0.3-mcp-15.tgz">https://binary.mirantis.com/stacklight/helm/fluentd-2.0.3-mcp-15.tgz</a>
	fluentd-elasticsearch	<a href="https://binary.mirantis.com/stacklight/helm/fluentd-elasticsearch-3.0.0-mcp-25.tgz">https://binary.mirantis.com/stacklight/helm/fluentd-elasticsearch-3.0.0-mcp-25.tgz</a>
	grafana Updated	<a href="https://binary.mirantis.com/stacklight/helm/grafana-3.3.10-mcp-64.tgz">https://binary.mirantis.com/stacklight/helm/grafana-3.3.10-mcp-64.tgz</a>
	kibana Updated	<a href="https://binary.mirantis.com/stacklight/helm/kibana-3.2.1-mcp-20.tgz">https://binary.mirantis.com/stacklight/helm/kibana-3.2.1-mcp-20.tgz</a>
	mcc-metric-collector	<a href="https://binary.mirantis.com/stacklight/helm/mcc-metric-collector-0.1.0-mcp-22.tgz">https://binary.mirantis.com/stacklight/helm/mcc-metric-collector-0.1.0-mcp-22.tgz</a>
	metricbeat	<a href="https://binary.mirantis.com/stacklight/helm/metricbeat-1.7.1-mcp-8.tgz">https://binary.mirantis.com/stacklight/helm/metricbeat-1.7.1-mcp-8.tgz</a>
	netchecker	<a href="https://binary.mirantis.com/core/helm/netchecker-1.4.1.tgz">https://binary.mirantis.com/core/helm/netchecker-1.4.1.tgz</a>
	patroni	<a href="https://binary.mirantis.com/stacklight/helm/patroni-0.15.1-mcp-17.tgz">https://binary.mirantis.com/stacklight/helm/patroni-0.15.1-mcp-17.tgz</a>
	prometheus Updated	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-8.11.4-mcp-80.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-8.11.4-mcp-80.tgz</a>

	prometheus-blackbox-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-blackbox-exporter-0.3.0-mcp-3.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-blackbox-exporter-0.3.0-mcp-3.tgz</a>
	prometheus-es-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-es-exporter-1.0.0-mcp-3.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-es-exporter-1.0.0-mcp-3.tgz</a>
	prometheus-libvirt-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-libvirt-exporter-0.1.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-libvirt-exporter-0.1.0-mcp-2.tgz</a>
	prometheus-memcached-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-memcached-exporter-0.1.0-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-memcached-exporter-0.1.0-mcp-1.tgz</a>
	prometheus-mysql-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-mysql-exporter-0.3.2-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-mysql-exporter-0.3.2-mcp-1.tgz</a>
	prometheus-nginx-exporter <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-nginx-exporter-0.1.0-mcp-4.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-nginx-exporter-0.1.0-mcp-4.tgz</a>
	prometheus-rabbitmq-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-rabbitmq-exporter-0.4.1-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-rabbitmq-exporter-0.4.1-mcp-1.tgz</a>
	stacklight <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/stacklight-0.1.2-mcp-312.tgz">https://binary.mirantis.com/stacklight/helm/stacklight-0.1.2-mcp-312.tgz</a>
	telegraf-ds <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/telegraf-ds-1.1.5-mcp-16.tgz">https://binary.mirantis.com/stacklight/helm/telegraf-ds-1.1.5-mcp-16.tgz</a>
	telegraf-s <sup>Updated</sup>	<a href="https://binary.mirantis.com/stacklight/helm/telegraf-s-1.1.5-mcp-16.tgz">https://binary.mirantis.com/stacklight/helm/telegraf-s-1.1.5-mcp-16.tgz</a>
	telemeter-server	<a href="https://binary.mirantis.com/stacklight/helm/telemeter-server-0.1.0-mcp-11.tgz">https://binary.mirantis.com/stacklight/helm/telemeter-server-0.1.0-mcp-11.tgz</a>
	telemeter-client	<a href="https://binary.mirantis.com/stacklight/helm/telemeter-client-0.1.0-mcp-11.tgz">https://binary.mirantis.com/stacklight/helm/telemeter-client-0.1.0-mcp-11.tgz</a>
Docker images	alerta	mirantis.azurecr.io/stacklight/alerta-web:7.4.4-20200615123606
	alertmanager	mirantis.azurecr.io/stacklight/alertmanager:v0.21.0
	alpine-python3-requests	mirantis.azurecr.io/stacklight/alpine-python3-requests:latest-20200320
	busybox	mirantis.azurecr.io/stacklight/busybox:1.30
	configmap-reload	mirantis.azurecr.io/stacklight/configmap-reload:v0.3.0
	curl	mirantis.azurecr.io/stacklight/curl:7.69.0
	elasticsearch	mirantis.azurecr.io/stacklight/elasticsearch:7.6.1
	elasticsearch-curator	mirantis.azurecr.io/stacklight/curator:5.7.6
	elasticsearch-exporter	mirantis.azurecr.io/stacklight/elasticsearch_exporter:1.0.2

	fluentd	mirantis.azurecr.io/stacklight/fluentd:1.10.2-20200609085335
	gce-proxy	mirantis.azurecr.io/stacklight/gce-proxy:1.11
	grafana <sup>Updated</sup>	mirantis.azurecr.io/stacklight/grafana:7.1.5
	grafana-image-renderer <sup>New</sup>	mirantis.azurecr.io/stacklight/grafana-image-renderer:2.0.0
	kubectl <sup>New</sup>	mirantis.azurecr.io/stacklight/kubectl:1.15.3
	k8s-netchecker-agent	mirantis.azurecr.io/lcm/kubernetes/k8s-netchecker-agent/2019.1/
	k8s-netchecker-server	mirantis.azurecr.io/lcm/kubernetes/k8s-netchecker-server/2019.1/
	k8s-sidecar	mirantis.azurecr.io/stacklight/k8s-sidecar:0.1.178
	kibana	mirantis.azurecr.io/stacklight/kibana:7.6.1
	kube-state-metrics	mirantis.azurecr.io/stacklight/kube-state-metrics:v1.9.2
	mcc-metric-collector <sup>Updated</sup>	mirantis.azurecr.io/stacklight/mcc-metric-collector:v0.1-20201005141816
	metricbeat	mirantis.azurecr.io/stacklight/metricbeat:7.6.1
	node-exporter	mirantis.azurecr.io/stacklight/node-exporter:v1.0.1
	origin-telemeter	mirantis.azurecr.io/stacklight/origin-telemeter:4.4.0-20200424
	prometheus	mirantis.azurecr.io/stacklight/prometheus:v2.19.2
	prometheus-blackbox-exporter	mirantis.azurecr.io/stacklight/blackbox-exporter:v0.14.0
	prometheus-es-exporter <sup>Updated</sup>	mirantis.azurecr.io/stacklight/prometheus-es-exporter:v0.5.1-20201002144823
	prometheus-libvirt-exporter	mirantis.azurecr.io/stacklight/libvirt-exporter:v0.1-20200610164751
	prometheus-memcached-exporter	mirantis.azurecr.io/stacklight/memcached-exporter:v0.5.0
	prometheus-mysqld-exporter	mirantis.azurecr.io/stacklight/mysqld-exporter:v0.11.0
	prometheus-nginx-exporter	mirantis.azurecr.io/stacklight/nginx-prometheus-exporter:0.6.0
	prometheus-patroni-exporter	mirantis.azurecr.io/stacklight/prometheus-patroni-exporter:v0.1-20200428121305

	prometheus-postgres-exporter <sup>Updated</sup>	mirantis.azurecr.io/stacklight/prometheus-postgres-exporter:v0.8.0-20201006113956
	prometheus-rabbitmq-exporter	mirantis.azurecr.io/stacklight/rabbitmq-exporter:v0.29.0
	prometheus-relay	mirantis.azurecr.io/stacklight/prometheus-relay:v0.3-20200519054052
	pushgateway	mirantis.azurecr.io/stacklight/pushgateway:v1.2.0
	spilo	mirantis.azurecr.io/stacklight/spilo:12-1.6p3
	telegraf <sup>Updated</sup>	mirantis.azurecr.io/stacklight/telegraf:v1.9.1-20200901112858
	telemeter-token-auth	mirantis.azurecr.io/stacklight/telemeter-token-auth:v0.1-20200406175600

Seealso

Container Cloud release 2.1.0

### 5.7.0

This section outlines release notes for the Cluster release 5.7.0 that is introduced in the Mirantis Container Cloud release 2.0.0 and supports Mirantis Kubernetes Engine 3.3.3, Mirantis Container Runtime 19.03.12, and Kubernetes 1.18.

For the list of known issues, refer to the Container Cloud release 2.0.0 Known issues.

#### Components versions

The following table lists the components versions of the Cluster release 5.7.0.

Components versions of the Cluster release 5.7.0

Component	Application/Service	Version
Distributed storage	Ceph	14.2.9 (Nautilus)
	Rook	1.3.8
Docker Enterprise	Mirantis Container Runtime	19.03.12 <sup>5</sup>
	Mirantis Kubernetes Engine	3.3.3 <sup>6</sup>
LCM	ansible-docker	0.3.5-136-g38653c7
	descheduler	0.8.0
	Helm	2.16.7-38

	helm-controller	0.2.0-149-g412c5a05
	lcm-ansible	0.2.0-110-g63cf88b
	lcm-agent	0.2.0-149-g412c5a05
	metallb-controller	0.9.3-1
	metrics-server	0.3.6-1
StackLight	Alerta	7.4.4-20200615123606
	Alertmanager	0.21.0
	Elasticsearch	7.6.1
	Elasticsearch curator	5.7.6
	Elasticsearch exporter	1.0.2
	Fluentd	1.10.2-20200609085335
	Grafana	6.6.2
	IAM Proxy	6.0.1
	Kibana	7.6.1
	MCC Metric Collector	0.1-20200806113043
	Metricbeat	7.6.1
	Netchecker	1.4.1
	Patroni	12-1.6p3
	Prometheus	2.19.2
	Prometheus Blackbox Exporter	0.14.0
	Prometheus ES Exporter	0.5.1-20200313132957
	Prometheus libvirt Exporter	0.1-20200610164751
	Prometheus Memcached Exporter	0.5.0
	Prometheus MySQL Exporter	0.11.0
	Prometheus Node Exporter	1.0.1
	Prometheus NGINX Exporter	0.6.0
	Prometheus Patroni Exporter	0.1-20200428121305
	Prometheus Postgres Exporter	0.8.0-20200715102834
	Prometheus RabbitMQ Exporter	0.29.0
	Prometheus Relay	0.3-20200519054052



	Pushgateway	1.2.0
	telegraf-ds	1.9.1-20200806073506
	telegraf-s	1.9.1-20200806073506
	Telemeter	4.4.0-20200424

- 5 For the Mirantis Container Runtime release highlights, see [Docker Enterprise documentation: Mirantis Container Runtime release notes](#).
- 6 For the Mirantis Kubernetes Engine 3.3.3 release highlights and components versions, see [Docker Enterprise documentation: Mirantis Kubernetes Engine release notes](#).

## Artifacts

This section lists the components artifacts of the Cluster release 5.7.0.

- Ceph artifacts
- LCM artifacts
- StackLight artifacts

### Ceph artifacts

Artifact	Component	Path
Helm chart	ceph-controller	mirantis.azurecr.io/ceph/helm/ceph-controller-1.0.0-mcp-16.tgz
Docker images	ceph	mirantis.azurecr.io/ceph/ceph:v14.2.9
	ceph-controller	mirantis.azurecr.io/ceph/mcp/ceph-controller:v1.0.0-20200805103414
	cephcsi	mirantis.azurecr.io/ceph/cephcsi/cephcsi:v2.1.2
	csi-node-driver-registrar	mirantis.azurecr.io/ceph/k8scsi/csi-node-driver-registrar:v1.2.0
	csi-provisioner	mirantis.azurecr.io/ceph/k8scsi/csi-provisioner:v1.4.0
	csi-snapshotter	mirantis.azurecr.io/ceph/k8scsi/csi-snapshotter:v1.2.2
	csi-attacher	mirantis.azurecr.io/ceph/k8scsi/csi-attacher:v2.1.0
	rook	mirantis.azurecr.io/ceph/rook/ceph:v1.3.8

## LCM artifacts

Artifact	Component	Path
Binaries	ansible-docker	<a href="https://binary.mirantis.com/lcm/bin/ansible-docker/v0.3.5-136-g38653c7/ansible-docker.tar.gz">https://binary.mirantis.com/lcm/bin/ansible-docker/v0.3.5-136-g38653c7/ansible-docker.tar.gz</a>
	lcm-ansible	<a href="https://binary.mirantis.com/lcm/bin/lcm-ansible/v0.2.0-110-g63cf88b/lcm-ansible.tar.gz">https://binary.mirantis.com/lcm/bin/lcm-ansible/v0.2.0-110-g63cf88b/lcm-ansible.tar.gz</a>
	lcm-agent	<a href="https://binary.mirantis.com/lcm/bin/lcm-agent/v0.2.0-149-g412c5a05/lcm-agent">https://binary.mirantis.com/lcm/bin/lcm-agent/v0.2.0-149-g412c5a05/lcm-agent</a>
Docker images	descheduler	mirantis.azurecr.io/lcm/descheduler/v0.8.0
	helm	mirantis.azurecr.io/lcm/helm/tiller:v2.16.9-39
	helm-controller	mirantis.azurecr.io/lcm/lcm-controller:v0.2.0-149-g412c5a05
	metallb-controller	mirantis.azurecr.io/lcm/metallb/controller:v0.9.3-1
	metallb-speaker	mirantis.azurecr.io/lcm/metallb/speaker:v0.9.3-1
	metrics-server	mirantis.azurecr.io/lcm/metrics-server-amd64/v0.3.6-1

## StackLight artifacts

Artifact	Component	Path
Helm charts	alerta	<a href="https://binary.mirantis.com/stacklight/helm/alerta-0.1.0-mcp-12.tgz">https://binary.mirantis.com/stacklight/helm/alerta-0.1.0-mcp-12.tgz</a>
	elasticsearch	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-7.1.1-mcp-20.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-7.1.1-mcp-20.tgz</a>
	elasticsearch-curator	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-curator-1.5.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-curator-1.5.0-mcp-2.tgz</a>
	elasticsearch-exporter	<a href="https://binary.mirantis.com/stacklight/helm/elasticsearch-exporter-1.2.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/elasticsearch-exporter-1.2.0-mcp-2.tgz</a>
	fluentd	<a href="https://binary.mirantis.com/stacklight/helm/fluentd-2.0.3-mcp-15.tgz">https://binary.mirantis.com/stacklight/helm/fluentd-2.0.3-mcp-15.tgz</a>
	fluentd-elasticsearch	<a href="https://binary.mirantis.com/stacklight/helm/fluentd-elasticsearch-3.0.0-mcp-24.tgz">https://binary.mirantis.com/stacklight/helm/fluentd-elasticsearch-3.0.0-mcp-24.tgz</a>
	grafana	<a href="https://binary.mirantis.com/stacklight/helm/grafana-3.3.10-mcp-59.tgz">https://binary.mirantis.com/stacklight/helm/grafana-3.3.10-mcp-59.tgz</a>
	kibana	<a href="https://binary.mirantis.com/stacklight/helm/kibana-3.2.1-mcp-19.tgz">https://binary.mirantis.com/stacklight/helm/kibana-3.2.1-mcp-19.tgz</a>

	mcc-metric-collector	<a href="https://binary.mirantis.com/stacklight/helm/mcc-metric-collector-0.1.0-mcp-22.tgz">https://binary.mirantis.com/stacklight/helm/mcc-metric-collector-0.1.0-mcp-22.tgz</a>
	metricbeat	<a href="https://binary.mirantis.com/stacklight/helm/metricbeat-1.7.1-mcp-8.tgz">https://binary.mirantis.com/stacklight/helm/metricbeat-1.7.1-mcp-8.tgz</a>
	netchecker	<a href="https://binary.mirantis.com/core/helm/netchecker-1.4.1.tgz">https://binary.mirantis.com/core/helm/netchecker-1.4.1.tgz</a>
	patroni	<a href="https://binary.mirantis.com/stacklight/helm/patroni-0.15.1-mcp-17.tgz">https://binary.mirantis.com/stacklight/helm/patroni-0.15.1-mcp-17.tgz</a>
	prometheus	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-8.11.4-mcp-73.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-8.11.4-mcp-73.tgz</a>
	prometheus-blackbox-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-blackbox-exporter-0.3.0-mcp-3.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-blackbox-exporter-0.3.0-mcp-3.tgz</a>
	prometheus-es-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-es-exporter-1.0.0-mcp-3.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-es-exporter-1.0.0-mcp-3.tgz</a>
	prometheus-libvirt-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-libvirt-exporter-0.1.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-libvirt-exporter-0.1.0-mcp-2.tgz</a>
	prometheus-memcached-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-memcached-exporter-0.1.0-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-memcached-exporter-0.1.0-mcp-1.tgz</a>
	prometheus-mysql-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-mysql-exporter-0.3.2-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-mysql-exporter-0.3.2-mcp-1.tgz</a>
	prometheus-nginx-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-nginx-exporter-0.1.0-mcp-2.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-nginx-exporter-0.1.0-mcp-2.tgz</a>
	prometheus-rabbitmq-exporter	<a href="https://binary.mirantis.com/stacklight/helm/prometheus-rabbitmq-exporter-0.4.1-mcp-1.tgz">https://binary.mirantis.com/stacklight/helm/prometheus-rabbitmq-exporter-0.4.1-mcp-1.tgz</a>
	stacklight	<a href="https://binary.mirantis.com/stacklight/helm/stacklight-0.1.2-mcp-285.tgz">https://binary.mirantis.com/stacklight/helm/stacklight-0.1.2-mcp-285.tgz</a>
	telegraf-ds	<a href="https://binary.mirantis.com/stacklight/helm/telegraf-ds-1.1.5-mcp-14.tgz">https://binary.mirantis.com/stacklight/helm/telegraf-ds-1.1.5-mcp-14.tgz</a>
	telegraf-s	<a href="https://binary.mirantis.com/stacklight/helm/telegraf-s-1.1.5-mcp-14.tgz">https://binary.mirantis.com/stacklight/helm/telegraf-s-1.1.5-mcp-14.tgz</a>
	telemeter-server	<a href="https://binary.mirantis.com/stacklight/helm/telemeter-server-0.1.0-mcp-11.tgz">https://binary.mirantis.com/stacklight/helm/telemeter-server-0.1.0-mcp-11.tgz</a>
	telemeter-client	<a href="https://binary.mirantis.com/stacklight/helm/telemeter-client-0.1.0-mcp-11.tgz">https://binary.mirantis.com/stacklight/helm/telemeter-client-0.1.0-mcp-11.tgz</a>
Docker images	alerta	mirantis.azurecr.io/stacklight/alerta-web:7.4.4-20200615123606
	alertmanager	mirantis.azurecr.io/stacklight/alertmanager:v0.21.0
	alpine-python3-requests	mirantis.azurecr.io/stacklight/alpine-python3-requests:latest-20200320

	busybox	mirantis.azurecr.io/stacklight/busybox:1.30
	configmap-reload	mirantis.azurecr.io/stacklight/configmap-reload:v0.3.0
	curl	mirantis.azurecr.io/stacklight/curl:7.69.0
	elasticsearch	mirantis.azurecr.io/stacklight/elasticsearch:7.6.1
	elasticsearch-curator	mirantis.azurecr.io/stacklight/curator:5.7.6
	elasticsearch-exporter	mirantis.azurecr.io/stacklight/elasticsearch_exporter:1.0.2
	fluentd	mirantis.azurecr.io/stacklight/fluentd:1.10.2-20200609085335
	gce-proxy	mirantis.azurecr.io/stacklight/gce-proxy:1.11
	grafana	mirantis.azurecr.io/stacklight/grafana:6.6.2
	k8s-netchecker-agent	mirantis.azurecr.io/lcm/kubernetes/k8s-netchecker-agent/2019.1/
	k8s-netchecker-server	mirantis.azurecr.io/lcm/kubernetes/k8s-netchecker-server/2019.1/
	k8s-sidecar	mirantis.azurecr.io/stacklight/k8s-sidecar:0.1.178
	kibana	mirantis.azurecr.io/stacklight/kibana:7.6.1
	kube-state-metrics	mirantis.azurecr.io/stacklight/kube-state-metrics:v1.9.2
	mcc-metric-collector	mirantis.azurecr.io/stacklight/mcc-metric-collector:v0.1-20200806113043
	metricbeat	mirantis.azurecr.io/stacklight/metricbeat:7.6.1
	node-exporter	mirantis.azurecr.io/stacklight/node-exporter:v1.0.1
	origin-telemeter	mirantis.azurecr.io/stacklight/origin-telemeter:4.4.0-20200424
	prometheus	mirantis.azurecr.io/stacklight/prometheus:v2.19.2
	prometheus-blackbox-exporter	mirantis.azurecr.io/stacklight/blackbox-exporter:v0.14.0
	prometheus-es-exporter	mirantis.azurecr.io/stacklight/prometheus-es-exporter:v0.5.1-20200313132957
	prometheus-libvirt-exporter	mirantis.azurecr.io/stacklight/libvirt-exporter:v0.1-20200610164751

	prometheus-memcached-exporter	mirantis.azurecr.io/stacklight/memcached-exporter:v0.5.0
	prometheus-mysql-exporter	mirantis.azurecr.io/stacklight/mysqld-exporter:v0.11.0
	prometheus-nginx-exporter	mirantis.azurecr.io/stacklight/nginx-prometheus-exporter:0.6.0
	prometheus-patroni-exporter	mirantis.azurecr.io/stacklight/prometheus-patroni-exporter:v0.1-20200428121305
	prometheus-postgres-exporter	mirantis.azurecr.io/stacklight/prometheus-postgres-exporter:v0.8.0-20200715102834
	prometheus-rabbitmq-exporter	mirantis.azurecr.io/stacklight/rabbitmq-exporter:v0.29.0
	prometheus-relay	mirantis.azurecr.io/stacklight/prometheus-relay:v0.3-20200519054052
	pushgateway	mirantis.azurecr.io/stacklight/pushgateway:v1.2.0
	spilo	mirantis.azurecr.io/stacklight/spilo:12-1.6p3
	telegraf	mirantis.azurecr.io/stacklight/telegraf:v1.9.1-20200806073506
	telemeter-token-auth	mirantis.azurecr.io/stacklight/telemeter-token-auth:v0.1-20200406175600

Seealso

Container Cloud release 2.0.0