




Release Notes

SUSE Cloud 5

These release notes are generic for all SUSE Cloud 5 components. Some parts may not apply to a particular component.

Documentation can be found in the docu language directories on the media. Documentation (if installed) is available below the /usr/share/doc/ directory of an installed system. The latest documentation can also be found online at <http://www.suse.com/documentation/cloud/> .

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1 SUSE Cloud


Powered by OpenStack™, SUSE Cloud is an open source enterprise cloud computing platform that enables easy deployment and seamless management of an Infrastructure-as-a-Service (IaaS) private cloud.

2 Support Statement for SUSE Cloud

To receive support, customers need an appropriate subscription with SUSE; for more information, see <http://www.suse.com/products/server/services-and-support/> .

3 Major Changes in SUSE Cloud 5

SUSE Cloud 5 is a major update to SUSE Cloud and comes with many new features, improvements and bug fixes. The following list highlights a selection of the major changes:

- OpenStack has been updated to the [2014.2 \(Juno\) release](https://wiki.openstack.org/wiki/ReleaseNotes/Juno) (<https://wiki.openstack.org/wiki/ReleaseNotes/Juno>) , and the deployment framework has been updated accordingly to support new features. On top of the new features that come by default with this new version, here are some notable features that have been added:
 - Support for VXLAN has been added to OpenStack Networking (Neutron).
 - OpenStack Networking (Neutron) can be configured to use multiple network types (VLAN, VXLAN and GRE) at the same time.
 - Distributed Virtual Routers (DVR) for OpenStack Networking (Neutron) are available as technology preview in a maintenance update.
 - The Docker driver for OpenStack Compute (Nova) is available as technology preview in a maintenance update. It is only available for SLES 12 compute nodes.
 - The region used for the OpenStack endpoints can be configured, leading the way to multi-region support.
 - The Orchestration Module (Heat) now only allows users with the `heat_stack_owner` role to start stacks. This enhances security and removes the need for using passwords for orchestration.

- OpenStack services are configured with multiple workers, to improve the overall performance and scalability of the cloud.
- OpenStack Block Storage (Cinder) now always enables the v2 API.
- The theme of the OpenStack Dashboard (Horizon) can now be replaced. The content of the default theme of SUSE Cloud (available in the **openstack-dashboard-theme-SUSE** package) can be explored as an example of how to theme the Dashboard. When using a custom theme, the *site_theme* attribute of the Horizon proposal in Crowbar must be changed accordingly.
- Several expert settings have been added, such as *allow_overlapping_ips* for OpenStack Networking (Neutron) or *default_availability_zone* for OpenStack Block Storage (Cinder).
- Nodes can now be deployed with SUSE Linux Enterprise Server 12 as the operating system. Such nodes can be used as compute nodes or for Ceph for the time being, with possibly more features coming to them in the future.
- SUSE Cloud 5 integrates with SUSE Enterprise Storage 1.0. The distributed storage system Ceph was part of SUSE Cloud since SUSE Cloud 1.0, and graduated from technology preview to a fully supported feature in SUSE Cloud 4. SUSE Cloud 5 can either deploy Ceph as an integrated solution of SUSE Cloud, or can connect to an externally deployed SUSE Enterprise Storage 1.0 cluster. Ceph support requires a subscription for SUSE Enterprise Storage.
- The Crowbar deployment framework also comes with several highlights:
 - The backend was updated to newer technologies, resulting in improved responsiveness of the interface. This will also lead to several user experience improvements in the future.
 - Unallocated nodes will not be automatically allocated anymore when used in a proposal, to prevent accidental data loss.
 - The deployment queue can now be explored in the web interface.

- A new **crowbar batch** utility is included, to allow further automation of the deployment. The configuration of a deployed cloud can be exported, and used later on to automatically rebuild the cloud in the same way.
- The **crowbar-backup** utility, which can be used to export the data of the Administration Server in a format suitable for backup, is now supported. This utility can also serve as documentation of what and how to backup the data, if there is a need for integrating the backup procedure with an existing backup solution.
- Various improvements to High Availability support have been included:
 - Corosync can now be configured to communicate over unicast, as multicast might not be an option in a specific network environment.
 - The logging of services behind the load-balancer has been fixed to contain the IP address of the client, not the one of the load-balancer.
 - Upgrade from a Highly Available SUSE Cloud 4 deployment is supported, through the usual semi-automated upgrade process (see [Section 6, "Upgrading to SUSE Cloud 5"](#)).
- Windows Server 2012 R2 can be used as the operating system for Hyper-V nodes.
- The Admin User Guide and the End User Guide have been merged with the upstream documentation, and a new Supplement to these guides is available to describe SUSE Cloud specific features.

4 Technology Previews

Technology previews are packages, stacks, or features delivered by SUSE. These features are not supported. They may be functionally incomplete, unstable or in other ways not suitable for production use. They are mainly included for customer convenience and give customers a chance to test new technologies within an enterprise environment.

Whether a technology preview will be moved to a fully supported package later, depends on customer and market feedback. A technology preview does not automatically result in support at a later point in time. Technology previews could be dropped at any time and SUSE is not committed to provide a technology preview later in the product cycle.

Please, give your SUSE representative feedback, including your experience and use case.

SUSE Cloud 5 ships with the following technology previews:

- Database-as-a-Service for OpenStack (Trove), and the respective Crowbar barclamp for deploying it.
- Distributed Virtual Routers in Neutron.
- Docker driver in Nova.
- EqualLogic driver for Cinder.
- MongoDB, as database for Ceilometer.

5 Deprecated Features


The following features are deprecated as of SUSE Cloud 5:

- Following the upstream deprecation that started in OpenStack 2014.1 (Icehouse), the XML format for OpenStack APIs is deprecated and unsupported. Migrating to the JSON format for the APIs is highly recommended. Most clients should not be impacted, as the most widely used client libraries are already using the JSON format.

6 Upgrading to SUSE Cloud 5

Upgrading to SUSE Cloud 5 is supported from SUSE Cloud 4, with the latest updates applied. If running a previous version, please first upgrade to SUSE Cloud 4. If running without the updates, please first apply them.

The upgrade process is a multi-step process that is semi-automated, thanks to the **suse-cloud-upgrade** utility that will guide you through the various steps. As the OpenStack infrastructure will be turned off for the upgrade, it is important to suspend all running instances prior to the upgrade so they can be properly restored after the upgrade. It is also highly recommended to perform a backup of both the Administration Server and the OpenStack data.

The complete upgrade process is documented in the Deployment Guide, which can be found online at <http://www.suse.com/documentation/cloud/> .

7 Documentation and Other Information

- Read the READMEs on the CDs.
- Get the detailed changelog information about a particular package from the RPM (with filename <FILENAME>):

```
rpm --changelog -qp <FILENAME>.rpm
```

- Check the ChangeLog file in the top level of CD1 for a chronological log of all changes made to the updated packages.
- Find more information in the docu directory of CD1 of the SUSE Cloud 5 CDs. This directory includes PDF versions of the SUSE Cloud documentation.
- <http://www.suse.com/documentation/cloud/> contains additional or updated documentation for SUSE Cloud.
- Visit <http://www.suse.com/products/> for the latest product news from SUSE and <http://www.suse.com/download-linux/source-code.html> for additional information on the source code of SUSE Linux Enterprise products.




8 Limitations

- Due to the move of Ceph to SUSE Enterprise Storage 1.0, upgrade of Ceph clusters installed with SUSE Cloud 4 is not supported via the usual SUSE Cloud upgrade process. The data of such Ceph clusters will have to be manually migrated to a Ceph cluster installed with SUSE Enterprise Storage 1.0.
- The SLES 12 nodes deployed through SUSE Cloud are not compatible with the Public Cloud Module for SLES 12, because SUSE Cloud provides more recent versions of the OpenStack client tools.
- At the time of the release, SLES 12 nodes can only be used as compute nodes or for Ceph.
- The x86_64 architecture is the only supported architecture.

9 Known Issues

- In some cases, using High Availability with multicast transport on Neutron L3 nodes is causing issues due to conflicts with the networking configuration required by Neutron. This can lead, in the worst case, to breakage of the High Availability cluster. It is advised to use the unicast transport for High Availability to avoid this. If upgrading from SUSE Cloud 4, the **suse-cloud-upgrade** utility will automatically adapt the High Availability configuration for this.
- Live migration of instances only work between homogeneous compute nodes: the nodes need to have the same CPU features.
- Removal of barclamps from a node do not necessarily shut down associated services or remove associated packages. This means that you may well run into problem if moving barclamp roles from one node to another. Manual remediation may be required in these cases.
- No pre-built image for Heat or Trove is shipped with SUSE Cloud; cloud administrators are responsible for creating such images.
- After an upgrade from SUSE Cloud 4, migration of instances between SLES 11 and SLES 12 nodes with shared storage might not work as expected after because SLES 11 nodes allocated from SUSE Cloud 4 (or earlier) will not have fixed UID/GID for some system users. This can be fixed by manually setting the GID of the qemu group to 484, the UID of the kvm user to 484 and the GID of the kvm group to 485.

10 How to Obtain Source Code

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