Control Center Release Notes

Release 1.2.1

Zenoss, Inc.

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Control Center Release Notes

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About this document

Control Center Release Notes contains important information about minor and micro releases of Control Center.

Table 1: Release dates

Date	Release
16 December 2016	1.2.1
14 November 2016	1.2.0
17 October 2016	1.1.9
12 September 2016	1.1.8
20 July 2016	1.1.7
29 June 2016	1.1.6
31 May 2016	1.1.5
25 May 2016	1.1.4
20 April 2016	1.1.3
04 March 2016	1.1.2
29 February 2016	1.1.1

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Fixed issues

Table 2: Release 1.2.1

ID	Description
CC-3024	WAN outage causes collector services to shut down
CC-3028	`serviced restore` command failed on a large system
CC-3031	WAN instability causes a panic condition
CC-3035	Frequent error in Control Center log: `ControlCenter.GetRunningServices timedout waiting for reply`
CC-3036	Cannot use `mariadb-model` by name in CLI commands
CC-3072	Internal MetricConsumer `maxClientWaitTime` and `perClientMaxBacklogSize` should have defaults changed
CC-3101	During a WAN outage, concurrent map read and map write errors kills Control Center
CC-3104	All services maintain a status of `"starting"`, while the UI shows services are up and running

Known issues

Table 3: Release 1.2.1

ID	Description	Status
CC-1302	Serviced may not shut down cleanly if it loses connection to a single ZooKeeper instance that is sharing a physical disk with Docker and data volumes	Open
CC-1577	Application service details graphs may not populate for time periods less than last 12 hours	Open
CC-1621	Deleted application templates may be displayed again after a serviced restart, until the view is refreshed	Open

ID	Description	Status
CC-1762	When localized, some elements of the Control Center UI are not translated as expected	Open
CC-1888	ZooKeeper maintains nodes for deleted public endpoints	Open
CC-2806	There is a 20 second delay to view logs the first time after `serviced` starts or restarts.	Open
CC-3073	Missing device-mapper libraries	Open
CC-3125	Insecure Cipher RC4 is enabled on Control Center version 1.2.x	Open

Notes and workarounds

Insecure Cipher RC4 is enabled on Control Center version 1.2.x (CC-3125)

The encryption used for HTTPS is configurable. If you do not want to use Cipher RC4, you can change the configuration and remove it as an option. Perform the following:

1. Open `/etc/default/serviced` with a text editor.
2. Locate `SERVICED_TLS_CIPHERS`.
3. Remove `TLS_RSA_WITH_RC4_128_SHA` from the list of ciphers.
4. Save and close the file.
5. Execute the following to restart `serviced`:

```
systemctl restart serviced
```

Installing missing device-mapper libraries (CC-3073)

Installing or upgrading Control Center with the offline mirror and the `serviced` RPM file may return `device-mapper` dependency errors similar to the following:

```
Error: Package: 7:device-mapper-event-1.02.107-5.el7.x86_64 (zenoss-
mirror)
           Requires: device-mapper = 7:1.02.107-5.el7
           Installed: 7:device-mapper-1.02.107-5.el7_2.5.x86_64
 (@updates)
               device-mapper = 7:1.02.107-5.el7_2.5
 You could try using --skip-broken to work around the problem
 You could try running: rpm -Va --nofiles --nodigest
```

If you get an error message like this, use the following procedure to install the required libraries.

To perform the following procedure, you need a RHEL/CentOS host that

- implements the 64-bit version of the x86 instruction set
- supports Advanced Encryption Standard (AES)
- has the same version of RHEL/CentOS installed as the host on which the `device-mapper` dependencies are missing
- has internet access
- has a secure network copy program installed

Perform these steps:

1. Determine which version of the missing libraries are required.
   a. Log in to the host with the missing libraries as `root`, or as a user with superuser privileges.
   b. Query the package database and extract the version number.

      ```
      rpm -q device-mapper | cut -d - -f 3-
      ```

      Record the result for use in a subsequent step.
2. Log in to the download host as `root`, or as a user with superuser privileges.
3. Download the `device-mapper` RPM files, and then create a `tar` archive.
   a. Change directory to `/tmp`.

      ```
      cd /tmp
      ```

   b. Create a temporary directory for the RPM files.

      ```
      mkdir ./dm-libs
      ```

   c. Download the `device-mapper` RPM files. Replace *DM-Version* with the version string recorded previously:

      ```
      yum update --downloadonly --downloaddir=./dm-libs device-mapper-event-DM-Version
      ```

   d. Create a `tar` archive of the RPM files.

      ```
      tar -cvf ./dm-libs.tar ./dm-libs
      ```

4. Use a secure copy program to copy the `tar` archive to the host on which the updated kernel is required. The `/tmp` directory is recommended location for the copied `tar` archive file.
5. Install the missing libraries.
   a. In the shell session on the host with the missing libraries, change directory to `/tmp`.

      ```
      cd /tmp
      ```

   b. Extract the RPM files from the `tar` archive.

      ```
      tar -xvf dm-libs.tar
      ```

   c. Install the libraries.

      ```
      yum install -y $(ls ./dm-libs/*.rpm)
      ```

      When the libraries are installed, repeat the step to install or upgrade Control Center with the offline mirror and the `serviced` RPM file.

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New features

Control Center 1.2.0 introduces enhancements in the following functional areas:

- **Security**

  Control Center generates keys used by delegate hosts to authenticate. Flags control the level of access by authorized hosts to system functions, the TCP multiplexer, the REST API, and the network file system (NFS). For more information, see the "Configuring and starting delegate hosts" chapter in the *Control Center Installation Guide* and the "Updating hosts for authentication" section in the *Control Center Upgrade Guide*.
- **Performance**

  A single Control Center master supports up to 100 collector pools and their associated services. Service providers or enterprises with many remote sites can have a collector for each customer or remote site that their application instance manages.

  Control Center now stops/starts/restarts services asynchronously, scheduling them in the background, which improves the speed of these operations, especially in large-scale environments. If you need synchronous scheduling in a script, you can specify a new command line flag `--sync` or `-s` when invoking `serviced service [stop|start|restart]`.
- **Storage**

  Control Center introduces a new `serviced-storage` command as part of a required storage management utility for creating the Docker thin pool and creating and managing the Control Center application data thin pool. You can now create thin pools in an existing volume group as well as creating a thin pool against devices with a limited size, allowing expansion without adding more physical disks. For more information, see the "Storage management utility" appendix in the *Control Center Installation Guide*.
- **Browser interface**

  The following improvements have been introduced to the Control Center browser interface:

  - Table searching and filtering
  - Improved service tree loading. The tree starts out collapsed and can be expanded as needed.
  - User's time zone can be set.
  - WAN timeout value can be set on the Resource Pool Detail page. This value is the time the system will wait for disconnected worker nodes to rejoin a particular pool before moving services to another host in the pool. For more information, see the `serviced pool` command in the *Control Center Reference Guide*.

Fixed issues

Table 4: Release 1.2.0

ID	Description
CC-375	In multihost environment, unable to execute `serviced service status` in delegates
CC-623	Memory leak in proxy when command doesn't start up properly
CC-661	Serviced logs are not indexed
CC-683	DFS locks should be cleaned up when master loses leader role
CC-693	Unable to start services during a backup
CC-866	Control Center breaks if you add a virtualhost with the same name as a Control Center host
CC-916	Log buttons in services do not function
CC-991	Kicking off two runs at the same time fails
CC-1101	Cannot move a service to a pool in the Control Center UI
CC-1393	Service hierarchy displayed via command line is out of sequence
CC-1450	Cannot open service details in a new tab
CC-1521	Snapshot not getting removed on devicemapper after taking a backup
CC-1782	SERVICED_DOCKER_LOG parameters should be documented in the serviced config file
CC-1894	`serviced-storage create-thin-pool` should fail when passed a logical volume
CC-1906	Container metrics should use docker stats
CC-1968	Application cannot be properly deleted if it has child services running
CC-2037	serviced-pool can quickly grow out of space without discarding unused blocks on a regular basis
CC-2057	Backups fail if there are symlinked files in the volume
CC-2113	Control Center master timeout running health check fails if leader cannot be contacted despite a ZooKeeper quorum
CC-2175	Restoring a backup fails if hosts in the backup already exist in Control Center in a different pool
CC-2182	`serviced remove-service` should remove all snapshots associated with that service
CC-2257	After upgrade and HA failover, shell/run commands launch older images
CC-2331	Having stale metadata entries for old applications prevents `serviced volume status` from working and spams the serviced logs
CC-2378	Control Center device component CC-Volumes graph is not reporting up-to-date data
CC-2431	Serviced will not create a new volume after deleting and re-creating the serviced thin pool

Known issues

Table 5: Release 1.2.0

ID	Description	Status
CC-1302	Serviced may not shut down cleanly if it loses connection to a single ZooKeeper instance that is sharing a physical disk with Docker and data volumes	Open
CC-1577	Application service details graphs may not populate for time periods less than last 12 hours	Open
CC-1621	Deleted application templates may be displayed again after a serviced restart, until the view is refreshed	Open
CC-1762	When localized, some elements of the Control Center UI are not translated as expected	Open
CC-1888	ZooKeeper maintains nodes for deleted public endpoints	Open
CC-2806	There is a 20 second delay to view logs the first time after `serviced` starts or restarts.	Open

Notes and workarounds

Docker Engine TasksMax option

The `TasksMax` option is included in the `systemd` drop-in file for Docker Engine (`/etc/systemd/system/docker.service.d/docker.conf`) that Control Center 1.2.0 requires. Beginning with version 226, `systemd` includes the `TasksMax` option, and its default value is 512. Currently, CentOS 7.2 includes `systemd` version 219, so the option is ignored. Docker Engine uses more than 512 tasks routinely, so a future upgrade of `systemd` will cause failures; this setting prevents future failures.

Copy-paste adds spurious line breaks to PDF text displayed in browsers

In some web browsers, using a mouse to copy text from a PDF adds line breaks randomly to the text pasted in a terminal window. The workaround is to download the PDF and use a local PDF viewer, rather than the viewer embedded in the browser.

Updating CentOS 7.2 creates an updated version of device mapper driver that need to be manually downgraded (CC-3073)

If you update CentOS 7.2, the device-mapper package gets updated to version "`device-mapper-1.02.107-5.el7_2.5.x86_64`", which causes the following error:

```
Error: Package: 7:device-mapper-event-1.02.107-5.el7.x86_64 (zenoss-
mirror)
  Requires: device-mapper = 7:1.02.107-5.el7
  Installed: 7:device-mapper-1.02.107-5.el7_2.5.x86_64 (@updates)
    device-mapper = 7:1.02.107-5.el7_2.5
You could try using --skip-broken to work around the problem
You could try running: rpm -Va --nofiles --nodigest
```

To fix this error, you need to downgrade device-mapper by issuing the following command:

```
yum downgrade device-mapper-1.02.107-5.el7.x86_64 device-mapper-
libs-1.02.107-5.el7.x86_64
```

Important configuration changes

See the *Control Center Installation Guide* for important configuration changes to fstrim, the `serviced-storage` thresholds, and the Docker configuration file.

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Fixed issues

Table 6: Release 1.1.9

ID	Description
CC-2328	Add ability to customize ZooKeeper settings.
CC-2538	In an HA environment, services are not starting after failing over. In the `serviced.log`, the following error is seen: `failed: coord-client: node does not exist`
CC-2553	Snapshot devices may be orphaned leading to an increased amount of space within the thin pool.
CC-2703	Attempting to run a shell with TLS disabled results in a nil pointer.

Known issues

Table 7: Release 1.1.9

ID	Description	Status
CC-1302	Serviced may not shut down cleanly if it loses connection to a single ZooKeeper instance that is sharing a physical disk with Docker and data volumes	Open
CC-1577	Application service details graphs may not populate for time periods less than last 12 hours	Open
CC-1621	Deleted application templates may be displayed again after a serviced restart, until the view is refreshed	Open
CC-1762	When localized, some elements of the Control Center UI are not translated as expected	Open
CC-1888	ZooKeeper maintains nodes for deleted public endpoints	Open

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Fixed issues

Table 8: Release 1.1.8

ID	Description
CC-2255	`serviced` makes repeated attempts to connect to ZooKeeper without a pause until a connection is established causing numerous syslog messages and load spikes.
CC-2514	`serviced` daemon can start in a state that degrades `memcached` performance.
CC-2525	Disabling TLS can cause failed connections.
CC-2530	Specific directories can be excluded from application backups.
CC-2573	Message `"service associated with <public endpoint name> is not running"` is reported even though the endpoint is running.
CC-2642	Administrators can now set environment variables in a service definition.

Known issues

Table 9: Release 1.1.8

ID	Description	Status
CC-1302	Serviced may not shut down cleanly if it loses connection to a single ZooKeeper instance that is sharing a physical disk with Docker and data volumes	Open
CC-1577	Application service details graphs may not populate for time periods less than last 12 hours	Open
CC-1621	Deleted application templates may be displayed again after a serviced restart, until the view is refreshed	Open
CC-1762	When localized, some elements of the Control Center UI are not translated as expected	Open
CC-1888	ZooKeeper maintains nodes for deleted public endpoints	Open

Notes and workarounds

CentOS kernel defect affects volume status feature

Due to an issue in the CentOS kernel (*https://bugzilla.redhat.com/show_bug.cgi?id=1286500*), the `serviced volume status` feature that was introduced in Control Center 1.1.6 has been changed to not report `storage.device.allocated` and `storage.snapshot.allocated`. When the CentOS kernel 3.10.0-366.el7 is released, the full functionality of this feature will be restored.

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New features

- `serviced volume status` command

  This release introduces a new `serviced volume status` command that provides detailed information on the volume located at `/opt/serviced/var/volumes`. You can get metrics on the thin pool as well as application data on the filesystem usage, virtual device size, unallocated space, and pool space allocated to virtual devices and snapshots.
- Public endpoints

  Another feature available is the ability to create public endpoints for access to the Control Center web servers.

Fixed issues

Table 10: Release 1.1.7

ID	Description
CC-1808	Application service is missing after application upgrade.
CC-2163	Turn off logical volume monitoring for the serviced pool.
CC-2247	Control Center master timeout running healthcheck fails if leader cannot be contacted, despite a ZooKeeper quorum.
CC-2348	CentralQuery isvc uses too much memory.
CC-2375	Upgrade application fails if current Docker images were restored from a backup.
CC-2413	The `serviced-fstrim` cron script does not work.

Known issues

Table 11: Release 1.1.7

ID	Description	Status
CC-1302	Serviced may not shut down cleanly if it loses connection to a single ZooKeeper instance that is sharing a physical disk with Docker and data volumes	Open

ID	Description	Status
CC-1577	Application service details graphs may not populate for time periods less than last 12 hours	Open
CC-1593	IP Assignment values cannot be edited	Open
CC-1621	Deleted application templates may be displayed again after a serviced restart, until the view is refreshed	Open
CC-1762	When localized, some elements of the Control Center UI are not translated as expected	Open
CC-1845	Inspector tool will not run if `df` command has hung	Open
CC-1888	ZooKeeper maintains nodes for deleted public endpoints	Open
CC-1906	Container memory and CPU stats can be incorrect	Open
CC-1974	NFS client cannot be disabled on remote pool hosts. Systems with remote NFS clients disabled will not upgrade to Control Center 1.1.1	Open
CC-1978	Docker may fail to start on the first two attempts after applying a new configuration in `/etc/sysconfig/docker`, but will start on third try	Open

Notes and workarounds

CentOS kernel defect affects volume status feature

Due to an issue in the CentOS kernel (*https://bugzilla.redhat.com/show_bug.cgi?id=1286500*), the `serviced volume status` feature that was introduced in Control Center 1.1.6 has been changed to not report `storage.device.allocated` and `storage.snapshot.allocated`. When the CentOS kernel 3.10.0-366.el7 is released, the full functionality of this feature will be restored.

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Fixed issues

Table 12: Release 1.1.6

ID	Description
CC-1634	zproxy has a bad list of endpoints
CC-1982	Add SERVICED_NFS_CLIENT to `/etc/default/serviced`
CC-2045	Commented out values in `/etc/default/serviced` must reflect actual values
CC-2223	Restore of backups larger than 100G fails
CC-2224	Restore fails if snapshot volumes are left in `/opt/serviced/var/volumes/<tenantid>/.devicemapper/volumes`
CC-2230	Application services do not receive incoming messages due to errant `iptables` rules
CC-2238	In ZooKeeper, set lock on read/write connection
CC-2258	In HA environment, `serviced-storage` resource agent is active on two nodes
CC-2263	Serviced private subnet should accept CIDR addresses
CC-2267	Backup is creating a race condition
CC-2286	Serviced is going down after creating backups
CC-2298	Parallel gzipping of backups can use all CPU capacity
CC-2302	Serviced fails to start up claiming it cannot take ownership of a thin pool, despite previously having used that thin pool
CC-2315	Make ZooKeeper session timeout configurable
CC-2318	Serviced leaks defunct dumpe2fs processes
CC-2323	Restore may hang forever if restoring the volume fails
CC-2341	Backup leaves zombie tar processes upon successful backup

Notes and workarounds

CentOS 7.2 has fixed a defect that prevents fstrim from working (ZEN-23525)

There was a defect in CentOS 7.2 that prevented fstrim from working. In kernel version 3.10.0-327 or higher, fstrim now works. Ensure that your system is running this kernel version or higher. To check the kernel version, as the `root` user, execute the following command: `uname -r`

If you need to update your kernel, execute `yum -y update` or `yum -y update kernel`

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Fixed issues

Table 13: Release 1.1.5

ID	Description
CC-2244	`serviced volume status` functionality caused panic in backups

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Fixed issues

Table 14: Release 1.1.4

ID	Description
CC-2149	PAM failure for `system_user` spams the Control Center logs
CC-2162	Deleting a restored application generates an `Internal Server Error: could not remove snapshot` message
CC-2200	Central query becomes unresponsive with too many connections
CC-2207	If the primary Control Center host is removed, the RabbitMQ vhost goes with it until manually reset
CC-2217	Unable to look up instance memory stats
CC-2226	Unable to see detailed storage stats for devicemapper

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Fixed issues

Table 15: Release 1.1.3

ID	Description
CC-283	Host graphs switch their display back and forth from 800 to .80K.
CC-1851	Metricshipper logging filled `/var/lib/docker`
CC-2000	Unable to manually overwrite the docker registry
CC-2008	Failure on backup and restore commands
CC-2011	Add option to change the logstash purge frequency
CC-2025	Backups should not backup the service template images
CC-2033	Too many simultaneous open browsers loading the Control Center UI makes the system too slow to use
CC-2036	Backups fail after upgrade to Control Center 1.1.x
CC-2038	`serviced-pool` does not discard unused blocks on a regular basis causing it to grow out of space.
CC-2040	Control Center UI polling interval should be configurable.
CC-2079	Control Center backups are taking much longer than in Control Center 1.1.2.

Notes and workarounds

Turn off logical volume monitoring for the serviced pool (CC-2158)

Sometimes LVM decides to resize itself and if it doesn't have enough space it will unmount the device. To avoid this situation you should turn off the LVM self monitoring for the serviced-pool using the following command:

```
lvchange --monitor n serviced/serviced-pool
```

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Fixed issues

Table 16: Release 1.1.2

ID	Description
CC-1975	Cannot disable NFS client on remote pool hosts

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New features

Control Center storage

- The storage underlying Control Center has changed from btrfs to DeviceMapper. Migration to DeviceMapper is required as part of the upgrade process.

Control Center backup enhancements

- Control Center will now briefly pause services to snapshot them, then return the system to a fully functional state while performing the backup in the background. This means that services can be deleted or altered while the backup continues.

Single-Host to Multi-Host migration enhancements

- Migrating from a single-host to multi-host install now requires only that the new host(s) be configured and added to the Resource Pool in the Control Center master UI. Configuration changes and other steps formerly required in earlier Control Center releases are no longer necessary.

Serviced storage tool

- A new tool (`serviced storage`) is provided to greatly streamline working with Control Center storage, including support for tasks such as creating volumes, creating and resizing thin pools, initializing DeviceMapper and converting from btrfs to DeviceMapper.

Snapshot tagging

- Serviced snapshots can now be tagged with a name. Important to note is that the Time To Live (TTL) does not apply to tagged snapshots, meaning they will not be deleted according to the TTL schedule.

Clustered ZooKeeper

- Multi-host systems can utilize a ZooKeeper cluster for improved performance and reliability.

Public endpoints by port number

- Public Endpoints can be vhosts, accessible by host name, or ports, accessible by `ip:port` or `hostname:port`. Specifying by port number removes the need to update DNS entries or `/etc/hosts` files.

Removal of Ubuntu support

- Ubuntu is no longer a supported platform for Control Center 1.1.1 or later.

Fixed issues

Table 17: Release 1.1.1

ID	Description
CC-1471	The Control Center command line interface does not show RAM statistics in a multi-host deployment
CC-1791	Control Center uses the deprecated SHA-1 certificate type
CC-1813	When performing backups in Control Center, "invalid argument" errors appearing in log files
CC-1889	Control Center users have no way to modify a host's RAM allocation

Known issues

Table 18: Release 1.1.1

ID	Description	Status
CC-1302	Serviced may not shut down cleanly if it loses connection to a single ZooKeeper instance that is sharing a physical disk with Docker and data volumes	Open
CC-1577	Application service details graphs may not populate for time periods less than last 12 hours	Open
CC-1593	IP Assignment values cannot be edited	Open
CC-1621	Deleted application templates may be displayed again after a serviced restart, until the view is refreshed	Open
CC-1762	When localized, some elements of the Control Center UI are not translated as expected	Open
CC-1845	Inspector tool will not run if `df` command has hung	Open
CC-1888	ZooKeeper maintains nodes for deleted public endpoints	Open
CC-1906	Container memory and CPU stats can be incorrect	Open
CC-1974	NFS client cannot be disabled on remote pool hosts. Systems with remote NFS clients disabled will not upgrade to Control Center 1.1.1	Open
CC-1978	Docker may fail to start on the first two attempts after applying a new configuration in `/etc/sysconfig/docker`, but will start on third try	Open

Limitations, errata, and documentation A

This section includes the following information:

- The list of supported browser clients.
- The known limitations of Control Center, if any.
- Release-specific documentation errata, if any.
- Descriptions of additional documentation.

Additional information

Related publications

Title	Description
Control Center Release Notes	Describes known issues, fixed issues, and late-breaking information not included in other publications.
Control Center Planning Guide	Provides both general and specific information about preparing to deploy a Control Center cluster.
Control Center Installation Guide	Provides detailed procedures for installing and configuring a Control Center cluster.
Control Center Reference Guide	Provides information and procedures for managing Control Center. This information is also available as online help in the Control Center browser interface.
Control Center Upgrade Guide	Provides detailed procedures for updating a Control Center deployment to the latest release.

Documentation feedback

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