



# **Control Center Release Notes**

Release 1.3.0

Zenoss, Inc.

[www.zenoss.com](http://www.zenoss.com)

# 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
13 March 2017	1.3.0
27 February 2017	1.2.3
25 January 2017	1.2.2
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

# Control Center 1.3.0

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## New features

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Control Center 1.3.0 introduces enhancements in the following functional areas:

- **Emergency shutdown**

For services in a resource pool with DFS access, Control Center monitors storage usage levels and trends. Using collected data, it predicts when a service will exhaust storage space. Data corruption can result if thin pool or metadata volume space is exhausted. If Control Center projects that the service is likely to exhaust available storage space in a pre-determined window, it will initiate an automatic emergency shutdown of the service, while enough space is still available to perform recovery operations. Support for this feature requires at least 3GB of free space in the thin pool for data and metadata. For more information on this feature, including how to view current storage utilization and how to recover from an emergency shutdown, see the *Control Center Reference Guide*.

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**Note** Before upgrading to Control Center 1.3.0, you *must* ensure you have sufficient free space in both the thin pool metadata volume and the thin pool data volume. The thin pool metadata volume should be at least 1% of the size of the thin pool data volume (if created by an earlier version of `serviced-storage`, it may be smaller). In addition, you must have at least 3GB of available space in the thin pool data volume, as this is the minimum buffer before an emergency shutdown will commence. If less than 3GB is available, you must provision additional storage or `serviced` will fail to start after the upgrade. See the *Control Center Upgrade Guide* for details.

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**Note** Zenoss applications may require additional steps to prepare to use this release. For more information, refer to the documentation for your application.

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- **Rolling restart**

Control Center now restarts instances of multi-instance services one at a time. This rolling restart reduces or eliminates downtime for these services on Restart, such as following a ZenPack install or upgrade. In a WAN outage, the rolling restart proceeds, and instances on disconnected hosts restart when the WAN is restored.

- **Graceful shutdown**

Improved service startup, restart, and shutdown order to optimize startup times and perform normal shutdowns more gracefully. When taking a snapshot, all services pause while the snapshot is taken, and then

return to their prior state. Requests to start, stop, or restart a service during the snapshot are delayed until after the snapshot.

- **NAT support**

Control Center supports the use of network address translation (NAT). When you add a delegate host, you specify the hostname or IP address and port for the NAT device, and then transfer host keys to the delegate hosts and register them.

## Fixed issues

**Table 2: Release 1.3.0**

ID	Description
CC-2076	By default, <code>serviced</code> binary is available to all users.
CC-2261	Variables <code>SERVICED_DM_BASESIZE</code> and <code>SERVICED_DM_THINPOOLDEV</code> are not present in defaults of <code>serviced</code> configuration file.
CC-2362	HTTP Strict Transport Security (HSTS) is missing from the HTTPS server.
CC-2612	Control Center security: Cross-site scripting on the Resource Pool name
CC-2828	When adding an invalid or duplicate host, the error flare messages are displayed behind the Add Hosts window.
CC-2848	Cannot add a new pool via UI after having a failed attempt.
CC-2900	Upgrading to Go 1.7.3 fixes issues with <code>crypto/tls</code> and <code>net/http</code> .
CC-2940	Docker network bridge automatically remaps service IPs, then loses internal network sync.
CC-3025	The Control Center Resource Pools page generates too many requests and causes <code>serviced</code> CPU usage to go up.
CC-3032	Cannot use <code>mariadb-model</code> by name in CLI commands.
CC-3034	Change "Worker" to "Delegate" on Edit Resource Pool dialog.
CC-3069	Warn/Show Error when authorization fails due to clock drifts between hosts.
CC-3084	" <code>Serviced unable to get memory metrics</code> " message should not be present.
CC-3093	Services never show the over-commitment red dot.
CC-3155	Naming conventions for delegates not consistent in Control Center UI.
CC-3158	Log progress updates on Backups and Restores.
CC-3211	Loading services page causes JS errors.
CC-3215	<code>pam</code> crashes <code>serviced</code> .
CC-3235	Unable to add collector to Control Center when NAT is involved.
CC-3262	Elastic is being locked up for the duration of a backup.
CC-3264	Edits to service config files are not always saved.

## Known issues

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**Table 3: Release 1.3.0**

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-2421	Do not start a backup if there is not enough space to store it.	Open
CC-2791	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

## 2

# Control Center 1.2.3

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## Fixed issues

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**Table 4: Release 1.2.3**

ID	Description
CC-3067	Security: By default, <code>serviced</code> binary is available to all users
CC-3149	Registration of host keys in the UI reports success even if no passwordless SSH access is set up between hosts
CC-3212	Pointers to deleted log files are not being released and can cause containers to run out of disk space
CC-3213	Assigning the same IP to the same service in different pools results in an error

## Known issues

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**Table 5: Release 1.2.3**

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-2791	There is a 20 second delay to view logs the first time after <code>serviced</code> starts or restarts.	Open

ID	Description	Status
CC-3073	Missing device-mapper libraries	Open

## Notes and workarounds

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### Kernel message about container lockup requires reboot of host (CC-3255)

There is a known issue with kernel 3.10.0-514.6.1.el7.x86\_64 and 3.10.0-514.2.2.el7.x86\_64 and Docker versions as late as 1.12.6 where container-level lockups have been reported with messages similar to the following "kernel:unregister\_netdevice: waiting for Io to become free. Usage count = 1". Users are unable to start or stop running containers. To work around this issue, reboot the host.



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## Control Center 1.2.2

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### Fixed issues

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**Table 6: Release 1.2.2**

ID	Description
CC-3090	Logging turned on by debug does not turn off.
CC-3126	Insecure Cipher RC4 is enabled on Control Center version 1.2.x.
CC-3147	Entering HTML code longer than 16 characters in the interface text field generates an error message, however the code is executed.
CC-3148	Use of special characters in the Edit Service form can cause errors.
CC-3175	Entering HTML code in the Public Endpoint host text field generates an error message, however the code is executed.
CC-3178	Application configurations cannot be edited if more than 10 configurations are defined in the application template.
CC-3181	When using file-tab completion, <code>serviced</code> executes the incomplete command.

### Known issues

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**Table 7: Release 1.2.2**

ID	Description	Status
CC-1302	Service 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

<b>ID</b>	<b>Description</b>	<b>Status</b>
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-2791	There is a 20 second delay to view logs the first time after <code>serviced</code> starts or restarts.	Open
CC-3073	Missing device-mapper libraries	Open

## 4

# Control Center 1.2.1

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## Fixed issues

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**Table 8: Release 1.2.1**

ID	Description
CC-3024	WAN outage causes collector services to shut down
CC-3028	<code>serviced restore</code> command failed on a large system
CC-3031	WAN instability causes a panic condition
CC-3035	Frequent error in Control Center log: <code>ControlCenter.GetRunningServices</code> timedout waiting for reply
CC-3036	Cannot use <code>mariadb-model</code> by name in CLI commands
CC-3072	Internal <code>MetricConsumer</code> <code>maxClientWaitTime</code> and <code>perClientMaxBacklogSize</code> 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 <code>"starting"</code> , while the UI shows services are up and running

## Known issues

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**Table 9: 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

ID	Description	Status
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-2791	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-3126	Insecure Cipher RC4 is enabled on Control Center version 1.2.x	Fixed in 1.2.2

## Notes and workarounds

### Insecure Cipher RC4 is enabled on Control Center version 1.2.x (CC-3126)

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 --downloadaddir=./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.

## Control Center 1.2.0

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### New features

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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 10: Release 1.2.0**

ID	Description
CC-375	In multihost environment, unable to execute <code>serviced service status</code> 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	<code>SERVICED_DOCKER_LOG</code> parameters should be documented in the serviced config file
CC-1894	<code>serviced-storage create-thin-pool</code> 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	<code>serviced-pool</code> 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	<code>serviced remove-service</code> 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 <code>serviced volume status</code> 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 11: Release 1.2.0**

ID	Description	Status
CC-1302	Service 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-2791	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.



## Limitations, errata, and documentation

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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.

### Supported operating systems and browsers

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The following table identifies the supported combinations of client operating systems and web browsers.

Client OS	Supported Browsers
Windows 7 and 8.1	Internet Explorer 11 (Enterprise mode only; compatibility mode is not supported.)
Windows 10	Internet Explorer 11 (Enterprise mode only; compatibility mode is not supported.)
	Firefox 50 and later
	Chrome 54 and later
	Microsoft Edge
Windows Server 2012 R2	Firefox 30
	Chrome 36
Macintosh OS/X 10.9	Firefox 30 and above
	Chrome 36 and above
Ubuntu 14.04 LTS	Firefox 30 and above
	Chrome 37 and above
Red Hat Enterprise Linux 6.5, CentOS 6.5	Firefox 30 and above
	Chrome 37 and above

## Additional information

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### Related publications

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

### Documentation feedback

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