Zenoss Service Impact Installation Guide for Resource Manager 5.x

Release 5.1.x

Zenoss, Inc.

www.zenoss.com

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Contents

About this guide

The *Zenoss Service Impact Installation Guide for Resource Manager 5.x* provides detailed instructions for installing and upgrading Zenoss Service Impact (Service Impact) with a Zenoss Resource Manager (Resource Manager) version 5.x deployment.

Audience

This guide is designed for system administrators with Resource Manager experience. In addition, administrators need working knowledge of Linux system administration, and their data center environment.

Related publications

Title	Description
Zenoss Service Impact Installation Guide for Resource Manager 4.2	Describes how to install Service Impact with a Resource Manager version 4.2 deployment.
Zenoss Service Impact User Guide	Provides an overview of Service Impact architecture and features, and information about using the system.
Zenoss Service Impact Release Notes	Describes known issues, fixed issues, and late-breaking information not already provided in the published documentation set.

Additional information and comments

If you have technical questions about this product that are not answered in this guide, visit the *Zenoss Support* site.

Zenoss welcomes your comments and suggestions regarding our documentation. To share your comments, please send an email to docs@zenoss.com. In the email, include the document title and part number. The part number appears at the end of the list of trademarks, at the front of this guide.

Supported operating systems and browsers

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.)
	Internet Explorer 10[*]
Windows 10	Internet Explorer 11 (Enterprise mode only; compatibility mode is not supported.)
	Internet Explorer 10[*]
	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

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[*] Support for Internet Explorer 10 will be withdrawn beginning with the next feature release of Resource Manager.

Supported operating environments

The Resource Manager application is deployed in and managed by Control Center. The supported operating environments of Resource Manager are the environments that Control Center supports at a given release. The following sections identify the supported operating environments of Resource Manager.

Resource Manager, Control Center, and operating systems

The following table identifies the supported combinations of Resource Manager, Control Center, and operating system releases.

Resource Manager Release	Control Center	
	Release	Host OS
5.2.0, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6	1.2.0, 1.2.1, 1.2.2, 1.2.3, 1.3.0, 1.3.1, 1.3.2, 1.3.3	RHEL/CentOS 7.1, 7.2, or 7.3 (64-bit)
5.1.9, 5.1.10	1.1.9, 1.2.0	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.8	1.1.5, 1.1.6, 1.1.7. 1.1.8, 1.1.9	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.7	1.1.5, 1.1.6, 1.1.7, 1.1.8	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.6 (internal release only)	(none)	(none)
5.1.4, 5.1.5	1.1.5, 1.1.6, 1.1.7	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.3	1.1.2, 1.1.3, 1.1.5	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.2	1.1.2, 1.1.3	RHEL/CentOS 7.1 or 7.2 (64-bit)
5.1.1	1.1.1, 1.1.2	RHEL/CentOS 7.1 or 7.2 (64-bit)

Hypervisors

Hypervisor	Versions
VMware vSphere	5.0, 5.1, 5.5, 6.0, 6.5
Microsoft Hyper-V	Version 2.0 with Windows Server 2008 R2 SP1
	Version 3.0 with Windows Server 2012 and 2012 R2

Public cloud platforms

Amazon Web Services (AWS) is fully supported.

Microsoft Azure is supported only for collector pools. Deploying a full Control Center cluster to operate Resource Manager is NOT supported on Microsoft Azure.

Supported clients and browsers

Resource Manager supports the same client operating systems and web browsers that Control Center supports. For more information, refer to Control Center documentation.

Installing Service Impact

This chapter describes how to install and remove Service Impact in Resource Manager 5.x deployments. To install Service Impact, you need a fully-installed deployment of Resource Manager 5.x. For information about compatibility with Resource Manager 5.x, refer to the *Zenoss Service Impact Release Notes*.

Understanding Service Impact packaging, architecture, and deployment

Service Impact 5.x for Resource Manager 5.x is packaged as a Docker image and two ZenPacks:

- The Docker image is available on Docker Hub and includes two services, `Impact` and `zenimpactstate`. The installation procedure integrates the services into Control Center as child services of the `Zenoss.resmgr` application.
- The ZenPacks, ZenPacks.zenoss.Impact and ZenPacks.zenoss.ImpactServer, are available from the *Zenoss Support* site. The ZenPacks require a customized installation procedure, which is documented in this chapter.

The `Impact` service includes the Service Impact server and database, and the service is added to the **Infrastructure** hierarchy in Control Center. Its requirements are minimal, compared to the other services in that hierarchy. The resource pool you select for the **Infrastructure** hierarchy easily accommodates the `Impact` service.

The `zenimpactstate` service includes the `zenimpactstate` daemon. In Control Center, the service is added to the **Events** category of the **Zenoss** hierarchy.

Note   Once Service Impact is installed, Resource Manager is dependent on Service Impact. If Service Impact services are unavailable, Resource Manager continues to monitor devices, but is unable to perform modeling, or properly install or remove ZenPacks.

Preparing to install or upgrade

Preparing to install or upgrade is slightly different for deployments that do not have internet access. Perform just one of the procedures in this section.

Preparing to install or upgrade without internet access

This procedure describes how to download and stage the files required to install Service Impact.

To perform this procedure, you need:

- A workstation with internet access.

- A portable storage medium, such as a USB flash drive, with at least 5 GB of free space.
- Permission to download files from the *File Portal - Download Zenoss Enterprise Software* site. You may request permission by filing a ticket at the *Zenoss Support* site.

1   In a web browser, navigate to the *File Portal - Download Zenoss Enterprise Software* site.
2   Log in with the account provided by Zenoss Support.
3   Download the Docker image file for Service Impact.
    ```
    install-zenoss-impact_5.1:5.1.x.0.0.run
    ```

    Replace the variable *x* with the minor release number of the version that you are installing.
4   Download the Service Impact ZenPack files.
    Replace *Version* with the most recent version number available on the download page:

    - ```ZenPack.zenoss.ImpactServer-Version-py2.7.egg```
    - ```ZenPack.zenoss.Impact-Version-py2.7.egg```
5   Copy the files to your portable storage medium, and then move and mount the medium on the Control Center master host.
6   Log in to the Control Center master host as ```root```, or as a user with superuser privileges.
7   Stage the files in ```/tmp```.
    a   Create a directory in ```/tmp``` for the files.
        The directory must be local (not mounted) and must be readable, writable, and executable by all users.
        For example, ```/tmp/impact```.

        ```
        mkdir /tmp/impact
        ```

    b   Copy the files from your portable storage medium to ```/tmp/impact```.
    c   Change the file permissions.
        The files must have the same permissions as their parent directory.

        ```
        chmod -R 777 /tmp/impact
        ```

8   Install the Service Impact image.

    ```
    /tmp/impact/install-zenoss-impact_5.*.run
    ```

Preparing to install or upgrade with internet access

To perform this procedure, you need:

- Permission to download the Service Impact image from Docker Hub. You may request permission by filing a ticket at the *Zenoss Support* site.
- Permission to download the ZenPack files from the *File Portal - Download Zenoss Enterprise Software* site. You may request permission by filing a ticket at the *Zenoss Support* site.

1   Log in to the Control Center master host as ```root```, or as a user with superuser privileges.
2   Download the Service Impact image from Docker Hub.

    Replace the variable *x* with the minor release number of the version that you are installing.

    | **Note** | If you are upgrading Service Impact, skip this step. |

    ```
    docker pull zenoss/impact_5.1:5.1.x.0.0
    ```

The download typically takes 3-5 minutes.

3 Download the Service Impact ZenPacks from the *File Portal - Download Zenoss Enterprise Software* site.

The ZenPacks are ZenPacks.zenoss.Impact and ZenPacks.zenoss.ImpactServer.

- If you are installing or upgrading Service Impact with a Resource Manager 5.1.x or later deployment, select the file named as follows, where the variable *Version* is replaced with the actual version number: `ZenPacks.zenoss.ImpactServer-Version-py2.7.egg`.
- If you are upgrading Service Impact with a Resource Manager 5.0.x deployment, select the file named `ZenPacks.zenoss.ImpactServer-Version-rm5.0.x-py2.7.egg`.

There is only one version of the ZenPacks.zenoss.Impact ZenPack.

4 Copy the ZenPack `egg` files to a local directory on the Control Center master host.

a Create a directory for the ZenPack `egg` files.

The directory must be local (not mounted) and must be readable, writable, and executable by all users.

The following command creates a directory in `/tmp`:

```
mkdir /tmp/impact-zenpacks
```

b Transfer the files to the new directory.
The following example uses `cp` to copy the ZenPacks to the new directory:

```
cp ZenPacks.zenoss.Impact*.egg /tmp/impact-zenpacks
```

c Change the file permissions.

The ZenPack `egg` files must have the same permissions as their parent directory.

```
chmod -R 777 /tmp/impact-zenpacks
```

Installing Service Impact

Before performing this procedure, complete the steps in *Preparing to install or upgrade* on page 7.

1 Log in to the Control Center browser interface.
2 In the **Applications** table, identify the name of the Resource Manager instance to modify.
3 Create a snapshot.

a Log in to the Control Center master host as a user with `serviced` CLI privileges.
b Create a snapshot.

```
serviced service snapshot Zenoss.resmgr
```

On completion, the `serviced` command returns the ID of the new snapshot.

4 Restart required services.

a Click the **Zenoss** service to expand its subservices.
b Restart the `zeneventserver` subservice.

Note   In the **Services** table, the Failing icon (a red circle with an exclamation point) in the **Status** column represents the cumulative result of one or more customized health checks. To view the status of individual health checks, move the pointer over the icon, which displays a pop-up.

---

5 Install the `ZenPacks.zenoss.ImpactServer` ZenPack.

a Change directory to the directory in which the Service Impact ZenPack `egg` files are located.

For example, the `/tmp/impact-zenpacks` directory:

```
cd /tmp/impact-zenpacks
```

b Install the ZenPack.
Resource Manager 5.0.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack install \
   ZenPacks.zenoss.ImpactServer-Version-rm5.0.x-py2.7.egg
```

Resource Manager 5.1.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack-manager install \
   ZenPacks.zenoss.ImpactServer-Version-py2.7.egg
```

The installation process displays several CRITICAL warning messages, which may be ignored.

6 Start the `Impact` service, and then verify it started.

a Start the `Impact` service.

```
serviced service start Impact
```

b Verify the service is started.

```
serviced service status Impact
```

7 Install the `ZenPacks.zenoss.Impact` ZenPack, and then update the Service Impact server database.

a Install the ZenPack.
Resource Manager 5.0.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack install \
   ZenPacks.zenoss.Impact-Version-py2.7.egg
```

Resource Manager 5.1.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack-manager install \
   ZenPacks.zenoss.Impact-Version-py2.7.egg
```

b Update the server database.

```
serviced service run zenimpactstate update
```

8 In the Control Center browser interface, restart the **Zenoss** services. If you wish to use the command line instead, issue the following command to restart the **Zenoss** services.

```
serviced service restart Zenoss.resmgr/Zenoss
```

Removing Service Impact

1 Log in to the Control Center browser interface.
2 In the **Applications** table, identify the name of the Resource Manager instance to modify.
3 Scroll down to the **Services** table, and then collapse the subservices of the **Infrastructure** and **Zenoss** services.
4 Stop the **Zenoss** service, and then verify its subservices are stopped.

a In the **Actions** column of the **Services** table, click **Stop**.

    b In the **Service** column, click **Zenoss**, and then scroll down to verify all subservices are stopped.

5 Create a snapshot.

    a Log in to the Control Center master host as a user with `serviced` CLI privileges.

    b Create a snapshot.

```
serviced service snapshot Zenoss.resmgr
```

    On completion, the `serviced` command returns the ID of the new snapshot.

6 Restart required services.

    a Click the **Zenoss** service to expand its subservices.

    b Restart the `zeneventserver` subservice.

> **Note**   In the **Services** table, the Failing icon (a red circle with an exclamation point) in the **Status** column represents the cumulative result of one or more customized health checks. To view the status of individual health checks, move the pointer over the icon, which displays a pop-up.

7 Restart required services.

    a Click the **Zenoss** service to expand its subservices.

    b Restart the following subservices.

- `Impact`
- `zeneventserver`

> **Note**   In the **Services** table, the Failing icon (a red circle with an exclamation point) in the **Status** column represents the cumulative result of one or more customized health checks. To view the status of individual health checks, move the pointer over the icon, which displays a pop-up.

8 Remove the ZenPacks.zenoss.Impact ZenPack, and then remove the `zenimpactstate` service.

    a Remove the ZenPack.
    Resource Manager 5.0.x:

```
serviced service run zope zenpack \
   uninstall ZenPacks.zenoss.Impact
```

    Resource Manager 5.1.x or later:

```
serviced service run zope zenpack-manager \
   uninstall ZenPacks.zenoss.Impact
```

    b (Resource Manager 5.1.x or later only) Remove the `zenimpactstate` service.

```
serviced service remove impact
```

    c In the Control Center browser interface, refresh the page.

    The `zenimpactstate` service is removed.

9 Stop and remove the `Impact` service, and then remove the ZenPacks.zenoss.ImpactServer ZenPack.

    a Stop the `Impact` service.

```
serviced service stop Impact
```

    b Remove the `Impact` service.

```
serviced service remove Impact
```

    c Remove the ZenPack.

Resource Manager 5.0.x:

```
serviced service run zope zenpack\
  uninstall ZenPacks.zenoss.ImpactServer
```

Resource Manager 5.1.x or later:

```
serviced service run zope zenpack-manager \
  uninstall ZenPacks.zenoss.ImpactServer
```

10 In the Control Center browser interface, stop the `zeneventserver` service, then start the **Zenoss** services that you stopped previously.

zenoss

Upgrading Service Impact

2

This chapter contains procedures for upgrading Service Impact. For any given upgrade, you only need to perform one of the procedures.

Upgrading both Service Impact ZenPacks

Before performing this procedure, complete the steps in *Preparing to install or upgrade* on page 7.

Perform this procedure to upgrade **both** ZenPacks.zenoss.Impact and ZenPacks.zenoss.ImpactServer.

1. Log in to the Control Center browser interface.
2. In the **Application** column of the **Applications** table, click Resource Manager.
3. Scroll down to the **Services** table, and then locate the **Impact** service.

    The service is in the **Infrastructure** section.
4. Click **Impact**, and then locate the **State Change Queue Length** graph.
5. Log in to the Control Center master host as a user with `serviced` CLI privileges.
6. Stop the `zenimpactstate` service, and then verify it stopped.

    a Stop the `zenimpactstate` service.

    ```
    serviced service stop zenimpactstate
    ```

    b Verify the service is stopped.

    ```
    serviced service status zenimpactstate
    ```
7. In the Control Center web interface, monitor the length of the state change queue.

    When the queue length is 0 (zero), proceed to the next step.
8. Stop the `Impact` service, and then verify it stopped.

    a Stop the `Impact` service.

    ```
    serviced service stop Impact
    ```

    b Verify the service is stopped.

    ```
    serviced service status Impact
    ```
9. Extract an upgrade script from the `ZenPacks.zenoss.ImpactServer` ZenPack, and then upgrade the `Impact` service.

a   Change directory to the directory in which the Service Impact ZenPack `egg` files are located. For example, the `/tmp/impact-zenpacks` directory:

```
cd /tmp/impact-zenpacks
```

b   Extract the upgrade script from the ZenPacks.zenoss.ImpactServer `egg` file.
Resource Manager 5.0.x: Replace *Version* with the ZenPack version number:

```
unzip -p ZenPacks.zenoss.ImpactServer-Version-rm5.0.x-py2.7.egg \
   ZenPacks/zenoss/ImpactServer/upgrade/upgrade.txt > upgrade.txt
```

Resource Manager 5.1.x: Replace *Version* with the ZenPack version number:

```
unzip -p ZenPacks.zenoss.ImpactServer-Version-py2.7.egg \
   ZenPacks/zenoss/ImpactServer/upgrade/upgrade.txt > upgrade.txt
```

c   Start the upgrade script.

```
serviced script run upgrade.txt --service Impact
```

Note   The upgrade script displays several CRITICAL warning messages, which may be ignored.

10 Start the `Impact` service, and then verify it started.

a   Start the `Impact` service.

```
serviced service start Impact
```

If you are upgrading a deployment that has internet access, the upgrade includes downloading a new image from Docker Hub, which takes about 3-5 minutes. If you are upgrading a deployment that does not have internet access, the required image is already installed.

b   Verify the service is started.

```
serviced service status Impact
```

11 Install the `ZenPacks.zenoss.Impact` ZenPack

a   Install the ZenPack.
Resource Manager 5.0.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack install \
   ZenPacks.zenoss.Impact-Version-py2.7.egg
```

Resource Manager 5.1.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack-manager install \
   ZenPacks.zenoss.Impact-Version-py2.7.egg
```

12 Log in to the Control Center browser interface.

13 In the Control Center browser interface, restart the **Zenoss** services. If you wish to use the command line instead, issue the following command to restart the **Zenoss** services.

```
serviced service restart Zenoss.resmgr/Zenoss
```

Upgrading only ZenPacks.zenoss.ImpactServer

Before performing this procedure, complete the steps in *Preparing to install or upgrade* on page 7.

Perform this procedure to upgrade only the ZenPacks.zenoss.ImpactServer ZenPack.

1 Log in to the Control Center browser interface.
2 In the **Application** column of the **Applications** table, click Resource Manager.
3 Scroll down to the **Services** table, and then locate the **Impact** service.
   The service is in the **Infrastructure** section.
4 Click **Impact**, and then locate the **State Change Queue Length** graph.
5 Log in to the Control Center master host as a user with `serviced` CLI privileges.
6 Stop the `zenimpactstate` service, and then verify it stopped.

   a Stop the `zenimpactstate` service.

   ```
   serviced service stop zenimpactstate
   ```

   b Verify the service is stopped.

   ```
   serviced service status zenimpactstate
   ```

7 In the Control Center web interface, monitor the length of the state change queue.
   When the queue length is 0 (zero), proceed to the next step.
8 Stop the `Impact` service, and then verify it stopped.

   a Stop the `Impact` service.

   ```
   serviced service stop Impact
   ```

   b Verify the service is stopped.

   ```
   serviced service status Impact
   ```

9 Extract an upgrade script from the `ZenPacks.zenoss.ImpactServer` ZenPack, and then upgrade the `Impact` service.

   a Change directory to the directory in which the Service Impact ZenPack `egg` files are located.
      For example, the `/tmp/impact-zenpacks` directory:

   ```
   cd /tmp/impact-zenpacks
   ```

   b Extract the upgrade script from the ZenPacks.zenoss.ImpactServer `egg` file.
      Resource Manager 5.0.x: Replace *Version* with the ZenPack version number:

   ```
   unzip -p ZenPacks.zenoss.ImpactServer-Version-rm5.0.x-py2.7.egg \
      ZenPacks/zenoss/ImpactServer/upgrade/upgrade.txt > upgrade.txt
   ```

      Resource Manager 5.1.x: Replace *Version* with the ZenPack version number:

   ```
   unzip -p ZenPacks.zenoss.ImpactServer-Version-py2.7.egg \
      ZenPacks/zenoss/ImpactServer/upgrade/upgrade.txt > upgrade.txt
   ```

   c Start the upgrade script.

   ```
   serviced script run upgrade.txt --service Impact
   ```

Note The upgrade script displays several CRITICAL warning messages, which may be ignored.

---

10 Start the `Impact` service, and then verify it started.

    a Start the `Impact` service.

```
serviced service start Impact
```

    If you are upgrading a deployment that has internet access, the upgrade includes downloading a new image from Docker Hub, which takes about 3-5 minutes. If you are upgrading a deployment that does not have internet access, the required image is already installed.

    b Verify the service is started.

```
serviced service status Impact
```

11 Log in to the Control Center browser interface.

12 In the Control Center browser interface, restart the **Zenoss** services. If you wish to use the command line instead, issue the following command to restart the **Zenoss** services.

```
serviced service restart Zenoss.resmgr/Zenoss
```

Upgrading only ZenPacks.zenoss.Impact

Before performing this procedure, complete the steps in *Preparing to install or upgrade* on page 7.

This procedure describes how to upgrade only the *ZenPacks.zenoss.Impact* ZenPack.

1 Log in to the Control Center browser interface.

2 In the **Applications** table, identify the name of the Resource Manager instance to modify.

3 Scroll down to the **Services** table, and then collapse the subservices of the **Infrastructure** and **Zenoss** services.

4 Stop the **Zenoss** service, and then verify its subservices are stopped.

    a In the **Actions** column of the **Services** table, click **Stop**.

    b In the **Service** column, click **Zenoss**, and then scroll down to verify all subservices are stopped.

5 Create a snapshot.

    a Log in to the Control Center master host as a user with `serviced` CLI privileges.

    b Create a snapshot.

```
serviced service snapshot Zenoss.resmgr
```

    On completion, the `serviced` command returns the ID of the new snapshot.

6 Start the **zeneventserver** service.

To start the service with the CLI, enter the following command:

```
serviced service start zeneventserver
```

To start the services with the browser interface, perform the following substeps:

a Click the **Zenoss** service to expand its child services.

b Scroll down to the **zeneventserver** service.

c In the **Actions** column, click the **Start** control of the **zeneventserver** service.

In the **Services** table, the Failing icon (a red circle with an exclamation point) in the **Status** column represents the cumulative result of one or more customized health checks. To view the status of individual health checks, move the pointer over the icon, which displays a pop-up.

When all of the health checks of the required services are passing, proceed to the next step.

7 Install the `ZenPacks.zenoss.Impact` ZenPack

  a Install the ZenPack.
    Resource Manager 5.0.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack install \
   ZenPacks.zenoss.Impact-Version-py2.7.egg
```

    Resource Manager 5.1.x: Replace *Version* with the ZenPack version number:

```
serviced service run zope zenpack-manager install \
   ZenPacks.zenoss.Impact-Version-py2.7.egg
```

8 In the Control Center browser interface, restart the **Zenoss** services. If you wish to use the command line instead, issue the following command to restart the **Zenoss** services.

```
serviced service restart Zenoss.resmgr/Zenoss
```