



# **Zenoss Resource Manager Planning Guide**

Release 6.0.0

Zenoss, Inc.

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

# Zenoss Resource Manager Planning Guide

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# About this guide

*Zenoss Resource Manager Planning Guide* provides information about planning to add Zenoss Resource Manager (Resource Manager) to a Control Center deployment.

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**Note** Zenoss strongly recommends reading the *Control Center Planning Guide* in parallel with this guide.

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## Related Resource Manager publications

Title	Description
<i>Zenoss Resource Manager Administration Guide</i>	Provides an overview of Resource Manager architecture and features, as well as procedures and examples to help use the system.
<i>Zenoss Resource Manager Configuration Guide</i>	Provides required and optional configuration procedures for Resource Manager, to prepare your deployment for monitoring in your environment.
<i>Zenoss Resource Manager Installation Guide</i>	Provides detailed information and procedures for creating deployments of Control Center and Resource Manager.
<i>Zenoss Resource Manager Planning Guide</i>	Provides both general and specific information for preparing to deploy Resource Manager.
<i>Zenoss Resource Manager Release Notes</i>	Describes known issues, fixed issues, and late-breaking information not already provided in the published documentation set.
<i>Zenoss Resource Manager Upgrade Guide</i>	Provides detailed information and procedures for upgrading deployments of Resource Manager.

## Additional information and comments

If you have technical questions about this product that are not answered in this guide, please visit the [Zenoss Support](#) site or contact Zenoss Support.

Zenoss welcomes your comments and suggestions regarding our documentation. To share your comments, please send an email to [docs@zenoss.com](mailto: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.

## Change history

The following list associates document part numbers and the important changes to this guide since the previous release. Some of the changes involve features or content, but others do not. For information about new or changed features, refer to the *Zenoss Resource Manager Release Notes*.

### 1632.17.311 (6.0.0)

Update release numbers.

### 1032.17.268 (5.3.2)

Update release numbers.

### 1032.16.242 (5.3.1)

Update release numbers.

**1032.17.229 (5.3.0)**

Update release numbers.

**1032.17.191 (5.2.6)**

Update release numbers.

**About 5.2.5**

Version 5.2.5 was withdrawn.

**1032.17.122 (5.2.4)**

Update release numbers.

**1032.17.100 (5.2.3)**

Update release numbers.

**1032.17. 058 (5.2.2)**

Update release numbers.

**1032.17.044 (5.2.1)**

Update release numbers.

**1032.16.335 (5.2.0)**

Add this history section to this guide.

Add a tested environments section to this guide.

Remove Control Center planning and storage management information. The information is now in the *Control Center Planning Guide*.

Remove high-availability information. High-availability deployments are now planned and installed by Zenoss personnel.

## Tested operating environments

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

### Resource Manager, Control Center, and operating systems

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

Resource Manager release	Control Center	
	Minimum release	Host OS
6.0.0	1.5.0	RHEL/CentOS 7.2, 7.3, or 7.4 (64-bit)
5.3.0, 5.3.1, 5.3.2	1.3.0, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.4.0, 1.4.1	RHEL/CentOS 7.1, 7.2, or 7.3 (64-bit)
5.2.0, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 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, 1.3.4, 1.4.0, 1.4.1	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 tested.

Microsoft Azure has been tested only for collector pools. Creating a full Control Center deployment to operate Resource Manager has NOT been tested on Microsoft Azure.

\* Version 5.2.5 was withdrawn.

# Introduction to Resource Manager

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This chapter provides a brief overview of Resource Manager and its relationship with Control Center.

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**Note** This guide supplements the *Control Center Planning Guide* and should be read in parallel with that guide.

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## Zenoss Service Dynamics and Control Center

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The foundation of the Zenoss Service Dynamics product suite is Zenoss Resource Manager, the hybrid IT monitoring platform. Starting with release 5.0, Zenoss Resource Manager (or simply, Resource Manager) is deployed into a distributed architecture using Control Center. That is, Resource Manager is an application whose installation and deployment configuration is managed by Control Center.

Control Center is an open-source, platform-as-a-service framework developed by Zenoss. Control Center and Resource Manager are independent and unaware of each other, although Control Center is designed for the unique requirements of Resource Manager. In particular, Resource Manager and Control Center have a different version numbering scheme and different release schedule. Some features of Resource Manager rely on specific capabilities of Control Center, so this guide includes *Tested operating environments* on page 6. A separate series of guides describes how to use Control Center, beginning with the *Control Center Planning Guide*.

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**Note** In the Resource Manager context, a resource is a device to monitor. Devices include compute, storage, network, converged infrastructure, applications, and unified communications systems. In the Control Center context, a resource is a physical or virtual host in a Control Center deployment.

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Zenoss Service Impact (Service Impact) and Zenoss Analytics (Analytics) are the final components of the Zenoss Service Dynamics product suite.

- Service Impact correlates the infrastructure Resource Manager is monitoring with critical business services. In practical terms, Service Impact is additional services in a Resource Manager deployment, **not** a separate application that Control Center manages.
- Analytics adds data warehouse ETL (extract, transform, and load) capabilities and data analysis capabilities to Resource Manager. Like Service Impact, Analytics adds services to a Resource Manager deployment, but also requires a separate, standalone host that is **not** managed by Control Center.

## Key concepts

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### **collector**

A set of Resource Manager services that provide monitoring capabilities for a specific network location. Collector services are deployed into a Control Center resource pool through the Resource Manager browser interface.

### **collector pool**

A Control Center resource pool that is dedicated for use by one or more Resource Manager collectors; usually, just one. Most deployments use one collector pool for each distinct network location, although each collector pool typically includes multiple Control Center hosts.

### **collector pool VIP**

A virtual IP address that is assigned a collector pool, to float among the hosts that are members of the pool. Resource Manager services that require a permanent IP address are unaffected by the status of specific pool hosts. The virtual IP address is created and assigned through the Control Center browser interface.

### **master pool**

A Control Center resource pool that contains only the Control Center master host. By isolating the master host in its own pool and configuring a ZooKeeper ensemble, Resource Manager services are not affected when Control Center internal services are temporarily unavailable. The recommended name for this pool is `master`.

### **Resource Manager pool**

A Control Center resource pool that runs Resource Manager infrastructure services and other key services. This resource pool must be on the same subnet as the master pool. A Resource Manager pool includes a minimum of two Control Center hosts. The recommended name is `Resource Manager`.



## 2

# Deploying Resource Manager

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This chapter describes the considerations for adding Resource Manager to a Control Center deployment.

## Recommended host configurations

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### Resource pool requirements

Zenoss recommends that all production deployments include a minimum of three hosts in two resource pools as follows:

- One resource pool that contains the Control Center master host.
- One resource pool that contains two delegate hosts for Resource Manager services.

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**Note** The preceding recommendation is the minimum requirement for any production deployment. For a customized recommendation, contact your Zenoss representative.

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### CPU and memory requirements

The following table provides CPU and memory requirements for hosts in the types of Control Center resource pools that a typical Resource Manager deployment uses. For more information about pool types, see [Key concepts](#) on page 8. For more information about Control Center host requirements, refer to the *Control Center Planning Guide*.

Resource pool type	Host requirements		
	Count	Resources	Comments
Master pool	1	4 CPU cores 16GB main memory	The amount of storage required for application data varies greatly.
Resource Manager pool	2+n	8 CPU cores 32GB main memory	To support failover or additional services, more than two hosts is preferred.
Collector pool	n+1	4 CPU cores 8GB main memory	Collector services do not need DFS; remote pools can use higher connection timeout settings.

**Single-host deployment:** For a single-host deployment for testing or development work, Zenoss recommends a host with the following resources:

- 8 CPU cores
- 64GB main memory

### Virtual hard disk requirements

During installation, for the master host, you will create seven virtual hard disks, and for each delegate host, four disks.

#### Master host disks:

- One 30GB virtual hard disk on which to install the guest operating system. This disk must be attached to an IDE controller because a Hyper-V guest machine can only boot from an IDE drive.
- Additional VHDX format, dynamically expanding disks sized as follows. These disks can be attached to any controller and in any location that will accommodate the disk.
  - two 50GB disks
  - one 150GB disk
  - one 200GB disk
  - two 16GB disks

#### Delegate host disks (each host):

- One 30GB virtual hard disk on which to install the guest operating system. This disk must be attached to an IDE controller because a Hyper-V guest machine can only boot from an IDE drive.
- Additional VHDX format, dynamically expanding disks sized as follows. These disks can be attached to any controller and in any location that will accommodate the disk.
  - one 50GB disks
  - two 16GB disks

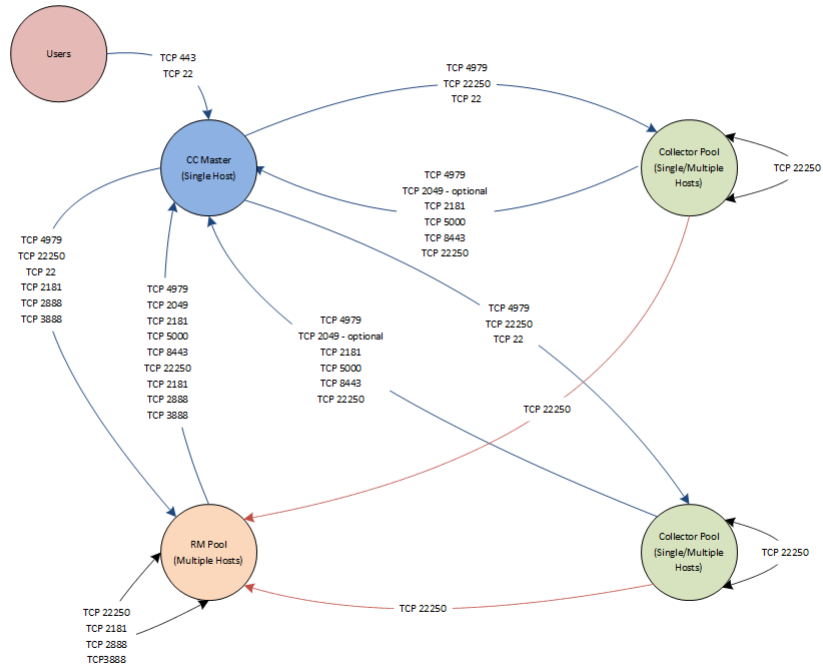
## Network ports

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This section includes a network diagram of a Resource Manager deployment featuring four Control Center resource pools:

- One pool for the Control Center master host.
- One pool for most of the Resource Manager services.
- Two pools for Resource Manager collector services (collector pools).

Figure 1: Port requirements in a sample deployment



## Packaging and distribution

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This chapter describes how Control Center and Resource Manager are packaged and distributed for on-premise installations.

For more information about other installation options, please contact your Zenoss representative.

### Packaging for customized installations

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Beginning with Resource Manager 5.3.0, Zenoss has implemented a change to release artifacts. Appliance artifacts remain the preferred option for installations and upgrades. If you choose not to use the appliance artifacts, a single set of artifacts with all components and prerequisites is available. New artifacts are no longer available from Docker Hub, and a Docker Hub account is no longer required to access Resource Manager images.

Zenoss customers can download a mirror of the Zenoss repository, including all Control Center dependencies, and all required Docker image files. For more information, refer to the *Control Center Installation Guide*.

The Control Center and Resource Manager packages require approximately 5GB of storage space.

### Zenoss Service Dynamics virtual appliances

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Zenoss Service Dynamics is distributed as a pair of virtual appliances, one for a Control Center master host, and another for Control Center delegate hosts. Control Center and Resource Manager are installed, the required Docker images are loaded into the local repository, and CentOS 7.3 is installed with all of the packages needed to begin using Resource Manager as quickly as possible. In addition, the components of Zenoss Service Impact and Zenoss Analytics that integrate with Resource Manager are included and ready for final configuration.

Virtual appliances are available as Open Virtual Appliance (OVA) and ISO disk image files, and their storage requirements vary by hypervisor (VMware vSphere or Microsoft Hyper-V) and role (Control Center master or delegate). For more information, refer to the *Zenoss Resource Manager Installation Guide*.

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**Note** To install the Zenoss Service Dynamics virtual appliance, you need permission to download files from the [Zenoss Support](#) site. For more information, contact Zenoss Support.

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