

Symantec™ Disaster Recovery Orchestrator Getting Started Guide

Amazon Web Services

6.1.1

Symantec™ Disaster Recovery Orchestrator Getting Started Guide

The software described in this book is furnished under a license agreement and may be used only in accordance with the terms of the agreement.

Product version: 6.1.1

Document version: 6.1.1 Rev 0

Legal Notice

Copyright © 2014 Symantec Corporation. All rights reserved.

Symantec, the Symantec Logo, the Checkmark Logo, Veritas, Veritas Storage Foundation, CommandCentral, NetBackup, Enterprise Vault, and LiveUpdate are trademarks or registered trademarks of Symantec Corporation or its affiliates in the U.S. and other countries. Other names may be trademarks of their respective owners.

The product described in this document is distributed under licenses restricting its use, copying, distribution, and decompilation/reverse engineering. No part of this document may be reproduced in any form by any means without prior written authorization of Symantec Corporation and its licensors, if any.

THE DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID. SYMANTEC CORPORATION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, PERFORMANCE, OR USE OF THIS DOCUMENTATION. THE INFORMATION CONTAINED IN THIS DOCUMENTATION IS SUBJECT TO CHANGE WITHOUT NOTICE.

The Licensed Software and Documentation are deemed to be commercial computer software as defined in FAR 12.212 and subject to restricted rights as defined in FAR Section 52.227-19 "Commercial Computer Software - Restricted Rights" and DFARS 227.7202, "Rights in Commercial Computer Software or Commercial Computer Software Documentation", as applicable, and any successor regulations, whether delivered by Symantec as on premises or hosted services. Any use, modification, reproduction release, performance, display or disclosure of the Licensed Software and Documentation by the U.S. Government shall be solely in accordance with the terms of this Agreement.

Symantec Corporation
350 Ellis Street
Mountain View, CA 94043

<http://www.symantec.com>

Technical Support

Symantec Technical Support maintains support centers globally. Technical Support's primary role is to respond to specific queries about product features and functionality. The Technical Support group also creates content for our online Knowledge Base. The Technical Support group works collaboratively with the other functional areas within Symantec to answer your questions in a timely fashion. For example, the Technical Support group works with Product Engineering and Symantec Security Response to provide alerting services and virus definition updates.

Symantec's support offerings include the following:

- A range of support options that give you the flexibility to select the right amount of service for any size organization
- Telephone and/or Web-based support that provides rapid response and up-to-the-minute information
- Upgrade assurance that delivers software upgrades
- Global support purchased on a regional business hours or 24 hours a day, 7 days a week basis
- Premium service offerings that include Account Management Services

For information about Symantec's support offerings, you can visit our website at the following URL:

www.symantec.com/business/support/index.jsp

All support services will be delivered in accordance with your support agreement and the then-current enterprise technical support policy.

Contacting Technical Support

Customers with a current support agreement may access Technical Support information at the following URL:

www.symantec.com/business/support/contact_techsupp_static.jsp

Before contacting Technical Support, make sure you have satisfied the system requirements that are listed in your product documentation. Also, you should be at the computer on which the problem occurred, in case it is necessary to replicate the problem.

When you contact Technical Support, please have the following information available:

- Product release level
- Hardware information

- Available memory, disk space, and NIC information
- Operating system
- Version and patch level
- Network topology
- Router, gateway, and IP address information
- Problem description:
 - Error messages and log files
 - Troubleshooting that was performed before contacting Symantec
 - Recent software configuration changes and network changes

Licensing and registration

If your Symantec product requires registration or a license key, access our technical support Web page at the following URL:

www.symantec.com/business/support/

Customer service

Customer service information is available at the following URL:

www.symantec.com/business/support/

Customer Service is available to assist with non-technical questions, such as the following types of issues:

- Questions regarding product licensing or serialization
- Product registration updates, such as address or name changes
- General product information (features, language availability, local dealers)
- Latest information about product updates and upgrades
- Information about upgrade assurance and support contracts
- Information about the Symantec Buying Programs
- Advice about Symantec's technical support options
- Nontechnical presales questions
- Issues that are related to CD-ROMs or manuals

Support agreement resources

If you want to contact Symantec regarding an existing support agreement, please contact the support agreement administration team for your region as follows:

Asia-Pacific and Japan	customercare_apj@symantec.com
Europe, Middle-East, and Africa	semea@symantec.com
North America and Latin America	supportsolutions@symantec.com

About Symantec Connect

Symantec Connect is the peer-to-peer technical community site for Symantec's enterprise customers. Participants can connect and share information with other product users, including creating forum posts, articles, videos, downloads, blogs and suggesting ideas, as well as interact with Symantec product teams and Technical Support. Content is rated by the community, and members receive reward points for their contributions.

<http://www.symantec.com/connect/storage-management>

Documentation

Your feedback on product documentation is important to us. Send suggestions for improvements and reports on errors or omissions. Include the title and document version (located on the second page), and chapter and section titles of the text on which you are reporting. Send feedback to:

doc_feedback@symantec.com

For information regarding the latest HOWTO articles, documentation updates, or to ask a question regarding product documentation, visit the Storage and Clustering Documentation forum on Symantec Connect.

<https://www-secure.symantec.com/connect/storage-management/forums/storage-and-clustering-documentation>

Getting Started with Symantec Disaster Recovery Orchestrator

This document includes the following topics:

- [About Symantec Disaster Recovery Orchestrator for Amazon Web Services](#)
- [Disaster Recovery Orchestrator architecture](#)
- [Disaster Recovery Orchestrator licensing](#)
- [Supported software](#)
- [Getting started with Disaster Recovery Orchestrator](#)
- [Disaster Recovery Orchestrator Console UI](#)
- [Documentation](#)

About Symantec Disaster Recovery Orchestrator for Amazon Web Services

Symantec Disaster Recovery Orchestrator provides the following services for applications running on an organization's on-premises systems and in the Amazon Web Services (AWS) cloud environment:

- Application monitoring
- Disaster recovery (DR)

Application monitoring

Disaster Recovery Orchestrator provides monitoring capabilities for the applications running in an organization's IT environment. The on-premises systems on which these applications are deployed can be physical computers or virtual machines that are managed in a virtualization environment. Any virtualization platform may be used at the on-premises site. In the AWS cloud environment, the applications are deployed on Amazon EC2 instances.

Disaster Recovery Orchestrator employs an agent framework to monitor the state of applications and their dependent components. Specific agents are available to monitor the application, storage, and network components. Together, these agents monitor the overall health of the configured applications by running specific commands, tests, or scripts.

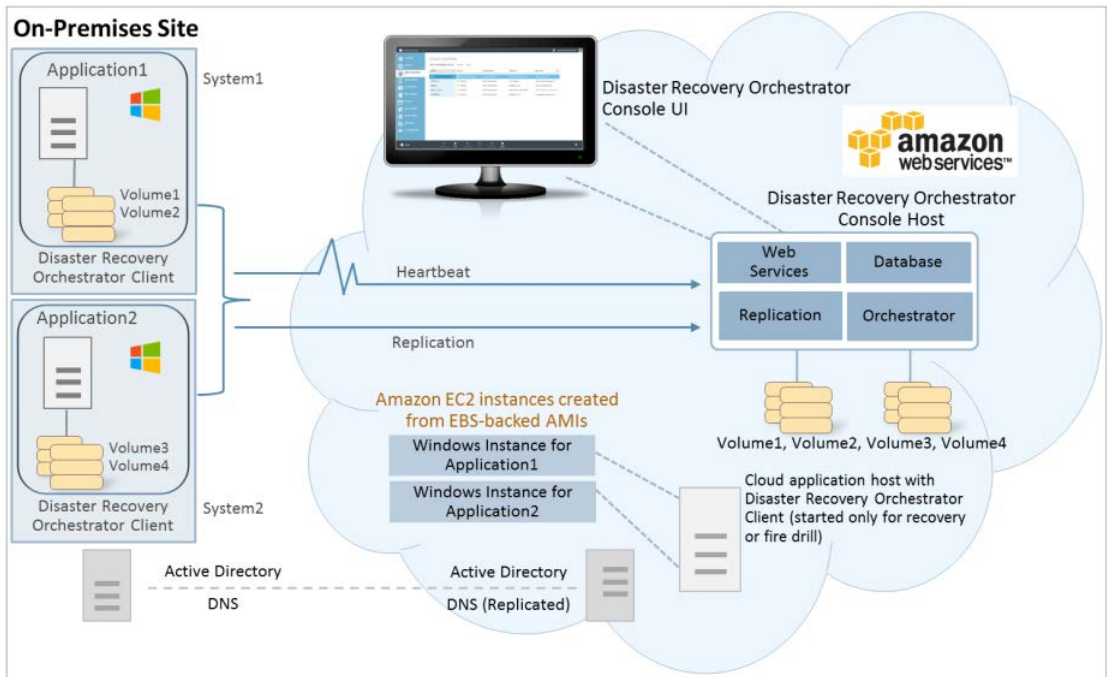
Disaster Recovery Orchestrator is based on Symantec Cluster Server (VCS), and uses similar concepts such as agents, resources, and service groups to provide application monitoring. Disaster Recovery Orchestrator has a lightweight server footprint that allows faster installation and configuration.

Disaster recovery

When the Disaster Recovery Orchestrator solution is in place, the Amazon cloud acts as a DR site for the applications that run at the on-premises site. In the event of a disaster, you can continue servicing your clients through the applications running in the cloud. Later, you can resume application processing at the on-premises site when it is functional again. Even when the on-premises site is fully operational, you can perform a fire drill to test the DR readiness of the configuration.

Disaster Recovery Orchestrator architecture

The Disaster Recovery Orchestrator architecture comprises of various entities that are configured at the on-premises and the cloud sites.



On-premises site configuration

- Physical computers or virtual machines that host the applications
- Volumes that store the application data
- Active Directory and DNS configuration
- Disaster Recovery Orchestrator Client
 The Client components are deployed on each application host. When the application is online at the on-premises site, they monitor it and perform replication activities.

Cloud site configuration

- Virtual networks
 A virtual network that is used for the production environment is configured within a VPN. A separate network, which may or may not be part of the same VPN, is configured to test the application recovery configurations.
 The Disaster Recovery Orchestrator components communicate with each other over the WAN links (Heartbeat and Replication) within the VPN.
- Active Directory and DNS configuration

The Active Directory and DNS configurations that are used for the Disaster Recovery Orchestrator solution match those at the on-premises site. Symantec recommends that the domain controller be replicated from the one at the on-premises site.

- Amazon EC2 instances
A dedicated instance is used to host the Disaster Recovery Orchestrator Console components. This instance is referred to as the Console host.
For each on-premises system that hosts an application to be configured for recovery, a corresponding Amazon EC2 instance is provisioned. This instance hosts the application and is referred to as the cloud application host.
- Cloud storage
Amazon EBS-based volumes are used for the operating system, the application data, and the replication journal files on the Amazon EC2 instances.
- Disaster Recovery Orchestrator Console
The Console components include:
 - Web services to host the Console framework
 - Database to store the Disaster Recovery Orchestrator configuration
 - Replication module to manage the synchronization of application data between the on-premises and the cloud sites
 - Orchestrator (Console UI) to manage the recovery workflow
- Disaster Recovery Orchestrator Client
The Client components are deployed on each cloud application host. When the application is online at the cloud site, they monitor it and perform replication activities.

Disaster Recovery Orchestrator licensing

Disaster Recovery Orchestrator follows a subscription-based licensing model. The licenses are metered on a per-instance basis, and the metering is done manually. An instance is defined as a 'protected application component'. If you change or renew the number of protected applications, you must report it to your Symantec Account Representative or your Symantec Certified Partner Reseller.

All licensing in Disaster Recovery Orchestrator is keyless. The Symantec product installer installs the embedded keys by default. A keyless license lets you use all the available product features.

For more information about the pricing, licensing, and the purchasing model, visit the Symantec website at:

<https://licensing.symantec.com/>

Supported software

For the latest information about the supported software, refer to the Software Compatibility List (SCL) at the following location:

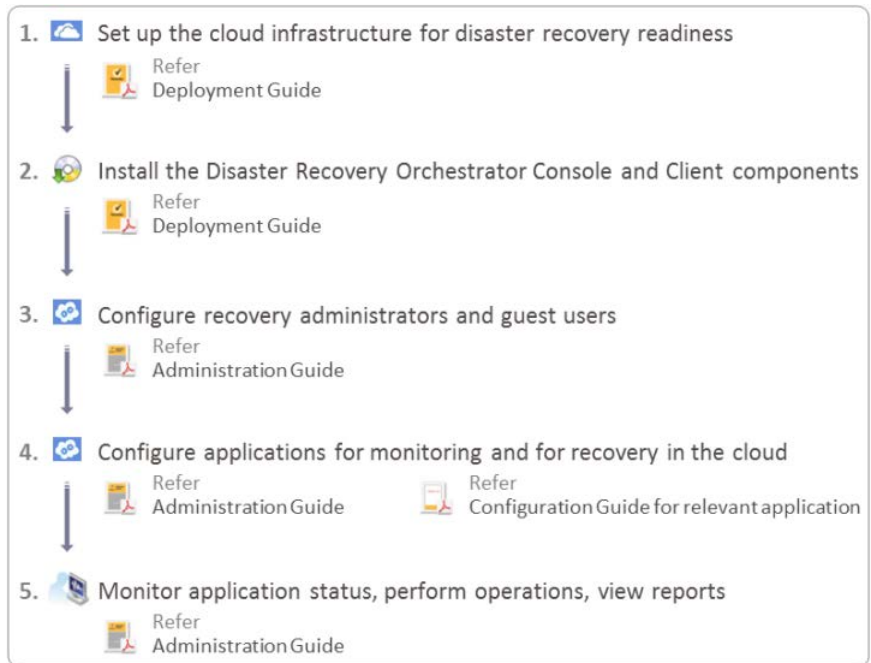
<http://www.symantec.com/docs/TECH225292>

Getting started with Disaster Recovery Orchestrator

To get started with Disaster Recovery Orchestrator, follow this sequence of steps:

1. Prepare the cloud environment for disaster recovery (DR) readiness as follows:
 - Create a virtual private cloud (VPC) and establish a virtual private network (VPN) connection between your on-premises network and the VPC.
 - Launch a dedicated Amazon Elastic Cloud Compute (Amazon EC2) instance to host the Disaster Recovery Orchestrator Console.
 - Launch an Amazon EC2 instance for each on-premises application that you want to configure for recovery, and configure the appropriate application on it.
2. Install the Disaster Recovery Orchestrator components as follows:
 - Install the Disaster Recovery Orchestrator Console on the dedicated Amazon EC2 instance.
 - Install the Disaster Recovery Orchestrator Client on the on-premises application hosts.
 - Install the Disaster Recovery Orchestrator Client on the corresponding Amazon EC2 instances.
3. Configure the recovery administrators and guest users on the Console UI.
4. Configure the applications for monitoring and for recovery.
Optionally, test the application recovery configurations by performing fire drills.
5. Monitor the status of the configured applications, perform recovery operations when required, and view the operation reports.

The following figure depicts the steps to get started with Disaster Recovery Orchestrator and the documents that provide the relevant information.



Disaster Recovery Orchestrator Console UI

The Disaster Recovery Orchestrator Console UI is browser-based, and you can access it using the following URL:

```
https://ConsoleHost:14155/draas/login.html
```

When accessing the URL from the Console host itself, you may replace *ConsoleHost* with **localhost**. When accessing it from other systems, replace the *ConsoleHost* variable with the fully-qualified domain name (FQDN) of the Console host.

Alternatively, you can double-click the **Symantec Disaster Recovery Orchestrator Console** shortcut from the Console host desktop.

Disaster Recovery Orchestrator authenticates the users before they can access the various views of the Console UI. Users may log on as security administrators, recovery administrators, or guest users.

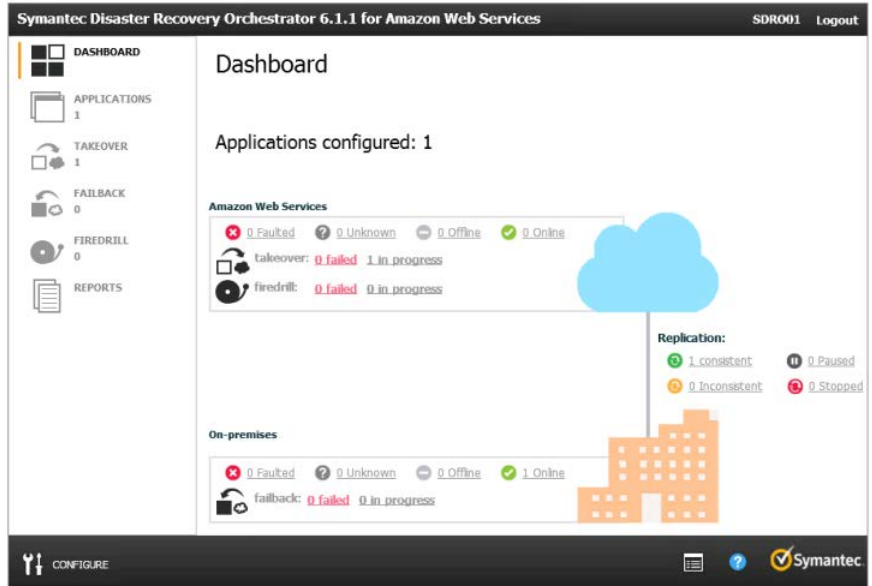
Security administrators only have access to the Settings view, which contains the Privilege Settings and the Recovery Settings tabs.

Recovery administrators or guest users do not have access to the Settings view. They have access to the following views:

- **Dashboard**

This view appears by default when a user logs on to the Console. It provides an overview of the applications that the user can monitor or administer.

The following figure depicts the Dashboard view:



- **Applications**

This view lists all the applications that the logged-on user can monitor or administer. It displays the status of each application at the on-premises and the cloud sites, its data replication state, and the ongoing operations if any.

The following figure depicts the Applications view:



You click the application name in the Applications view to open the Settings view for that application. The Settings view displays the resources that are used

for the application recovery configuration and lets you change some of their settings.

- **Takeover, Failback, Firedrill**

These views list the applications on which a takeover, failback, or fire drill operation is in progress respectively.

When you select an application from the list, it displays the details of each task that is performed as part of the operation. If a task fails, you can retry the operation from the command bar at the bottom of the view. You can also pause or terminate an ongoing operation.

- **Reports**

This view lists all the operations that have been performed on the application recovery configurations.

The following figure depicts the Reports view:

Application	On-premises System	Started	Ended	Operation	Username	RPO	Status
Custom Application	AWS-W2K12R2	2014-09-29 12:22:04	2014-09-29 12:31:44	takeover	SDRO01	0s	completed
Custom Application	AWS-W2K12R2	2014-09-29 12:35:26	2014-09-29 12:40:09	failback	SDRO01	6s	completed
Custom Application	AWS-W2K12R2	2014-09-29 12:44:08	2014-09-29 13:01:58	firedrill	SDRO01	0s	completed
Custom Application	AWS-W2K12R2	2014-09-29 13:02:26	2014-09-29 13:03:04	firedrill_cleanup	SDRO01	0s	completed

Task	Duration	Status	Action
Take 'Application_SG' offline on 'AWS-W2K12R2'	43s	completed	None
Synchronizing data	2m:4s	completed	None
Pause replication	1m:33s	completed	None
Offline disk(s) on 'CON-W2K12R2'	4s	completed	None
Detach volumes from 'CON-W2K12R2'	47s	completed	None
Attach volumes to 'APPVM1-W2K12R2'	6s	completed	None
Start 'APPVM1-W2K12R2'	3m:15s	completed	None
Change replication settings on 'APPVM1-W2K12R2'	34s	completed	None
Bring 'Application_SG' online on 'APPVM1-W2K12R2'	33s	completed	None

Documentation

Disaster Recovery Orchestrator documentation is available in the following formats:

- **Adobe Portable Document Format (PDF)**

You can view and print the PDF documents with Adobe Acrobat Reader.

This is the content that you are currently viewing.

For more information about the latest version of Acrobat Reader, or for help with the Acrobat Reader installation, visit the Adobe website at:

<http://www.adobe.com>

- HTML
Each of the PDF documents is also available online in the HTML format. You can navigate through the topics online and, if required, print individual topics.
- SymHelp
Except the release notes, all the information that is available in the PDF and the HTML formats is also available online in the SymHelp format. You can search through the available topics, bookmark them, or print them as required.

List of documents

Table 1-1 lists the titles and file names of the Disaster Recovery Orchestrator documents and describes their contents.

Table 1-1 Disaster Recovery Orchestrator documentation

Document Title and File Name	Description
<p><i>Symantec Disaster Recovery Orchestrator Getting Started Guide</i> sdro_gettingstarted_611_win.pdf</p>	<p>Provides the following information:</p> <ul style="list-style-type: none"> ■ Introduction to Disaster Recovery Orchestrator for Amazon Web Services ■ Overview of the graphical user interfaces ■ Location and description of the relevant documentation
<p><i>Symantec Disaster Recovery Orchestrator Release Notes</i> sdro_releasenotes_611_win.pdf</p>	<ul style="list-style-type: none"> ■ Provides an overview of the product and its salient features ■ Lists the limitations and the issues that are known at the time of the release
<p><i>Symantec Disaster Recovery Orchestrator Deployment Guide</i> sdro_deploy_611_win.pdf</p>	<p>Provides information about the following:</p> <ul style="list-style-type: none"> ■ Setting up the cloud environment for using Disaster Recovery Orchestrator ■ Installing the following components: <ul style="list-style-type: none"> ■ Disaster Recovery Orchestrator Console on a dedicated Amazon EC2 instance ■ Disaster Recovery Orchestrator Client on the on-premises application host and the corresponding application host in the cloud ■ Troubleshooting some of the most common environment setup and deployment issues

Table 1-1 Disaster Recovery Orchestrator documentation (*continued*)

Document Title and File Name	Description
<p><i>Symantec Disaster Recovery Orchestrator Administration Guide</i></p> <p>sdro_admin_611_win.pdf</p>	<p>Provides information about the following:</p> <ul style="list-style-type: none"> ■ Configuring recovery administrators ■ Configuring applications for recovery in the cloud ■ Performing operations on the application recovery configurations and viewing reports ■ Bundled agents that manage the infrastructure, network, and replication resources ■ Disaster Recovery Orchestrator agents for custom applications ■ Replication mechanism that is used to keep the application data at the on-premises and cloud sites in sync ■ Troubleshooting the most common configuration and administration issues ■ Configuring and administering custom applications for application monitoring and recovery
<p><i>Symantec Disaster Recovery Orchestrator Configuration Guide for Microsoft SQL Server 2008 R2</i></p> <p>sdro_sql2008_611_win.pdf</p>	<ul style="list-style-type: none"> ■ Provides information about the Disaster Recovery Orchestrator agent for SQL Server 2008 R2 ■ Describes how to configure SQL Server 2008 R2 instances for application monitoring and recovery
<p><i>Symantec Disaster Recovery Orchestrator Configuration Guide for Microsoft SQL Server 2012</i></p> <p>sdro_sql2012_611_win.pdf</p>	<ul style="list-style-type: none"> ■ Provides information about the Disaster Recovery Orchestrator agent for SQL Server 2012 ■ Describes how to configure SQL Server 2012 instances for application monitoring and recovery
<p>Online Help for Symantec Disaster Recovery Orchestrator</p> <p>http://help.symantec.com/CS?ProdId=SDRO_GSG&context=sdro6.1.1</p>	<p>All the previously listed documents, except the release notes, are also available in the SymHelp format. SymHelp is the cloud-based Online Help from Symantec. You can use the Search or the Browse tabs to navigate through the available topics.</p>

Location of documents

The documentation is available at the following locations:

- On the Symantec Disaster Recovery Orchestrator software disc

Note: The product documentation is not installed with the product. Symantec recommends that you copy the PDF documentation to your local disk for future reference.

- On the Symantec Operations Readiness Tools (SORT) website at:
<https://sort.symantec.com>
- As part of the SymHelp topics at:
http://help.symantec.com/CS?ProdId=SDRO_GSG&context=sdro6.1.1