# VMware vCenter Configuration Manager Backup and Disaster Recovery Guide

vCenter Configuration Manager 5.5

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VCM Backup and Disaster Recovery Guide

# **About This Book**

The VCM Backup and Disaster Recovery Guide describes recommendations to help you prepare and implement a successful backup and disaster recovery plan for VMware vCenter Configuration Manager (VCM). As a SQL database administrator, you are responsible for establishing your corporate backup, recovery, and maintenance plans. This document describes the following suggested procedures:

- Backup
- Recovery
- Database restoration

Read this document and customize the procedures for your own disaster recovery plan according to your environment and corporate policies. The *VCM Backup and Disaster Recovery Guide* is applicable to VCM version 5.3 and later.

### Intended Audience

The information presented in this manual is written for experienced Windows administrators, VCM system administrators, and SQL Server database administrators.

To use this information effectively, you must have a basic understanding of how to configure network resources, install software, and administer SQL Server. You also need to fully understand your network's topology and resource naming conventions.

## **Document Feedback**

VMware welcomes your suggestions for improving our documentation. If you have comments, send your feedback to docfeedback@vmware.com.

### VMware VCM Documentation

The vCenter Configuration Manager (VCM) documentation consists of the VCM Installation Guide, VCM Administration Guide, VCM Foundation Checker User's Guide, VCM online Help, and other associated documentation.

# **Technical Support and Education Resources**

The following technical support resources are available to you. To access the current version of this book and other books, go to <u>http://www.vmware.com/support/pubs</u>.

Online and Telephone Support	To use online support to submit technical support requests, view your product and contract information, and register your products, go to <a href="http://www.vmware.com/support">http://www.vmware.com/support</a> .	
	Customers with appropriate support contracts should use telephone support for priority 1 issues. Go to <u>http://www.vmware.com/support/phone_support.html</u> .	
Support Offerings	To find out how VMware support offerings can help meet your business needs, go to <u>http://www.vmware.com/support/services</u> .	
VMware Professional Services	VMware Education Services courses offer extensive hands-on labs, case study examples, and course materials designed to be used as on-the-job reference tools. Courses are available onsite, in the classroom, and live online. For onsite pilot programs and implementation best practices, VMware Consulting Services provides offerings to help you assess, plan, build, and manage your virtual environment. To access information about education classes, certification programs, and consulting services, go to <u>http://www.vmware.com/services</u> .	

# Implementing a Disaster Recovery Plan

To identify and create a disaster recovery plan for vCenter Configuration Manager (VCM) in your environment, VMware recommends that you customize these procedures for an active-production, standby-spare recovery model. These procedures are suggested approaches, and are a baseline from which you can configure the proper backup schedules and provide information on how to recover a system using these prepared backups.

Adjust the frequencies and retention values provided to meet your specific service-level agreements and retention requirements. As a SQL Server database administrator, you are responsible for conforming to your own corporate backup, recovery, and maintenance plans.

**CAUTION** If you are not a SQL Server database administrator, refer to the Microsoft documentation for information about backing up your databases.

Before you implement your own disaster recovery plan, verify that your data and hardware meet the following requirements.

- Historical data is retained. Data will be as current as your last scheduled database backup.
- Duplicate hardware of your production VCM environment is available in an alternate location for recovery tasks. The hardware must support your exact installation configuration. See the VCM Installation Guide.
  - In a single-tier server installation, the VCM Database server, Web server, and the VCM Collector components reside on a single Windows Server 2008 R2 machine, which is referred to as the VCM Collector. The installation installs all of the core VCM components, including the databases, VCM Collector application and files, and services. This configuration enables integrated security by default.
  - In a two-tier split installation, the VCM database resides on the Windows Server 2008 R2 database server machine, and the VCM Collector and Web components reside on the second Windows Server 2008 R2 machine.
  - In a three-tier split installation, the VCM databases, the Web applications, and the VCM Collector components reside on three separate Windows Server 2008 R2 machines.
- The recovery machines are prepared with all software prerequisites for a VCM installation that matches the product versions of the production machines.

VCM Backup and Disaster Recovery Guide

# 2

# **Backing Up Your Data**

Use these procedures as examples to ensure that all required databases are properly backed up in compliance with your corporate policies and standards. As a SQL Server database administrator, you are responsible for conforming to your own corporate backup, recovery, and maintenance plans.

Use the maintenance plan that you create in addition to other database integrity and re-indexing maintenance plans. Although you might choose to combine backup plans and other maintenance tasks into a single SQL Server maintenance plan, creating separate backup plans can assist you in future maintenance plan organization.

The VCM databases are configured in Simple Recovery mode, which means that you can recover the databases to the point of the last backup. In Simple Recovery mode, you cannot restore the databases to a specific point in time or to a point of failure, and you cannot restore transaction log backups. For details about Simple Recovery mode, see the SQL Server documentation.

**IMPORTANT** The following procedures apply to SQL Server. Apply these backup concepts to any third-party software that you use.

#### Procedure

1. "Back Up Your Full Database Regularly" on page 10

Back up your full VCM database regularly to avoid loss of data.

2. "Create a Differential Database Backup Daily" on page 16

Create a daily differential backup of the databases to avoid loss of data.

3. "Back Up Your VCM Collector File System Regularly" on page 22

Back up your VCM Collector file system regularly to avoid loss of data using corporate standard tools or simple scripted file copies.

4. "Back Up Your HTTP Certificates" on page 22

If you use HTTP Agents, verify that your HTTP certificates are available for disaster recovery purposes. Export the certificates once for each new server.

# **Back Up Your Full Database Regularly**

Back up your full VCM database regularly to avoid loss of data.

Follow your own corporate policies and standards for the frequency and schedule to create full backups of your databases. Depending on your corporate policy, you might need to perform a full backup of the databases on a daily basis instead of weekly.

**CAUTION** The following procedure lists the VCM databases that you must back up. Customize the procedure for your own environment, but make sure that you back up all of the databases listed.

This procedure is an example of performing a weekly full backup of each database. In this example, full backups are retained for 28 days.

#### Prerequisites

Verify that the required disk space is available for the maximum number of backup sets when you adjust the frequency or retention of your backup schedules.

#### Procedure

- 1. Click Start.
- 2. Select All Programs > Microsoft SQL Server 2008 R2 > SQL Server Management Studio.
- 3. Connect to the VCM Database Server using an account with SQL Administrative privileges.
- 4. In Object Explorer, navigate to the Maintenance Plans node.



5. Right-click Maintenance Plans, select Maintenance Plan Wizard and click Next.



6. Type a name and description for the maintenance plan and click **Change**.

🛐 Maintenance Plan W	/izard	
Select Plan Prop How do you want to	perties schedule your maintenance tasks?	
Na <u>m</u> e:	VCM Full Database Backup	
Description:	Weekly Full Backup of all VCM and requisite datab	Dases.
C Separate schedule C Single schedule for Schedule:	s for each task the entire plan or no schedule	
Not scheduled (On Dema	ind)	hange
Help	< <u>B</u> ack <u>N</u> ext > Einish	Cancel

7. To create a schedule for the Full Backup Plan, click the Schedule type drop-down menu and select **Recurring**.

Configure the backup schedule at a time when minimal VCM Collector activity occurs and click OK.

Inh Schedule Prone	rties - VFM Eull Database Backun
Name:	VCM Full Database Backup
11 annos	
Schedule type:	Recurring 🔽 🔽 Enabled
One line ecourones	
Date:	8/30/2010 🔽 Iime: 3:52:51 PM 📻
Frequency	
Occu <u>r</u> s:	Weekly
<u>R</u> ecurs every:	1 📑 week(s) on
	□ Monday □ Wednesday □ Friday □ Saturday
	🗖 Tyesday 🔲 Thursday 🔽 Sunday
Daily frequency	
Occurs once <u>at</u> :	2:00:00 AM
C Docurs every:	1 hour(s) Y Starting at: 12:00:00 AM
	Ending at: 11:59:59 PM
Duration	
Start date:	8/30/2010  End date: 8/30/2010
	INo end date
Summan	
Juninary	
Description:	Uccurs every week on Sunday at 2:00:00 AM. Schedule will be used starting on 8730/2010.
	OK Cancel Help

8. On the Select Maintenance Tasks page, select Back Up Database (Full) and click Next.

🛐 Maintenance Plan Wizard	_ D ×
Select Maintenance Tasks Which tasks should this plan perform?	í,
Select one or more maintenance tasks:	
Check Database Integrity Shrink Database Reorganize Index Hebuild Index Update Statistics Clean Up History Execute SQL Server Agent Job Sack Up Database (Differential) Back Up Database (Transaction Log) Maintenance Cleanup Task	
The Back Up Database (Full) task allows you to specify the source databases, d files or tapes, and overwrite options for a full backup.	lestination
Help < <u>B</u> ack <u>N</u> ext Eirlish C	Cancel

9. (Optional) If you are combining this backup task with other tasks, set an appropriate execution order on the Select Maintenance Task Order page and move the backup task to run after all other tasks.

🛐 Maintenance Plan Wizard	_ 🗆 🗙
Select Maintenance Task Order In which order should these tasks be performed	2
Select the order for the tasks to execute:	
Back Up Database (Full)	
_	Move Up Move Down
The Back Up Database (Full) task allows you t files or tapes, and overwrite options for a full back tables.	to specify the source databases, destination ackup.
Help < Back	lext> Einish Cancel

10. On the Define Back Up Database (Full) Task page, click the **Database(s)** drop-down menu.

🋐 Maintenance Plan Wiza	ard	
Define Back Up Da Configure the maintena	atabase (Full) Task nce task.	, Can
Backup type:	Full	Y
<u>D</u> atabase(s):	<select more="" one="" or=""></select>	
Backup component © Databas <u>e</u>		
C Files and filegroups:		
Backup set will expire:		
After On	14 day: 9/13/2010 💌	\$
Back up to: 💿 Djsk 🔿	Tape	
O Back up databases acro	iss one or more files:	
		<u>A</u> dd
		Remove
		Contents
If backup files exist:	Append	
Create a backup file for	every database	
Create a sub-director	y for each database	
Folder:	C:\Program Files\Microsoft SQL Server\MSSQL	.1\MSSQL\Ba
Backup file extensi <u>o</u> n:		bak
Verify backup integrity		
Schedule:		
Not scheduled (On Demand		<u>C</u> hange
Help	< Back Next > Einish >>	Cancel

11. Select the following databases to back up and click **OK**.

If the original installation used alternate names, select the corresponding databases.

- master
- msdb
- ReportServer
- VCM
- VCM\_Coll
- VCM\_UNIX



12. On the Define Back Up Database (Full) Task, configure the backup settings and click Next.

Option	Action
Backup set will expire	Click <b>After</b> and type <b>28</b> in the days drop-down menu. Depending on your corporate backup policies and disk space available, you might need to modify this setting to match your policy.
Back up to	Click Disk.
Create a backup file for every database	Select this option.
Create a sub-directory for each database	Select this option and select the folder for the designated backup drive and folder structure.
Backup file extension	Type bak.
Verify backup integrity	Select this option.

13. On the Select Report Options page, select **Write a report to text file**, select a folder location, and click **Next**.

🛐 Maintenance Plan Wiz	ard	- O ×
Select Report Opt Select options for savin actions.	tions ng or distributing a report of the maintenance plan	
Write a report to a text fi		
Folder location:	C:\Program Files\Microsoft SQL Server\MSS	SQL.1\
🗖 E-maiļ report		
Τo:		7
	e Death News Colds and	Course 1
Help	< Back Next > Funsh >>	Lancel

14. On the Complete the Wizard page, verify that the options you selected are correct, and click **Finish** to generate the maintenance plan.

🋐 Maintenance Plan Wizard	
Complete the Wizard Verify the choices made in the wizard, and then click Finish.	· ·
Click Finish to perform the following actions:	
Maintenance Plan Wizard     Create Maintenance Plan ViCM Full Database Backup'     Single schedule selected     SolL Server Agent job is scheduled to run : Occurs every week on Sunda     Define Back Up Database (Full) Task     Define Back Up Database (Full)     Selected reporting options     Report will be generated in folder: C:\Program Files\Microsoft SQL Server	y at 12:00:0 _UNIX ^MSSQL10
Help < Back Next > Finish C	Cancel //

15. Verify that all tasks finish with a status of Success.

~	Success	5 Total 5 Success	0	Error Warning	
eta	ils:				
	Action Creating maintenance plan 'S	/CM Full Database Backup"	Success		Mes
	Adding tasks to the maintena	nce nlan	Success		
	Adding scheduling options		Success		
	Adding reporting options		Success		
2	Saving maintenance plan "VI	CM Full Database Backup''	Success		
9 9 9	Adding scheduling options Adding reporting options Saving maintenance plan "VI	CM Full Database Backup''	Success Success Success		

# **Create a Differential Database Backup Daily**

Create a daily differential backup of the databases to avoid loss of data.

Follow your own corporate policies and standards for the frequency and schedule to create differential backups of your databases. Depending on your corporate policy, you might need to perform a differential backup of the databases on a daily basis instead of weekly.

**CAUTION** The following procedure lists the VCM databases that you must back up. Customize the procedure for your own environment, but make sure that you back up all of the databases listed.

This procedure is an example of performing a differential backup of each database. In this example, differential backups are retained for 7 days.

#### Procedure

- 1. Click Start.
- 2. Select All Programs > Microsoft SQL Server 2008 R2 > SQL Server Management Studio.
- 3. Connect to the VCM Database Server using an account with SQL Administrative privileges.
- 4. In Object Explorer, navigate to the Maintenance Plans node.



5. Right-click Maintenance Plans, select Maintenance Plan Wizard and click Next.



6. Type a name and description for the maintenance plan and click **Change**.

🛐 Maintenance Plan V	Wizard	_ 🗆 X
Select Plan Pro How do you want to	perties o schedule your maintenance tasks?	A.
Na <u>m</u> e:	VCM Differential Database Backup	
Description:	Daily Differential Backup of all VDM and requisite databases.	X
C Separate schedule C Single schedule for Schedule:	es for each task r the entire plan or no schedule	
Not scheduled (On Dem	and)	Change
<u>H</u> elp	< <u>B</u> ack <u>N</u> ext > <u>Fi</u> mish	Cancel

7. To create a schedule for the Differential Backup Plan, click the Schedule type drop-down menu and select **Recurring**.

Configure the backup schedule at a time when minimal VCM Collector activity occurs and click OK

🔢 Job Schedule Propert	ies - VCM Differential Database Backup
<u>N</u> ame:	VCM Differential Database Backup Jobs in Schedule
Schedule type:	Recurring
One-time occurrence Date:	8/31/2010 💌 Iime: 3:15:29 PM 😴
Frequency	
Occu <u>r</u> s:	Daily
Recurs every:	1 ay(s)
Daily frequency	
<ul> <li>Occurs once <u>a</u>t:</li> </ul>	3:00:00 AM
C Decurs every:	1 Starting at: 12:00:00 AM
	Ending at: 11:59:59 PM
Duration	
Start <u>d</u> ate:	8/31/2010 💌 C End date: 8/31/2010 💌
	No end date
Summary	
Description:	Occurs every day at 3:00:00 AM. Schedule will be used starting on 8/31/2010.
	DK Cancel Help

8. On the Select Maintenance Tasks page, select **Back Up Database (Differential)** and click **Next**.



9. (Optional) If you are combining this backup task with other tasks, set an appropriate execution order on the Select Maintenance Task Order page and move the backup task to run after all other tasks.

🛐 Maintenance Plan Wizard	
Select Maintenance Task Order In which order should these tasks be performed?	-
Select the order for the tasks to execute:	
Back Up Database (Differential)	
Move Up Mr	ove <u>D</u> own databases,
Help < <u>B</u> ack Einish	Cancel

10. On the Define Back Up Database (Differential) Task page, click the Database(s) drop-down menu.

Maintenance Plan Wiz Define Back Up C Configure the mainten	ard latabase (Different ance task.	ial) Task	
Backup type:	Differential		7
Database(s):	<select more="" one="" or=""></select>		<b>_</b>
Backup component			
Backup set will expire:	1		
After O On	9/14/2010	→ day: ▼	s
Back up to: 💿 Djsk 🕐	Tage		
O Back up databases ac	o <u>s</u> s one or more files:		
If backun files evist-	Ana	and	Add Remove Conjents
<ul> <li>Create a backup file for</li> </ul>	even database	110	
Create a sub-directo	ry for each database		
Folder:	C:\Program Files\Microsoft	SQL Server\MSSQL	.1\MSSQL\Ba
Backup file extensi <u>o</u> n:			bak
Verify backup integrity			
Schedule: Not scheduled (On Deman	d)		<u>C</u> hange
Help	< Back Next	>Einish >>	Cancel

11. Select the following databases to back up and click OK.

If the original installation used alternate names, select the corresponding databases.

- msdb
- ReportServer
- VCM
- VCM\_Coll
- VCM\_UNIX



12. On the Define Back Up Database (Differential) Task, configure the backup settings and click Next.

Option	Action
Backup set will expire	Click <b>After</b> and type <b>7</b> in the days drop-down menu. Depending on your corporate backup policies and disk space available, you might need to modify this setting to match your policy.
Back up to	Click <b>Disk</b> .
Create a backup file for every database	Select this option.
Create a sub-directory for each database	Select this option and select the folder for the designated backup drive and folder structure.
Backup file extension	Type bak.
Verify backup integrity	Select this option.

13. On the Select Report Options page, select **Write a report to text file**, select a folder location, and click **Next**.

📅 Maintenance Plan Wiz	card	
Select Report Op Select options for savin actions.	tions ng or distributing a report of the maintenance plan	
I Write a report to a text f	le	
Folder location:	C:\Program Files\Microsoft SQL Server\MS	SQL.1\
🔲 E-maiļ report		
<u>Ι</u> ο:		Ţ
		1
<u>H</u> elp	< <u>B</u> ack <u>N</u> ext > <u>Finish &gt;&gt;1</u>	Cancel

14. On the Complete the Wizard page, verify that the options you selected are correct and click **Finish** to generate the maintenance plan.



15. Verify that all tasks finish with a status of Success.

V	Success	5 5	Total Success	0 0	Error Warning	
eta	ils:					
	Action			Sta	atus	Mess
2	Creating maintenance plan "VCM Differentia	al (	) atabase Backup''	Su	iccess	
9	Adding tasks to the maintenance plan			Su	iccess	
0	Adding scheduling options			Su	iccess	
9	Adding reporting options			Su	iccess	
9	Saving maintenance plan "VCM Differential	D	atabase Backup''	Su	iccess	
<u>(</u>			Stop	1	Bep	D ort T

# Back Up Your VCM Collector File System Regularly

Back up your VCM Collector file system regularly to avoid loss of data using corporate standard tools or simple scripted file copies.

You might not be required to back up the entire file system or the VCM application directory structure. At a minimum, you should create a backup of the entire content of the CMFILES\$ share. The default location is C:\Program Files (x86)\VMware\VCM\WebConsole\L1033\Files.

If your database server, Web server, or VCM Collector includes customizations, or if reports were exported to a non-default location, back up these additional files.

## **Back Up Your HTTP Certificates**

If you use HTTP Agents, verify that your HTTP certificates are available for disaster recovery purposes. Export the certificates once for each new server. Maintain the HTTP certificates in a secure location for disaster recovery purposes.

To back up your certificates, create and export a Personal Information Exchange (PFX) Certificate.

#### Procedure

- 1. On the VCM recovery server, click Start and select Run.
- 2. Type **mmc** to start the Microsoft Management Console.
- 3. To add a new snap-in for the certificates, click File and select Add/Remove Snap-in.
- 4. In the Available snap-ins list, click Certificates and click Add >.



5. In the Certificates snap-in window that appears, to manage certificates for a computer account, select **Computer account** and click **Next**.

6. For the snap-in to manage certificates on the local computer, in the Select Computer window, select Local computer (the computer this console is running on and click Finish.

ect Computer		
Select the computer you wa	nt this snap-in to manage.	
This snap-in will always ma	anage:	_
Local computer: (the	computer this console is running on)	
C Another computer:	Browse	
Allo <u>w</u> the selected co only applies if you sa	mputer to be changed when launching from the command line. This ve the console.	

- 7. Click **OK** to return to the Console.
- 8. From the Console Root, click **Certificates (Local Computer)** and select **Personal > Trusted Root Certification Authorities > Certificates**.
- 9. Right-click VMware VCM Enterprise Certificate, click All Tasks, and click Export.

🚡 Console1					
<u>File Action View Favorites Window H</u> elp					
🚡 Console Root\Certificates (Local Co	nputer)\Trusted Root Certification	Authorities\Cert	tificates		
Console Root	Issued To 🔺			Issued By	
📄 🐻 Certificates (Local Computer)	🔛 VeriSign Trust Network			VeriSign Trust Network	
🗄 💼 Personal	🔤 VeriSign Trust Network			VeriSign Trust Network	
📄 🧰 Trusted Root Certification Autho	WeriSign Trust Network			VeriSign Trust Network	
Certificates	Serisign Trust Network			VeriSign Trust Network	
Enterprise Trust	🔤 VeriSign Trust Network			VeriSign Trust Network	
Intermediate Certification Autho	🖼 VeriSign Trust Network			VeriSign Trust Network	
Irusted Publishers	🔤 VMware VCM Enterprise Certificate (	Onen	03-873A-0D1	VMware VCM Enterprise Certificate 0	
Third-Party Poot Certification ()	B wp-CSVPNSSL-CA			wp-CSVPNSSL-CA	
Trusted People	WPGC01	All Tas <u>k</u> s 🕨	Open	WPGC01	
	WPGC01	Cut	Export	WPGC01	
	1	Conv	Expertin		
Evport a cortificato	,	Delete			
Export a certificate		Delece			

10. On the Certificate Export Wizard Welcome page, click Next.

Certificate Export Wizard		×
	Welcome to the Certificate Export Wizard           This wizard helps you copy certificates, certificate trust ists and certificate revocation lists from a certificate store to your disk.           A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.           To continue, dick Next.	
	< Back Next > Cancel	

11. To export the private key with the certificate, on the Export Private Key page, select **Yes**, **export the private key** and click **Next**.

ertificate Export Wizard	×
Export Private Key	
You can choose to export the private key with the certificate.	
Private keys are password protected. If you want to export the private key with the certificate, you must type a password on a later page.	
Do you want to export the private key with the certificate?	
Yes, export the private key	
O No, do not export the private key	
Learn more about exporting private keys	
< Back Next > Cance	a

12. Select Personal Information Exchange - PKCS #12 (.PFX) and click Next.

Sel	ect the format you want to use:
	C DER encoded binary X.509 (.CER)
	C Base-64 encoded X.509 (.CER)
	C Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)
	Include all certificates in the certification path if possible
	Personal Information Exchange - PKCS #12 (.PFX)
	Include all certificates in the certification path if possible
	Delete the private key if the export is successful
	Export all extended properties
	C Microsoft Serialized Certificate Store (.55T)

- 13. Type a password for the certificate export, type the password again to confirm it, and click Next.
- 14. Type a location and name for the VMware VCM Enterprise Certificate or click **Browse** and select the certificate.

×
Browse

15. Verify your selected options and click Finish.

Certificate Export Wizard		×
	Completing the Certificate Export Wizard	
	You have successfully completed the Certificate Export wizard.	
	You have specified the following settings:	
	File Name C: WCM	
	Include all certificates in the certification path. No	
	File Format Person:	
	< Back Finish Cancel	

When the Certificate Export Wizard reports that the export was successful, click **OK** to close the Certificate Export Wizard window.

- 16. To locate your personal certificate, from the Console Root, click **Certificates (Local Computer)** and select **Personal > Certificates**
- 17. To export the Personal Information Exchange Certificate, right-click the personal Collector certificate, click **All Tasks**, and click **Export**.



VCM Backup and Disaster Recovery Guide

# Recovering Your Report Server and Importing Certificates

Recover your report server in preparation to restore the Report Server database. Verify that the system checks run without error and that the SSRS Report folder is accessible.

#### Prerequisites

Use the VCM Installation Guide to run the VCM installation and verify the system checks.

#### Procedure

- 1. On the recovery server, begin the VCM installation.
- 2. Verify that the system checks ran successfully.

If any errors occur, resolve them.

Installation Manager	
	Gather System Information
<b>vm</b> ware <sup>.</sup>	
<ul> <li>Introduction and License Agreement</li> </ul>	The Installation Manager is gathering information about your system to determine if the requirements for the installation process have been met.
Prepare System for Installation	Setting results into life Checking function ID: 300 Setting results into life Checking function ID: 500 Setting results into life Checking function ID: 550 Setting results into life
Select and Configure Components to Activate	Syschecks ran, determining results Checks were successfull
Install VCM	Vew Results         Eacheck
Help	< Back Next > Cancel

3. Start Internet Explorer and navigate to http://[SERVER\_NAME]/reports.

SERVER\_NAME is the name of your recovery server.

4. Verify that the ECM Reports folder appears.

🧭 Home - Report Manager - Windows Internet Explorer	_ 🗆 🗙
🚱 💿 🖉 http://dev2k8lorim2.dev2003.wp.fsj(Reports/Pages/Folder.aspx 🔄 🗟 🐓 🗙 🗔 Bing	<b>P</b> •
😪 Favorites 🛛 🚔 🔊 Web Slice Gallery 👻	
🏠 🔹 🗟 👻 🖻 🖶 🖷 Page 🗸 Safety 👻 Tools 🔹 🔞 🗸	
Home   My Subscriptions   Site Settings	Help 🔺
SQL Server Reporting Services	
Home Search	2
🖆 New Folder 🗏 🖳 New Data Source 💷 🎬 Report Builder 💷 🎽 Folder Settings 👘 🕆 Upload File 🔛 Details Vi	iew
ECM Reports	

## **Import HTTP Certificates**

Add the Certificate snap-in to the Microsoft Management Console to import your HTTP certificates.

#### Procedure

- 1. On the recovery server, click Start and select Run.
- 2. Type **mmc** and click **OK** to start the Microsoft Management Console.
- 3. To add a new snap-in for the certificates, click File and select Add/Remove Snap-in.
- 4. In the Available snap-ins list, click Certificates and click Add >.

Computer Nanagem Computer Nanagem Device Manager Disk Management Event Viewer Folder Group Policy Object JI Security Monitor JP Security Monitor Masses	Microsoft Cor Microsoft Cor Microsoft Cor Microsoft and Microsoft Cor Microsoft Cor Microsoft Cor Microsoft Cor Microsoft Cor Microsoft Cor Microsoft Cor		Add >	Move Up Move Down
Link to Web Address	Microsoft Cor	•		Advanced

5. In the Certificates snap-in window that appears, to manage certificates for a computer account, select **Computer account** and click **Next**.



6. For the snap-in to manage certificates on the local computer, in the Select Computer window, select Local computer (the computer this console is running on and click Finish.

elect the computer you wa	nt this snap-in to manage.
This snap-in will always m	anage:
Eccal computer: (the	computer this console is running on)
C Another computer:	Browse
Allow the selected co	mputer to be changed when launching from the command line. This ve the console.

- 7. Click **OK** to return to the Console.
- 8. From the Console Root, click **Certificates (Local Computer)** and select **Trusted Root Certification Authorities > Certificates**.

9. Right-click Certificates, click All Tasks and click Import.

🚟 Console1 - [Console Root\Certificates (Lo	ocal Computer)\Trusted Root Certifi	cation Authori	ties \Certifi 💶 🗵 🗙
🚘 File Action View Favorites Window	Help		_ & ×
🗢 🔿 🙍 🖬 📋 🙆 😹 📝 📷			
Console Root	Issued To 🔺	Issued By	Actions
E Gertificates (Local Computer)	Class 3 Public Primary Certification	Class 3 Pub	Certificates
Personal	Class 3 Public Primary Certification	Class 3 Pub	ceremences
Certificates	ConfigureSoft	ConfigureS	More Actions 🕨
Trusted Root Certification Authorities	Configuresoft	Configures	
Certit All Tasks	Import 997 Microsoft Corp.	Copyright (	
Enterpris	ILCSI-CA	CSI-CA	
I Interned View	CSSLX	CSSLX	
New Window from Here	Entrust.net Secure Server Certific	Entrust.net	
Third-Par New Taskpad View	GTE CyberTrust Global Root	GTE Cyber1	
🕀 🚞 Trusted P	Microsoft Authenticode(tm) Root	Microsoft A	
🕀 🛄 Smart Ca	Microsoft Root Authority	Microsoft R	
	Microsoft Root Certificate Authority	Microsoft R	
🗄 🗊 Certificates (I Help	NO LIABILITY ACCEPTED, (c)97 V	NO LIABILI	
	Thawte Timestamping CA	Thawte Tim	
	VMware VCM Enterprise Certificat	VMware VC	
•		•	
Contains actions that can be performed on the item			

10. On the Certificate Import Wizard Welcome page, click Next.

Certificate Import Wizard		×
	Welcome to the Certificate Import Will and the state of the second state of the state state and certificate revocation lists from your disk to a certificate store. A certificate store. A certificate store dist and source network connections. A certificate store is the system area where certificates are kept. To continue, dick Next.	
	< Back Next > Cancel	

11. Type the path and file name of the VCM Enterprise Certificate or click **Browse** to locate the certificate, and click **Next**.

Certi	ificate Import Wizard	×
F	ïle to Import	
	Specify the file you want to import.	
	File name:	
	C:\VCM Enterprise Certificate.pfx Browse	
$\mathbb{R}$	Note: More than one certificate can be stored in a single file in the following formats:	
	Personal Information Exchange-PKCS #12 (.PFX,.P12)	
	Cryptographic Message Syntax Standard- PKCS #7 Certificates (.P7B)	
	Microsoft Serialized Certificate Store (.SST)	
Le	earn more about <u>certificate file formats</u>	
	< Back Next > Cancel	

- 12. Type the password, select the following options, and click Next.
  - Mark this key as exportable. This will allow you to back up or transport your keys at a later time.
  - Include all extended properties.

Certificate Import Wizard	×
Password	
To maintain security, the private key was protected with a password.	
Type the password for the private key.	
Password:	
•••••	
_	
Enable strong private key protection. You will be prompted every time the private key is used by an application if you enable this option.	
Enter an enter and a second	
Mark this key as exportable. This will allow you to back up or transport your keys at a later time.	
I indude all extended properties.	
Learn more about protection private leave	
Learn nore about <u>protecting private keys</u>	
< Back Next > Cancel	

13. Select **Place all certificates in the following store**, verify that the Certificate store displays Trusted Root Certification Authorities, and click **Next**.

Certificate Import Wizard	x
Certificate Store	
Certificate stores are system areas where certificates are kept.	
Windows can automatically select a certificate store, or you can specify a location for the certificate.	
O Automatically select the certificate store based on the type of certificate	
Place all certificates in the following store	
Certificate store:	
Trusted Root Certification Authorities Browse	
Learn more about <u>certificate stores</u>	
< Back Next > Cance	1

14. Verify your selections and click Finish.

Certificate Import Wiza	rd		×
	Completing t Wizard	he Certificate Import	
	The certificate will be	imported after you click Finish.	
	You have specified th	e following settings:	
	Certificate Store Sel	ected by User Trusted Root Certifica	
	Content	PFX	
	File Name	C:\VCM Enterprise Ce	
	<u>.</u>		
	< 8	Back Finish Cancel	

When the Certificate Import Wizard reports that the import was successful, click **OK** to close the Certificate Import Wizard window.

- 15. To locate your personal certificate, from the Console Root, click **Certificates (Local Computer)** and select **Personal > Certificates**.
- 16. To import the VCM Collector Certificate into the Personal certificate store, right-click **Personal**, click **All Tasks**, and click **Import**.



VCM Backup and Disaster Recovery Guide

# 4

# **Restoring the Databases**

Restore the system, report server, and VCM databases in three phases: restore the system database to restore proper user access and scheduled jobs; restore the SQL Report Server database to restore SQL Server Reporting Services; and then restore the VCM database.

#### Procedure

1. "Restore the System Database" on page 33

To restore the master database, put SQL Server in single-user mode. After you restore the master database, run the command to update the SQL Server name.

2. "Restore the Report Server Database" on page 35

Restore the SQL Report Server database to recover SQL Reporting Services.

3. "Restore the VCM Databases" on page 38

As part of the recovery process, restore the VCM databases to restore your collected data and customizations.

## **Restore the System Database**

To restore the master database, put SQL Server in single-user mode. After you restore the master database, run the command to update the SQL Server name.

#### Prerequisites

Verify that you are an Administrator so that you can start and stop the SQL Server services.

#### Procedure

- 1. Click Start and select Administrative Tools > Services.
- 2. To put the SQL Server in single-user mode, right-click the SQL Server (MSSQLSERVER) service and click Stop.

If the process prompts you to stop other services, such as the SQL Server Agent, click Yes.

Services							_ 🗆 🗡
Elle Action View	Help						
	) 🗟 😫 💷 🔸 🔳 💷 🖦						
Services (Local)	🍇 Services (Local)						
	SOL Server (MSSOLSERVER)	Name 🛆	Description	Status	Startup Type	Log On As	
		Security Accounts Manager	The startu	Started	Automatic	Local System	
	Stop the service	Server .	Supports fil	Started	Automatic	Local System	
	Pause the service	Shell Hardware Detection	Provides n	Started	Automatic	Local System	
	Restart the service	Smart Card	Manages a		Manual	Local Service	
		Special Administration Console Helper	Allows adm		Manual	Local System	
	Description:	SQL Server (MSSQLSERVER)	Provides st	Started	Automatic	Local System	
	controlled access of data and rapid	SQL Server Active Directory Helper	Enables int		Disabled	Network 5	
	transaction processing.	SQL Server Agent (MSSQLSERVER)	Executes j	Started	Automatic	Local System	
1	1	(Bucol communication communication)	Construction of the	Charles d	A	and channels	

3. Open a command window and type the following command to start the SQL Server service in singleuser mode.

NET START MSSQLSERVER /c /m

Wait for the service to start successfully.

4. Start SQL Server Management Studio and log in with the local SQL account.

Connect to Server	×
Microsoft*	<b>Server</b> "2008 R2
Server type:	Database Engine
Server name:	
Authentication:	Windows Authentication
User name:	DEV2K8BONNIE\Administrator
Password:	
	Remember password
Conne	ct Cancel Help Options >>

To avoid opening the Object Explorer, when SQL Server Management Studio prompts you for login credentials, click **Cancel**.

5. Click **New Query** to start a new query definition.

🍢 Mic	rosofi	SQL S	erver M	lanageme	ent Studio		
File	Edit	View	Tools	Window	Community	Help	
1 🛄 N	lew Qu	ery   📑	🔁	🔁 🛅	🔓   💕 🗔	6	Ę
Object	Explor	er				<b>→</b> ₽	×
Conne	ect 🕶 📮		= Y	25			

6. In the query window, type the following commands to restore the master database from backup.

```
USE MASTER

GO

RESTORE DATABASE [master]

FROM DISK = N'E:\MSSQL\Backup\master\master_backup_201003021337.bak

WITH FILE=1, NOUNLOAD, REPLACE, STATS = 10

GO
```

7. Click Execute and wait for SQL Server to restart and display the following message.

The master database has been successfully restored. Shutting down SQL Server. SQL Server is terminating this process.

8. Click **New Query** to reconnect to SQL Server and use Administrative privileges with the local account or use Windows Authentication.

9. Rename the SQL Server @@servername definition with the following commands.

```
USE master

GO

DECLARE @NewServerName varchar(254)

SET @NewServerName = Convert(varchar(254), serverproperty('ServerName'))

EXEC sp_dropserver @@servername

EXEC sp_addserver @NewServerName,local

GO
```

- 10. Click Execute.
- 11. Restart the SQL Server Service and reconnect to SQL Server using an account with Administrative privileges.
- 12. Type the following commands to restore the **msdb** database.

```
RESTORE DATABASE [msdb]
FROM DISK = N'E:\Backup\msdb\msdb_backup_201003021337.bak
WITH FILE=1, NOUNLOAD, REPLACE, STATS = 10
GO
```

13. Click Execute.

### Restore the Report Server Database

Restore the SQL Report Server database to recover SQL Reporting Services..

#### Procedure

- 1. Click Start and select Administrative Tools > Services.
- 2. To stop the SQL Server Reporting Services service, right-click SQL Server Reporting Services (MSSQLSERVER) and click Stop.

🍓 Services							IX
Eile Action View	Help						
	à 🗈 😰 🖬 🕨 🔳 🗉 🖦						
Services (Local)	🍇 Services (Local)						
	SQL Server Reporting Services	Name A	Description	Status	Startup Type	Log On As	
	(MSSQLSERVER)	SQL Server (MSSQLSERVER)	Provides st	Started	Automatic	Local System	
	Stop the service	SQL Server Active Directory Helper	Enables int		Disabled	Network Ser	
		SQL Server Agent (MSSQLSERVER)	Executes j	Started	Automatic	Local System	
Kestart the service	Nestary die service	SQL Server Analysis Services (MSSQLSERVER)	Supplies on	Started	Automatic	Local System	
		SQL Server Browser	Provides S		Disabled	Local System	
	Description: Managers, eventutes, renders, esheck les	SQL Server FullText Search (MSSQLSERVER)	Quickly cre	Started	Automatic	Local System	
	and delivers reports.	SQL Server Integration Services	Provides m	Started	Automatic	Network Ser	
	· ·	SQL Server Reporting Services (MSSQLSERVER)	Manages,	Started	Automatic	Local System	-1
	Extended Standard	//h			••••		

- 3. Open a command prompt and type isreset /stop to stop Internet Information Services (IIS).
- 4. Start SQL Server Management Studio and type the following commands to restore the ReportServer database.

```
RESTORE DATABASE [ReportServer]
FROM DISK = N'E:\Backup\ReportServer\ReportServer_backup_201003021337.bak
WITH FILE=1, NOUNLOAD, REPLACE, STATS = 10
GO
```

5. Click Execute.

- 6. Right-click SQL Server Reporting Services (MSSQLSERVER) and click Start.
- 7. In the command window, reset the encrypted key store.
  - a. Type rskeymgmt -d.
  - b. When the process prompts you to delete all encrypted data from the report server database, type **y**.
- 8. In the command window, type the following command and verify that it finishes successfully.

```
rsconfig -c -s <SQLSERVERNAME> -d ReportServer -a Windows
```

- 9. Right-click **SQL Server Reporting Services (MSSQLSERVER)** and click **Start** to restart the SQL Server Reporting Services service.
- 10. In the command window, type iisreset /restart to restart IIS.

Wait for the IIS services to stop and restart successfully.

- 11. Start Internet Explorer and type http://[SERVERNAME]/Reports/ to navigate to the Report Server and verify that SSRS is operating properly.
- 12. In the Report Manager window, click ECM Reports.

🖉 Home - Report Manager - Windows Internet Explorer	
🚱 🕙 💌 🖻 http://dev2k8lorim2.dev2003.wp.fsj(Reports/Pages/Folder.aspx	<b>P</b> •
😪 Favorites 🙀 🛃 Web Slice Gallery 👻	
🟠 🔹 🔜 👻 El 🚔 🔹 Page 🔹 Safety 🔹 Tools 🔹 😥 🔹	
Home   My Subscriptions   Site Setting	js   Help 📐
SQL Server Reporting Services	
Home Search	2
🞬 New Folder 🗏 🖳 New Data Source 👘 🎬 Report Builder 👘 🌌 Folder Settings 👘 🐧 Upload File 🔛 Details	View
ECM Reports	

13. Click ECM to access and edit the shared connection string.



14. Click the **Properties** tab.

15. Select Windows integrated security.

ECM - Report Manager	- Windows Internet Expl	orer	
🕒 🕤 🗢 🖉 http://dev	2k8lorim2.dev2003. <b>wp.fsi</b> /R	eports/Pages/DataSour 💌 🗟 🆘 🗙 🔽 Bing	<b>₽</b> ▼
🚖 Favorites 🛛 🙀 🙋 Web	b Slice Gallery 💌		
🏠 • 🔝 - 🖃 🌧 • P	age • Safety • Tools •	0.	
SQL Server R	eporting Services		-
ECM		Search	2
	🗙 Delete 🕴 💣 M	love 🛛 🔠 Generate Model	
Properties			
Subscriptions	Name:	ECM	
Dependent Items	Description:	A	
Dependent items		<b>_</b>	
Security		Hide in tile view	
		🗹 Enable this data source	
	Data source type:	Microsoft SQL Server	
	Connection string:	Integrated Security=SSPI;Data	
		Catalog=VCM;LANGUAGE=us_english;	
	Connect using:		
	C Credentials	supplied by the user running the report	
	Display the	e following text to prompt user for a user name and password:	
	Type or er	iter a user name and password to access the data source	
	Use as	windows credentials when connecting to the data source	
	U Credentials	stored securely in the report server	
	User nami		
	Password		
	🗖 Use as	Windows credentials when connecting to the data source	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Impers	onate the authenticated user after a connection has been made to t	he data source
XXXXXXXXXX	Windows in O Create State	tegrated security	
	Test Connection	are not required	
	Apply		-
		Internet   Protected Mode: Off	🐴 • 🔍 100% • 🖉

16. Type the following value in the Connection string text box.

Integrated Security=SSPI;Data Source=SERVERNAME;Initial Catalog=VCM;LANGUAGE=us english;

- 17. Click **Test Connection** to verify that the connection is created successfully, and click **Apply**.
- 18. Click Home to return to the SSRS home page.



19. Click Folder Settings to remove any extra accounts in SSRS.

If any users other than the BUILTIN\Administrators and ECMSRSUser exist, click the check box next to each user account and click **Delete**.

🌽 - Report Mana	ger - Windows Internet Explorer		_ 🗆 🗙
<b>G</b> • <i>E</i>	nttp://dev2k8lorim2.dev2003.wp.fsl/Reports/Pages/Folder.as 💌 😣 🔸 🔀	Bing	P •
🚖 Favorites 🛛 🤮	🖉 Web Slice Gallery 🝷		
🏠 • 🔊 • 🖃	🖶 🕶 Page 🔹 Safety 👻 Tools 👻 🕡 🕶		
	Ha	me   My Subscriptions   Site Setting	s   Help 📐
SQL S	erver Reporting Services		
📑 Hor	ne	Search	2
	🗙 Delete 🕕 🎥 New Role Assignment		
Security	Group or User 4 Role(s)		
	Edit BUILTINVAdministrators Content Manager		

## **Restore the VCM Databases**

As part of the recovery process, restore the VCM databases to restore your collected data and customizations.

#### Prerequisites

Verify that you have an account with SQL Administrative privileges.

#### Procedure

- 1. Click Start and select All Programs > Microsoft SQL Server 2008 R2 > SQL Server Management Studio.
- 2. Connect to the VCM database server using an account with SQL Administrative privileges.
- 3. In the query window, type the following commands to restore the VCM database and click Execute:

```
RESTORE DATABASE [VCM]
FROM DISK = N'E:\Backup\VCM\VCM_backup_201003021337.bak
WITH FILE=1, NOUNLOAD, REPLACE, STATS = 10
GO
```

4. Type the following commands to restore the VCM\_UNIX database and click Execute:

RESTORE DATABASE [VCM\_UNIX]

```
FROM DISK = N'E:\Backup\VCM_UNIX\VCM_UNIX_backup_201003021337.bak
WITH FILE=1, NOUNLOAD, REPLACE, STATS = 10
GO
```

5. Type the following commands to restore the VCM\_Coll database and click Execute:

```
RESTORE DATABASE [VCM_Coll]
FROM DISK = N'E:\Backup\VCM_Coll\VCM_Coll_backup_201003021337.bak
WITH FILE=1, NOUNLOAD, REPLACE, STATS = 10
GO
```

6. Type the following commands to drop the definition of the VCM\_Raw database.

```
IF EXISTS (SELECT name FROM sys.databases WHERE name = N'VCM_Raw')
DROP DATABASE [VCM Raw]
```

The VCM\_Raw database is used as a temporary database, and is re-created during VCM installation.

# Installing VCM and Restoring Associated Components On the Recovery Machines

Install the VCM and associated components on the Windows Server 2008 R2 recovery server. Depending on your installation configuration, the recovery server can be any of the following physical or virtual machines.

- VCM Collector recovery machine: Depending on your installation configuration, this recovery machine includes specific components.
  - In a single-tier installation, the VCM Collector includes the database server, Web server, and the VCM application components.
  - In a two-tier installation, the VCM Collector contains the Web Server components and the VCM application components.
  - In a three-tier installation, the VCM Collector contains only the VCM application components.
- VCM database server recovery machine: In two-tier and three-tier installations, this recovery machine includes the VCM database.
- Web server recovery machine: Depending on your installation configuration, this recovery machine includes specific components.
  - In a two-tier installation, the Web Server includes the is combined with the VCM Collector.
  - In a three-tier installation, the Web Server includes only the Web application components.

During the installation, select the components that apply to your configuration. For details, see the *VCM Installation Guide* and the VCM Installation Manager online Help.

#### Prerequisites

Use the VCM Installation Guide to run the VCM installation and select the correct components to install.

#### Procedure

1. Insert the VCM installation disk into the Windows 2008 R2 recovery server or start the installation from a network location.

If the installation screen does not appear, or if you started the installation from a network location, navigate to the disk root directory or the file share and double-click setup.exe

2. Click Run Installation Manager.

vmware:
Configuration Manager
Run Installation Manager
View Help
Browse Contents of Installation CD
Contact Support Team
Copyright @ 1998-2012 Makas, Ibc. All Rights Reserved. This product synotraeta by U.S. and international copyright and intellectual property laws. Mikare products are covered by one or more patents listed at http://www.omware.com/go/patents

3. Verify that the system checks run successfully.

If errors occur, resolve them.

4. Select only the components to install on the recovery server machine.

Select and install the components on the recovery servers in your configuration and generate certificates.

Installation Manager	
<b>vm</b> ware <sup>.</sup>	Select Installation Type Select the installation you would like to perform
<ul> <li>Introduction and License Agreement</li> </ul>	
Prepare System for Installation Select and Configure Components to Activate	Viware v Center Configuration Manager     ViCM Database Components     ViCM Neports (SSR5 2008)     ViCM Neports (SSR5 2008)     ViCM Collector Components     ViCM Collector Components     ViCM Collector Components     VicM Collector Components     VitWower ViCM Package Manager for Windows     ViMware ViCM Package Studio
Help	< Back Next > Cancel

For details about certificates and mutual authentication, see the VCM Security Guide.

5. Continue through the wizard and click **Finish** to finish the installation.

## **Restoring File System Components**

Restore the file system components from the CMFiles\$ share locations and any other corporate standard items.

The default location is C:\Program Files (x86)\VMware\VCM\WebConsole\L1033\Files.

If other custom components are installed, see the disaster recovery documentation for each customization.

## **Run the Script for Exported Reports**

Most of the scheduled reports exported from your previous Collector include a hard-coded server name. The scripts for exported reports update the old server name export location with the new name.

The scripts modify the parameters passed and the UI string. Any UI strings greater than 8000 characters must be handled differently. In these cases, the exports will work properly. However, if you edit the scheduled job the report shows the old location.

If you edit one of these exceptions and click **Finish** without first correcting the export location, the connection to the report will break.

#### Procedure

- 1. Log in to SQL Server Management Studio as a user with Administrative privileges.
- 2. In the following script, edit the Ooldserver and Onewserver variables.

```
Declare @oldserver varchar(32)
Declare @newserver varchar(32)
set @oldserver = 'OLDSERVERNAME'
update dbo.ecm_rpt_reports_scheduled
set export_path = '\\' +
    @newserver +
    substring(export_path,len(@oldserver)+3, len(export_path)-
    (len(@oldserver)+2))
where export_path like '%' + @oldserver + '%'
update dbo.ecm_sysdat_actions_ui_definition_text_xref
set definition_text =
    replace(cast(definition_text as varchar(max)), @oldserver,
    @newserver)
where
```

definition text like '%' + @oldserver + '%'

3. Run the script.

VCM Backup and Disaster Recovery Guide

# Maintaining Operating System Provisioning Servers

The maintenance of the OS Provisioning server includes backing up and restoring the repository after a disaster or machine failure.

# **Back Up the OS Provisioning Repository**

The OS Provisioning Server includes a repository that contains your imported OS distributions. To avoid recreating the distributions if the server fails, back up the repository as part of your recovery plan.

This action backs up the /FSboot and /opt/FastScale/var/Repository.db files to the location you specify.

#### Prerequisites

- Verify that you have sufficient disk space available on your machine for the backed up files. Use the du
   -cs /FSboot and du -cs /opt/FastScale/var/Repository.db commands to check the amount
   of space used by the OS Provisioning Server files.
- Verify that no OS Provisioning actions, such as importing or provisioning, are in progress. The backup
  process forces all applications to exit, including the OS Provisioning daemons, FSadmin and FSrepod.

#### Procedure

- 1. Log in to the OS Provisioning Server as root.
- 2. Run the mkdir /<backup directory path> command.

For example, mkdir /tmp/OSProv-Backup.

3. Run the ospctrl --backup --dirpath=<backup directory path> command.

For example, ospctrl --backup --dirpath=/tmp/OSProv-Backup

# **Restore the OS Provisioning Repository From Backup**

To recover from an OS Provisioning Server machine failure, reinstall the OS Provisioning Server, reconfigure the integration with VCM, and restore the database and repository files that you backed up as part of your recovery plan.

When you run the restoration command, the action stops the OS Provisioning Server services, restores the database and distribution repository, and starts the services after the files are restored. The files are restored to the /FSboot and /opt/FastScale/var/Repository.db.

#### Prerequisites

Verify that the OS Provisioning Server is installed and that the integration with the VCM Collector is configured. See the *VCM Administration Guide*.

#### Procedure

- 1. Log in to the OS Provisioning Server as root.
- 2. Run the ospctrl --restore --dirpath=<backup directory path> command.

For example, ospctrl --restore --dirpath=/tmp/OSProv-Backup

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