Stratus One View Console and everRun Disaster Recovery Quick Start Guide

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Chapter 1: Getting Started

The following sections describe how to get your Stratus One View Console and everRun Disaster Recovery (DR) environment up and running quickly.

- See "Introduction to One View and DR " on page 1 for an overview of the One View and DR environment.
- See "One View and DR Requirements " on page 2 for information about requirements and supported configurations.
- See "Installing One View and Enabling DR Protection for a VM " on page 4 for information about installing your One View and Disaster Recovery environment.
- To test your DR site, see "Testing Your DR Site " on page 9.

Introduction to One View and DR

The following items provide a quick introduction to the important features in your One View and DR environment.

- DR protection periodically takes snapshots of virtual machines (VMs) running on a duplex primary everRun system and transfers these snapshots to a remote simplex DR everRun system. This ensures that a recent copy of your VM and its data volumes is always available at the DR site. For more information, see Disaster Recovery Overview in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.
- If the primary system fails or if you must perform a planned shutdown, you can manually start the

VM(s) from their snapshots on the DR system. For more information, see Failing Over to a DR VM (Unplanned) in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.

> **Note**: Unlike the everRun SplitSite feature, data loss may occur when failing over to a DR VM because the backup VM is booted from the most recent snapshot. However, bandwidth requirements for DR are significantly less than those for the everRun SplitSite feature.

- When you enable DR protection, you must specify the number of snapshots to retain, as well as a recovery point objective (RPO) value that determines the frequency of snapshots and therefore the maximum acceptable period during which data might be lost from a VM. For a definition of RPO, see Disaster Recovery Terminology in the *Stratus One View Console and everRun Disaster Recovery User's Guide*. See One View and Disaster Recovery Considerations and Requirements in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for minimum and recommended maximum RPO values.
- You configure and control DR from the One View Console.
- The One View Console is a web-based interface hosted by the One View appliance, which is a *virtual appliance* supplied by Stratus. This appliance is a CentOS based guest preloaded with the Stratus One View software.
- The One View appliance runs on top of an everRun system, an Avance system, or Virtual Box system. For the One View appliance system requirements, see One View System Requirements in the *Stratus One View Console and everRun Disaster Recovery User's Guide*. You must install the One View appliance on the DR system or a third site. See One View and Disaster Recovery Considerations and Requirements in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for more information.

One View and DR Requirements

The following items provide an overview of One View and DR requirements.

- DR requires two everRun systems: a primary system for running VMs in a production environment and a remote DR system to hold backup copies of the VMs.
- DR is a separately licensed feature. When you purchase the DR feature, you receive the two required licenses listed below. See Disaster Recovery Licensing in the *Stratus One View Console*

and everRun Disaster Recovery User's Guide for more information.

- An everRun license with DR enabled for the primary everRun system (if you have a non-DR everRun license, you must update it to include DR support).

  > **Note**: If you are connected to the Internet and can access the Stratus licensing server, your everRun license can be updated over the Internet to include DR support. An updated everRun license with DR enabled that can be manually applied to your non-DR everRunsystem will also be sent to the end user on record.

- A simplex everRun license with DR enabled for the simplex DR system.

- The primary system must be a normal duplex everRun system. To enable DR, the disks holding VM volumes must have a storage capacity of approximately 3.5 times the size of the VM volume you create. The level of VM disk activity and the frequency of snapshots affect the actual storage space requirement. See Disk Space Usage and Retention in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for more information.
- The DR system must be a simplex everRun system. Its hardware does not have to be exactly the same as the primary system, but it must have sufficient cores, memory, and networks to run the DR protected VMs, as well as the everRun overhead for those VMs. See Virtual Machine Recommendations and Limits in the *everRun User's Guide* for details. To enable DR, the disks holding VM volumes must have a storage capacity of approximately 3.5 times the size of the VM volume you create. The level of VM disk activity and the frequency of snapshots affect the actual storage space requirement. See Disk Space Usage and Retention in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for details.
- The management link handles the synchronization traffic between the primary and DR systems. DR is designed to work with WAN bandwidths (typically less than 100MB/sec) between the primary and DR systems. The higher the bandwidth between the primary and DR systems, the smaller the possible RPO values.
- Only one-to-one Disaster Recovery configurations are supported. An everRun system's DR protected VMs must all be protected on the same everRun system at the DR site. The DR site system can protect VMs from only one other everRun system.

- See One View and Disaster Recovery Considerations and Requirements in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for important information about the maximum allowed numbers of DR protected VMs, volumes, and retained snapshots.

Installing One View and Enabling DR Protection for a VM

To install One View and enable DR protection for a VM:

1. Install the duplex primary everRun system, and then create new VMs on it. See the *everRun Quick Start Guide* for details.
2. Install the DR everRun system. Only simplex systems (that is, systems with one physical machine) are supported for the DR system, which is typically located remotely.

   Installing a simplex system is similar to installing a duplex system, except that you perform the installation on only one PM **and** you must obtain a special simplex license from Stratus. For installation instructions, see the *everRun Quick Start Guide*.
3. Install and set up the One View software. See Installing the Stratus One View Console in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for details. The software must be installed on the DR system or a third site. Installing the One View appliance on the DR everRun system is an acceptable configuration. Perform the following steps:
   a. Prepare your site and system for the installation. See:
      - One View System Requirements in the *Stratus One View Console and everRun Disaster Recovery User's Guide*

        Describes requirements for the everRun or other system that will host the One View appliance.
      - Web Browser Requirements in the *Stratus One View Console and everRun Disaster Recovery User's Guide*

        Describes requirements for the web browser on a management system that will run the One View Console.

   b. Deploy the One View appliance:
      i. Download the One View OVF and VHD files to your management PC from the **everRun Downloads and Support** page at http://www.stratus.com/go/support/everrun.
      ii. Log on to the everRun system with the everRun Availability Console.

iii. On the **Virtual Machines** page, click **Import/Restore** to open the import wizard.

iv. If prompted, allow the required Java plugins to load in your web browser. For information, see the everRun Availability Console online help and your Java documentation.

v. Click **Browse**. In the file browser, select the One View**.ovf** file to import from your management PC and click **Import**.

vi. If prompted to **Import** or **Restore**, click **Import** to create a new instance of the VM.

vii. Review the import summary. Optionally, clear the check box for **Auto start Virtual Machine after import** if you want to prevent the One View appliance from starting immediately after the import.

> **Note**: Do not modify the default resource settings of the One View appliance unless specifically instructed by your authorized Stratus service representative.

viii. Click **Import** to begin importing the One View appliance. When the transfer is complete, click **Done** to close the import wizard.

c. Obtain the initial IP address for the One View Console.

i. In the everRun Availability Console, open the **Virtual Machines** page.

ii. Select the One View VM and, if necessary, click **Start** to boot the VM. Wait until the VM is running.

iii. Click **Console** to open the One View VM console window.

iv. At the `login:` prompt, log on to the VM as the **root** user with the default password **admin**.

v. At the command prompt, execute `multisite network --display` and record the IP address from the output.

vi. Type `exit` and press **Enter** to log out of the console.

d. Log on to the One View Console for the first time to configure initial settings.

i. On a remote management system, open a web browser and type the initial IP address for the One View Console. See Obtaining the Initial IP Address for the Stratus One View Console in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for details.

ii. Read the Stratus One View Console EULA and then, if appropriate, click **I Accept** to accept it and continue.

iii. Create the first administrative account. Specify your **Email Address** and **Password**, and then retype your password under **Confirm Password**. Click **Add** to continue.

iv. On the **IP Settings** page, configure the network settings for the One View Console. A static IP address is preferred to DHCP because a DHCP address can be lost, which requires the inconvenience of changing the address in the One View Console . Select either **Use DHCP** or select **Use Static IP Settings** and do the following:

   - If you select DHCP (default), click **Next** to continue.
   - If you select a static IP address, specify the settings that you obtained from your network administrator and click **Save**. The page reloads from the new address. Click **Next** to continue.

v. On the **SMTP Settings** page, configure the SMTP settings for the One View Console. Click **Save**, and click **Next**.

   You must specify an SMTP server to create new users, because the One View Console sends a confirmation link to their email addresses. For details, see Managing SMTP Settings in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.

vi. On the **Settings for Backup** page, enable periodic backups of your One View Console settings or restore settings from an existing backup as described in Configuring Backups for the Stratus One View Console in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.

> **Caution**: Enabling One View backups configures the One View Console to save your settings to a backup file inside the One View appliance. To ensure that the backup is available if the One View appliance crashes or is lost, you must copy the backup file to another system on a regular basis.

vii. Click **Finish** to complete the wizard and display the One View login page.

viii. Log on to the One View Console with the administrative account you created earlier, and perform the following post-installation tasks:

- Add additional user accounts to administer the One View Console. See Adding a User in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.
- Add everRun systems that you will manage from the One View Console. See Adding a Platform to the One View Console in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.
- Enable backups of your One View configuration settings, if you have not done so already. See Configuring Backups for the Stratus One View Console in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.
- For security, also set new passwords for the `root` and `admin` users in the guest operating system of the One View VM.

4. Add the primary system and the DR system to the One View Console. Perform the following steps for each system.

Register the system

a. In the everRun Availability Console, obtain the **Asset ID** of the system that you want to add to the One View Console. The **Asset ID** appears in the masthead, under the system name.

b. In the One View Console, click **PLATFORMS** in the masthead.

c. Click **Register Platform** in the action bar.

d. In the **Register Platform** dialog box that appears, enter the **Asset ID** (obtained in Step a).

e. Click **Save**.

Add the system to the One View **Console**

a. In the everRun Availability Console, navigate to One View on the **PREFERENCES** page:

   i. Click **Preferences** in the left-hand navigation panel.

   ii. On the **PREFERENCES** page, click One View under **Remote Support.**

b. With One View selected on the **PREFERENCES** page, click **Enable One View**.

c. In the **Server** box, enter the IP address or DNS name for the console.

d. Click **Save**.

   In the One View Console, confirm that the new system appears on the **PLATFORMS** page.

5. Enable Disaster Recovery protection for VMs on the primary system by following the steps below. See Enabling Disaster Recovery Protection for a Virtual Machine in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for details.

   a. On the **VIRTUAL MACHINES** page, click the VM that you want to protect (the primary VM) to open its details page.

   b. On the VM details page, click **DR Protect** to open the DR wizard.

   c. On the **Disaster Recovery Platform** page, select the system where DR will replicate the primary VM and click **Next**.

   d. On the **Disaster Recovery Options** page:

      i. Enter the **Recovery Point Objective**. The Recovery Point Objective (RPO) is the maximum acceptable period during which data might be lost from a VM. For example, if you would not want to lose more than one hour of changes, then enter 1 hour.

      ii. Select the snapshot **Retention** setting. The DR software keeps only the specified number of snapshots. When the limit is reached, the DR software creates a new snapshot. The DR software then *coalesces* the oldest snapshot (that is, it merges it with the next oldest snapshot) and finally deletes the oldest snapshot.

      iii. Select the check box next to **Compress network transfers of snapshot data** if you want to compress the snapshot data for transfers to the DR site.

      iv. Click **Next**.

   e. On the Disaster Recovery **VM Name, VCPUs, and Memory** page, if applicable, modify the

name and resource settings to use for the DR VM and click **Next**.

f. On the Disaster Recovery **VM Volumes** page, verify the list of volumes that will be replicated and click **Next**.

g. On the Disaster Recovery **VM Network** page:

   i. In the left pulldown menu, select one **Virtual Network** from the primary VM to include in the DR VM.

   ii. In the right pulldown menu, select one **Platform Network** from the DR platform to connect to the chosen **Virtual Network**.

   iii. Click **Next**.

h. On the **Disaster Recovery Configuration Summary** page, verify the summary of DR settings.

i. Click **Finish** to initialize DR protection and return to the VM details page. The details page indicates that **Disaster Recovery is Initializing**.

> **Note**: The system may stay in this state for a long time while it transfers the entire contents of the data volumes to the remote site.

j. When the initialization completes, the VM details page in the One View Console indicates that Disaster Recovery **is Active**.

For further details see Enabling Disaster Recovery Protection for a Virtual Machine in the *Stratus One View Console and everRun Disaster Recovery User's Guide*.

Testing Your DR Site

Perform the following steps to test your DR site.

> **Notes**:
>
> 1. In order to perform this test procedure, you must stop your VM and its applications and then remap your network to test operation from the DR site.
> 2. This test is optional. Perform it only if you want to validate that your DR site will operate correctly.

1. Perform a test planned migration to a DR VM. See Migrating to a DR VM (Planned) in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for details..
    a. In the Stratus One View Console masthead, click **VIRTUAL MACHINES**.
    b. On the **VIRTUAL MACHINES** page, click the primary VM that you want to migrate.
    c. In the action bar, click **Begin Migration**.
    d. When the migration is complete, the message **Disaster Recovery has migrated to the DR VM** appears.
2. Perform a test migration of data back to the primary VM. See Migrating Current Data Back to the Primary VM in the *Stratus One View Console and everRun Disaster Recovery User's Guide* for details.
    a. In the Stratus One View Console masthead, click **VIRTUAL MACHINES**.
    b. On the **VIRTUAL MACHINES** page, click the DR VM that corresponds to the primary VM.
    c. In the action bar, click **Begin Migration**.
    d. The system begins to take snapshots on the DR VM and copies them to the primary VM. When the system finishes migrating the data, the **Finish Migration** button appears in the action bar. Click **Finish Migration** to complete this operation.