FileCruiser
Backup & Restoring Guide

Version: 0.2
FileCruiser Model: VA2600/VR2600 with SR1
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Introduction

FileCruiser provides two kinds of backup solution to make sure your data is always be safe.

• **Backup/Restore:** *Backup to remote Linux Ubuntu server (with SFTP enable)*

It will backup both system configuration and user data to the remote site. Users need to restore the data to the original or new FileCruiser server before use.

• **DR (Disaster Recovery):** *Backup to the second FileCruiser Server*

It will backup both system configuration and user data to the second FileCruiser server in the remote side. Users can run the FileCruiser services in the remote site while the major site down. For the DR purpose, please note the FileCruiser in the second site must be the same model and storage capacity as the original FileCruiser system in the major site. For example, VR2600 could be backup to second VR2600.
The backup process might occupy network bandwidth as well as the CPU / memory resource. We strongly recommend that you schedule backup your system in the off-work to reduce the impact of normal operation.

FileCruiser provides both both full and incremental backup and it depends on your demand.

The policies of the backup could be:

<table>
<thead>
<tr>
<th>Policy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>Do a new backup.</td>
</tr>
<tr>
<td>Incremental</td>
<td>Apply an incremental backup to the previous full backup or create a full backup if none have previously been completed.</td>
</tr>
</tbody>
</table>

FileCruiser provide the schedule backup so you can backup your system anytime you like.

The policy of schedule backup includes:

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disable</td>
<td>This option will run an instant backup.</td>
</tr>
<tr>
<td>Every Hour Interval</td>
<td>Do a backup every few hours. The options could be 1, 2, 3, 4, 6, 8, or 12 hours.</td>
</tr>
<tr>
<td>Daily</td>
<td>Do a backup at specified time everyday.</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Weekly</td>
<td>Do a backup at specified date every week.</td>
</tr>
</tbody>
</table>
Backup Requirements

I. Backup/Restore
For the users who looks for the pure backup, the following devices is necessary:

Hardware:
• Intel X86 Server with 16GB DDRIII RAM

Software:
• Linux Ubuntu
• SFTP

* We provide a default account to access FileCruiser: “promise/password”, and a backup path “/home/promise/backup” for storage space. The size of storage space depends on the system’s disks.

II. Run as DR (Disaster Recovery)
For the users who looks for the DR architecture, the following devices is necessary:

Hardware:
• The same model as the FileCruiser in the major site.
**Backup Set up**

After the 1\textsuperscript{st} FileCruiser has started to provide services, you can backup both the system configuration and user data to another machine. Furthermore, you can configure a 2\textsuperscript{nd} FileCruiser to provide services to prevent downtime in case the 1\textsuperscript{st} FileCruiser is out of service for too long.

To set up the environment, we have the following network settings:

<table>
<thead>
<tr>
<th>Machine</th>
<th>VIP</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{st} FileCruiser</td>
<td>10.90.0.158</td>
<td></td>
</tr>
<tr>
<td>2\textsuperscript{nd} FileCruiser</td>
<td>10.90.0.121</td>
<td>In our setup, the 2\textsuperscript{nd} FileCruiser will be the SFTP server, too. We use the account “promise” to set up a backup server.</td>
</tr>
<tr>
<td>SFTP server (optional)</td>
<td>10.90.0.121</td>
<td></td>
</tr>
</tbody>
</table>

**Backup the System Configuration**

I. Set up on the 1\textsuperscript{st} FileCruiser

   A. [Configuration > Backup Server]

      Backup server for system configuration is set up at this page. Key-in the SFTP account and server information for backing up the configuration. You can set the “**Remote Directory**” to any existing directory under the login folder.

      If you use the 2\textsuperscript{nd} FileCruiser as a backup server, you can set it up based on the following:

      | Field  | Value          |
      |--------|----------------|
      | Host   | 10.90.0.121    |
B. [System > Config Backup > Configuration Backup]
After all the configurations are ready, for the first time you can backup the system configuration.

Backup system configuration to backup server. Please setup your backup server at Configurations -> Backup Server. Click "Backup" button to start backup.
C. [System > Configuration Backup > Restore]
You can check if there is a new backup file.

![Restore system configuration to backup server.]

File Name
FileCruiser-backup-20131204-151524.tar.gz

BackupUser Data

I. Set up on the 1st FileCruiser

A. [System > User Data Backup]
Create scheduled jobs to backup user’s data.
* The backup procedure takes a lot of network traffic and CPU usage. Please arrange an appropriate schedule.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>10.90.0.121</td>
</tr>
<tr>
<td>Directory</td>
<td>/home/promise/backup</td>
</tr>
<tr>
<td>User Name</td>
<td>promise</td>
</tr>
<tr>
<td>Password</td>
<td>password</td>
</tr>
<tr>
<td>Policy</td>
<td>Full or Incremental</td>
</tr>
<tr>
<td>Schedule</td>
<td>Disable, Every hour interval, Daily, or Weekly</td>
</tr>
</tbody>
</table>
II. Start a manual backup

A. Click on the “Action” button of the job, and there will be an action list. Click “Run” button to start a backup job instantly.
Restore Set up

When the user data is deleted (trashcan is cleared) or lost for some reason, you can recover the user data through a restoration process.

* The process will restore all the user data to a specified date. Any new data after that date will be removed.

* During the restoration process, FileCruiser will be out of service.

**Restore to the 1st FileCruiser**

1. Restore to the 1st FileCruiser.
1. [System > User Data Backup]  
Click the “Restore” button in the action list.

2. Select an appropriate directory and click the “Restore” button to start restoring user data. Please wait until the action is completed.

**Restore to the 2\textsuperscript{nd} FileCruiser (DR Architecture)**

When the 1\textsuperscript{st} FileCruiser is out of service, you can configure the 2\textsuperscript{nd} FileCruiser to provide services temporarily. The pre-condition is: you have to backup both the system configurations and the user data completely.
In the following, we suppose that the 1\textsuperscript{st} FileCruiser is out of service, and the 2\textsuperscript{nd} FileCruiser takes on the role to provide services.

I. Set up the 2\textsuperscript{nd} FileCruiser.

A. [Configurations > Backup Server]
   The backup server for system configuration is set up at this page. Key-in the SFTP account and server information to backup the configuration. You can set the “Remote Directory” to any existing directory under the SFTP login folder.
   If you use the 2\textsuperscript{nd} FileCruiser as a backup server, the set up is as follows:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>10.90.0.121</td>
</tr>
<tr>
<td>Username</td>
<td>promise</td>
</tr>
<tr>
<td>Password</td>
<td>password</td>
</tr>
<tr>
<td>Port</td>
<td>22</td>
</tr>
<tr>
<td>Remote Directory</td>
<td>/home/promise/backup</td>
</tr>
</tbody>
</table>
B. [System > Configuration Backup > Restore]
Select an appropriate file, and click the “Restore” button to restore the system configuration.
* After the system configuration is restored, the machine will be rebooted automatically.

C. Re-configure settings
Because you restored the 2\textsuperscript{nd} FileCruiser using the configuration from the 1\textsuperscript{st} FileCruiser, there are some settings that need to be edited manually.

1. [Configurations > Endpoint]
   Please set the “Domain IP / Name” to the correct value.
   In our setup, please enter the IP address of the 2\textsuperscript{nd} FileCruiser:
“10.90.0.121”.

D. [System > User Data Backup] Create a job to find folders for restoring. Select an appropriate date to avoid starting the backup while we are restoring the 2nd FileCruiser.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>10.90.0.121</td>
</tr>
<tr>
<td>Directory</td>
<td>/home/promise/backup</td>
</tr>
<tr>
<td>User Name</td>
<td>promise</td>
</tr>
<tr>
<td>Password</td>
<td>password</td>
</tr>
<tr>
<td>Policy</td>
<td>Full</td>
</tr>
<tr>
<td>Schedule</td>
<td>Manual</td>
</tr>
</tbody>
</table>

E. [System > User Data Backup] Click on an appropriate directory, and click the “Restore” button to start the restoring process. Please wait until the action is completed.

1. Click the “Restore” button in the action list.
2. Select an appropriate directory and click the “Restore” button to start restoring user data.
   * During the restoring process, FileCruiser is out of service

   ![Image](image-url)

   **Restore User Backup Schedule**
   Location: 10.90.0.121
   
   **Directory**
   FULL-USERDATA-BACKUP-20131204-165300
   FULL-USERDATA-BACKUP-20131204-151648
   View 1 - 2 of 2 10 per page

   F. [System > User Data Backup]
   After the restoration is completed, delete the job.

   ![Image](image-url)

   **Table**
   Action | Location | Directory | Policy | Schedule | Status | Result
   -------|----------|-----------|--------|----------|--------|--------
   Run    | /home/promissor/backup | Full | Manual | Idle
   Restore|           |           |        |          |        |        
   History|           |           |        |          |        |        
   Edit   |           |           |        |          |        |        
   Delete |           |           |        |          |        |        

   G. The 2\textsuperscript{nd} FileCruiser can provide services now.
   If the 2\textsuperscript{nd} FileCruiser will take on the role of providing services for a long time, you can create scheduled jobs to backup user data. Please refer to “Backup Setup”.
   If the 2\textsuperscript{nd} FileCruiser only needs to take on the role temporarily, you can create a full backup job when the 1\textsuperscript{st} FileCruiser is ready.

   H. Restore new user data from the 2\textsuperscript{nd} FileCruiser to the 1\textsuperscript{st} FileCruiser.
   When the 1\textsuperscript{st} FileCruiser is back running, the new user data on the 2\textsuperscript{nd} FileCruiser needs to be available on the 1\textsuperscript{st} FileCruiser, too. Please choose the latest backup directory created at “Restore Setup > Restore to the 2nd FileCruiser”

   1. [System > User Data Backup] at the 1\textsuperscript{st} FileCruiser
      Refer to “Restore Setup > Restore to the 2nd FileCruiser > D”, and create a job to find folders for restoring.
2. [System > User Data Backup] at the 1st FileCruiser
   Refer to “Restore Setup > Restore to the 2nd FileCruiser > E”, select the latest directory to restore.
Restore Utility

FileCruiser provides a restore utility for re-constructing the user data in the terminal console as well. It is in case all the network are down and users need to get the data in urgent.

FileCruiser data includes meta data and RAW data so can’t be access through normal File system. FileCruiser backup utility help to recognize these file format so the system administrator can get these data offline.

The below pic is an example of recovery data format.

```
the usable data will be re-constructed in the form of domain-user-data structure. Here are the steps for how to use this utility.

1. Login to the backup server: the 2nd FileCruiser using “promise/password”
   In our setup, the IP of the 2nd FileCruiser is 10.90.0.121.
   
   `$ ssh promise@10.90.0.121`
```
II. Change the directory to backup path
   
   $ cd /home/promise/backup

III. Choose an appropriate directory to restore
   
   $ restore <backup_dir>/opt/monga <re-construct_dir>

   For example, we choose backup_directory “FULL-BACKUP-USERDATA-20131205-010000” and reconstruct_dir “userdata-20131205-010000”
   
   $ restore FULL-BACKUP-USERDATA-20131205-010000/opt/monga userdata-20131205-010000

IV. After a period of time (depending on the amount of data), the usable data is reconstructed at the re-construct_dir.
   
   $ cd <re-construct_dir>