

Rapid Cloning Utility 2.0

Release Notes

NetApp, Inc.
495 East Java Drive
Sunnyvale, CA 94089 U.S.A.
Telephone: +1 (408) 822-6000
Fax: +1 (408) 822-4501
Support telephone: +1 (888) 4-NETAPP
Documentation comments: doccomments@netapp.com
Information Web: <http://www.netapp.com>

Part number 215-04514_A0
April 2009

Copyright and trademark information

Copyright information

Copyright © 1994–2009 NetApp, Inc. All rights reserved. Printed in the U.S.A.

No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner. NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp. The product described in this manual may be protected by one or more U.S.A. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark information

NetApp, the Network Appliance logo, the bolt design, NetApp—the Network Appliance Company, Cryptainer, Cryptoshred, DataFabric, DataFort, Data ONTAP, Decru, FAServer, FilerView, FlexClone, FlexVol, Manage ONTAP, MultiStore, NearStore, NetCache, NOW NetApp on the Web, SANscreen, SecureShare, SnapDrive, SnapLock, SnapManager, SnapMirror, SnapMover, SnapRestore, SnapValidator, SnapVault, Spinnaker Networks, SpinCluster, SpinFS, SpinHA, SpinMove, SpinServer, StoreVault, SyncMirror, Topio, VFM, VFM (Virtual File Manager), and WAFL are registered trademarks of NetApp, Inc. in the U.S.A. and/or other countries. gFiler, Network Appliance, SnapCopy, Snapshot, and The evolution of storage are trademarks of NetApp, Inc. in the U.S.A. and/or other countries and registered trademarks in some other countries. The NetApp arch logo; the StoreVault logo; ApplianceWatch; BareMetal; Camera-to-Viewer; ComplianceClock; ComplianceJournal; ContentDirector; ContentFabric; EdgeFiler; FlexShare; FPolicy; Go Further, Faster; HyperSAN; InfoFabric; Lifetime Key Management, LockVault; NOW; ONTAPI; OpenKey, RAID-DP; ReplicatorX; RoboCache; RoboFiler; SecureAdmin; Serving Data by Design; Shadow Tape; SharedStorage; Simplicore; Simulate ONTAP; Smart SAN; SnapCache; SnapDirector; SnapFilter; SnapMigrator; SnapSuite; SohoFiler; SpinMirror; SpinRestore; SpinShot; SpinStor; vFiler; Virtual File Manager; VPolicy; and Web Filer are trademarks of NetApp, Inc. in the U.S.A. and other countries. NetApp Availability Assurance and NetApp ProTech Expert are service marks of NetApp, Inc. in the U.S.A.

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. A complete and current list of other IBM trademarks is available on the Web at <http://www.ibm.com/legal/copytrade.shtml>.

Apple is a registered trademark and QuickTime is a trademark of Apple, Inc. in the U.S.A. and/or other countries. Microsoft is a registered trademark and Windows Media is a trademark of Microsoft Corporation in the U.S.A. and/or other countries. RealAudio, RealNetworks, RealPlayer, RealSystem, RealText, and RealVideo are registered trademarks and RealMedia, RealProxy, and SureStream are trademarks of RealNetworks, Inc. in the U.S.A. and/or other countries.

All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.

NetApp, Inc. is a licensee of the CompactFlash and CF Logo trademarks. NetApp, Inc. NetCache is certified RealSystem compatible.

Table of Contents

About this release. 1

Known problems and limitations 3

For information about additional problems. 7

Where to find additional information. 8

About this release

Overview

Using FlexClone® technology, the NetApp® Rapid Cloning Utility (RCU) allows users to quickly create and deploy VMware® virtual machines into new or existing NetApp NFS-based datastores. You can quickly and efficiently clone datastores, create virtual machine clones in VMware Virtual Center, power up virtual machines, and apply guest customization specifications to the guest operating system in each individual desktop or server.

What is included

The Rapid Cloning Utility includes an installation program that installs the utility.

System requirements

Host system requirements	
VMware	◆ VMware ESX 3.5 ◆ VMware vCenter Server 2.5 Update 3 or 4 (formerly Virtual Center Server)
Memory	At least 256 MB free
Virtual Machine cloning requirements	◆ Source VM must be powered off ◆ Source VM must not have a Raw Device Map (RDM) present

Storage system requirements	
Storage system models	◆ NetApp FAS2000 Series ◆ NetApp FAS3000 Series ◆ NetApp FAS3100 Series ◆ NetApp FAS6000 Series ◆ NetApp R200
Licenses	◆ FlexClone ◆ NFS
Data ONTAP®	7.3.1P2 or later

Network requirements	
Network configuration	◆ Minimum of one VMkernel IP address and one NetApp storage system IP address in the same network

Known problems and limitations

Storage controller limitations

The following are not supported on the storage controller:

- ◆ vFilers and MultiStore
- ◆ MetroCluster
- ◆ VMFS as cloning destination

Do not use a qtree or volume with the NTFS security style with the Rapid Cloning Utility

Problem: The Rapid Cloning Utility uses FlexClone technology at the file level to quickly and efficiently create clones of Virtual Machines. If the cloned files reside in a qtree or volume with the NTFS security style, the Data ONTAP software might panic.

What to do: Before running the Rapid Cloning Utility, make sure all volumes presented to the Virtual Infrastructure are using Unix style security. For more information on qtree security styles, see the `na_qtree` man page.

This problem should be fixed in a future version of Data ONTAP software.

For more details or information on fixed-in version, see bug 350120 at Bugs Online: <http://now.netapp.com/NOW/cgi-bin/bol?Type=Detail&Display=350120>

Cloning tasks appear to be running but progress indicator stops

Problem: If the VMware Virtual Infrastructure Client disconnects from the vCenter Server, any RCU tasks that are in progress will stop. The tasks may appear to be running, but the progress indicator will not change.

Workaround: Right-click on the task from a VMware Virtual Infrastructure Client and choose **Cancel**.

In order to perform a massive clone operation (hundreds or thousands of clones) the RCU must submit many tasks to the vCenter Server. Large deployments should be executed from clients that are not likely to be interrupted or disconnected during the provisioning process.

For the best results in a mass deployment, restart the VMware vCenter Server service prior to execution. This will not impact the ESX hosts or the virtual machine, however it will disconnect any VMware Virtual Infrastructure Client sessions.

VM creation progress indicators do not match

Problem: Progress indicators for VM creation in VMware Infrastructure Client panels do not match.

Workaround: No action. This is an anomaly in VMware Infrastructure Client and can be safely ignored.

Storage controllers take a long time to load in RCU

Problem: The fields in the RCU **Specify Storage Controllers** screen can take several seconds to populate.

Workaround: No action. RCU cross-references datastore and controller information during this delay. The delay varies based on the sizes of the environment, the server running RCU, and the server running vCenter.

Cannot select an aggregate for a vFiler

Problem: After adding a vFiler using the RCU **Add Storage Controller** feature, you cannot select the aggregate in RCU.

Workaround: This release of RCU does not support vFilers (MultiStore).

“Create NetApp Rapid Clones” appears multiple times in VIC

Problem: Right-clicking the Inventory button in VMware Infrastructure Client displays the menu item “Create NetApp Rapid Clones” multiple times.

Additionally, if the second or later occurrence is selected, the following error occurs:

Error: Undefined is null or not an object

Workaround: Select the first (topmost) occurrence of the menu item. Or, restart VMware Infrastructure Client. If the issue is not resolved, restart the NetApp Plugin service.

Canceled RCU tasks are not deleted

Problem: Canceled RCU tasks may remain displayed in the VMware Infrastructure Client Recent Tasks pane indefinitely.

Workaround: Restart the Windows service. From Control Panel > Administrative Tools > Services, right-click VMware VirtualCenter Server and select Restart. Or, run the following from the command line:

```
net stop vpxd
```

```
net start vpxd
```

Clone fails with fault string “ClusterTransitionalEVCMangerEVCSate”

Problem: With very high load on the Virtual Center Server, cloning may fail with the following fault string in the log.

ClusterTransitionalEVCMangerEVCSate

Workaround: Restart the Windows service. From Control Panel > Administrative Tools > Services, right-click VMware VirtualCenter Server and select Restart. Or, run the following from the command line:

```
net stop vpxd  
net start vpxd
```

Console error: flat.vmdk is NOT aligned

Problem: The block alignment of the filesystem (in the Virtual Machine) to the NetApp controller will have a significant impact on performance. For this reason, the Rapid Cloning Utility inspects the source vmdk file of any VM that is cloned. The result of this inspection can be found in the log file. If the filesystem in the VM is not properly aligned, a message is logged in the messages file on the controller as well as in the auto support data. Following is an example of a misalignment message:

```
Partition 1 of /vol/test/ntap_rcu1236650660984/0000hd0000-flat.vmdk  
is NOT aligned. (LBA=63).
```

Workaround: Refer to NetApp TR-3428, *NetApp and VMware Virtual Infrastructure 3 Storage Best Practices* at www.netapp.com/us/library/technical-reports/tr-3428.html for more information on this topic, or open a case with NetApp Global Support.

Cannot select an aggregate, and datastore Destroy hangs after changing password or SSL setting

Problem: This occurs if a storage system password or SSL setting is changed while RCU is running.

Workaround: If you change a storage system password or SSL setting, remove and re-add the storage system in RCU.

Datastore Destroy fails

Problem: If any host is unable to disconnect the datastore, the Destroy process fails. This can be caused by a VM being powered up after the Destroy process is started.

Workaround: Resolve the issue that caused the datastore disconnect to fail. Then perform the Destroy from the ESX host that was unable to disconnect.

Could not start the NetApp VI Plugin service on local computer

Problem: RCU installation completes as expected on a mapped drive, but RCU does not show up in VMware Infrastructure Client.

Workaround: The installation executable must be executed from a local file system (not a share or mapped drive). Copy `RCU_Setup_2_0_win32.exe` to a local file system and execute it there.

Performance degradation

Problem: Cloning performance is affected by many factors, including vCenter Server hardware configuration, number and hardware configuration of the ESX hosts, and the current load on either or both. You might experience performance degradation if you request a very large number of clones in a single operation.

Workaround: Reduce the number of clones requested per operation. For example, instead of requesting 2,000 clones, perform two operations of 1,000 clones each.

Cannot access RCU from other machines running VIC

Problem: RCU can be accessed from the Virtual Center Server but not from other machines running VMware Infrastructure Client.

Workaround: When you registered the RCU, you specified an IP address. Try to access this address on port 61921 from one of the clients as shown below.

◆ `https://<IP Address>:61921/kamino/`

You should see a test page. If this is not accessible, check the firewall settings on the server and make sure TCP connections to port 61921 are allowed.

Password in custom specification not accepted

Problem: The password in a custom specification may not be applied (Windows operating systems only).

Workaround: Power up the source VM, set the password in the source VM, and power it down. Then rerun RCU to perform cloning.

For information about additional problems

Occasionally, additional problems are reported with the Utility or known bugs are fixed. The problems are listed in an online system called Bugs Online.

For a list of known and fixed bugs, access Bugs Online by completing the following steps.

Where to find additional information

Where to go for more information The following table describes documents with the most current information about host and storage system requirements and additional documentation.

If you want...	Go to...
General guidelines for configuring your storage systems to connect to hosts running ESX 3.5	<i>VMware ESX Host Utilities 5.0 Installation and Setup Guide</i> (supports both FC and iSCSI) at http://now.netapp.com/NOW/knowledge/docs/san/#iscsi_host
The latest supported configurations and the NetApp Interoperability Matrix	◆ <i>System Configuration Guides</i> at http://now.netapp.com/knowledge/docs/hardware/NetApp/syscfg/ ◆ <i>NetApp Interoperability Matrix</i> at http://now.netapp.com/products/interoperability/