

Replay 4

Important Release Notes

Build 4.4.26634 and above

This document outlines a several important notices that you should be aware of as you install, configure and begin using Replay 4. For important information regarding how to prepare your system before installing Replay 4, we encouraged you to download and review the installation guide located at <http://kb.appassure.com>.

New Features in 4.4 Rollup 1

- **[Push Install Agents](#)** – Unique credentials can be specified for each Replay Agent that is not in the same domain or workgroup as the Replay Core. [KB 4120330](#) describes the Push Install feature
- **[Replay Core/Agent Authentication](#)** - The push install feature is used to install Replay Agents remotely from the Replay Core to centralize the deployment of agents. [KB 4120329](#) describes Replay Agent/Core Authentication
- **[Exchange 2010 Phase 1 Support](#)** – Added Exchange 2010 support. Replay will snapshot Exchange 2010 DAGS and truncate logs nightly. This release does not support mountability checks and detailed integrity checks. [KB 4120331](#) describes Exchange 2010 Phase 1 Support.
- **Replay Recover Anywhere** – Replay Rollback Anywhere (RRA) is a program designed to change SCSI/IDE drivers in an existing Windows installation. RRA is very useful for physical to physical migrations when migrating between different hardware. It is also useful when migrating from P2V, V2P, V2V and P2P.
- **Concurrent Snapshots** – Replay Cores will process snapshots for up to 99 protected machines concurrently. The default is 1 however you can change this value in the Replay Core properties page.
- **SQL 2008 R2 Support:** This release includes support for SQL 2008 R2 Agent.

Issues Resolved in this release

- Push Install unable to install Replay Agent across VPN connection has been resolved.
- NAS share can be specified as Replay Repository for Replication.

Issues Resolved in Rollup 1

- Resolved issue where Replay Agent may keep consuming memory on servers with Exchange installed.
- Replay Core repositories that were defined as mount points are now supported.
- When scrolling through volumes in the "Change Server Protection Properties", this action may cause unintentional setting changes. This has been resolved.
- Under certain conditions, Replay Cores on Windows 2008R2 and Windows 7 may have errors in the epoch index files due to a bug in Microsoft Windows. This has been resolved. Please refer to <http://www.appassure.com/support/KB/4130501> for details.
- In some case Rollup was not occurring with various event messages. This has been resolved.
- Changing Replicated Agent setting on a Replicated Core may affect settings on the original Agent. This has been resolved.
- "Change Server Protection Properties" may not display correctly for large number of disk volumes. This has been resolved.

- "Access is Denied" error messages may be displayed during and after a Rollup job when an Anti-Virus software is installed on the system. This has been resolved.
- In some cases, the Replay Admin Console does not start on a Windows XP based systems. This has been resolved.

Issues Resolved Prior to Rollup 1

- The Agent summary tab was not updated with the latest recovery point and snapshot time.
- Replay admin console failed to connect to Core under very specific circumstances. For more information on identifying this condition and configuring your Replay Admin Console, see [KB 4130349](#)
- Export to Hyper-V was stating "Exporting to VMware" in log file and progress bar. This has been resolved.
- If the protected server host name can't be resolved by replication target core, the settings were not saved. This dependency has been removed.
- Eliminated the "Overlapped I/O operation failed" error logged when a protected server snapshot transfer fails.
- If replication is configured for a second time, a "replication was interrupted by a software error" is presented. This has been resolved.
- Log output was stopping when attempting to log non-Latin characters. This has been resolved.
- Replay could not protect a subset of nodes in an SCC cluster, this is resolved and Replay can protect any or all nodes in a SCC cluster.
- Exports fail and VMs don't boot for Windows 7 and 2008 R2 agents with an SRP volume. This has been resolved.
- In some cases ejecting USB's would fail with a "device is in use" error. This is resolved.
- When adding VHD's to a Hyper-V virtual machine, please following the instructions in [KB 4130325](#).
- In some cases, if a VM export can't be performed due to being in use, the registry is still updated with a new last-exported time. This has been resolved.
- Virtual machine exports automatically aborts if protected server settings are changed. This has been resolved.
- In the RRC console, the "Enter Static IP Address" dialog "OK" button may be disabled. This has been resolved.
- This release improved the UI cold start up time.
- If group policy is defined for "Log on as service" privilege, a warning with text "You have a group policy in your domain that enforces this right, please make sure the Replay services accounts are granted "Log on as a service" right at the domain group policy level" in "Logon Information" dialog is shown.
- Databases for SQL Server 2005 instance are not grouped together on Summary tab/volume details or in Recovery Point. This has been resolved.
- The ReplayC command now includes a /HyperV options that enables compatibility mode when mounting recovery points containing VHD's..
- For machines with SRP partitions, a Replay Agent install will create a mount point to the SRP that points to %SYSTEMROOT%\SRPPartition.
- Corrected an issue where Replication of a recovery point may occur twice under conditions where rollup and replication are running simultaneously
- When exporting to Hyper-V, a .vmx file is created as a byproduct of the export code. This has been removed for Hyper-V exports.
- Corrected an issue where VM Export to VMware would sometimes need to perform a FULL export, instead of an incremental export with the following error, "Failed to set 'parentFileNameHint' value in VMDK descriptor - The parameter is incorrect"

Known Issues:

- When using ESX export to generate a VM from a protected server running on the same ESX host as the generated VM, an error occurs. This is due to the fact that Replay is attempting to create a new VM with the same name as the existing VM. **WORKAROUND:** Protect the server by its IP address or FQDN, which will prevent the collision. This will be address in the future version.
- Recovery points are not correctly shared between nodes in a single-copy cluster if one or both nodes are identified by their fully-qualified domain name (FQDN) or IP address. **WORKAROUND:** when protecting single-copy cluster nodes, add the nodes to Replay using their NETBIOS names exclusively.
- Replay cannot restore mount point information. This will be resolved in the next release.
- Mail store and volume rollbacks to Exchange 2007 CCR clusters require some manual steps to complete successfully. See the section Exchange 2007 CCR Issues for details.
- Rollbacks performed with the Restore button don't display recovery points if protected server is offline. **WORKAROUND:** Select the recovery point to roll back from the Recovery Points list, right-click it, and choose Restore.
- Mount points are not preserved on doing an ESX export from 64bit windows 2008 and 2003.
- In rare cases, Snapshots fail with "Unable to transfer snapshot of volume 'C:' due to a timeout or a conflict with a transfer from another agent. **WORKAROUND:** Force a snapshot on one of the agents. This will be resolved in the next release.
- Replay does not update virtual machine, if protected agent has multiple protection groups. This will be resolved in a future release.
- Replay may generate unmountable recovery points when protecting the following volume types: 1) Windows Server 2003 basic disk converted to simple dynamic. 2) Basic disks created under Windows Server 2003 and mounted on Windows Server 2008.
- Delete Snapshots operation runs even if replication is in progress. This will be resolved in a future release.
- Replay.log filled with DEBUG messages if replication target changes to later build but replication source stays at old build. This will be resolved in the next release.
- In rare cases, protected agents in VMs exported to new VMWare VMs fail to boot with STOP 0x7b if LSI Logic SAS controller is used. **WORKAROUND:** The workaround is to upgrade the exported VM to hardware version 7 and change the SCSI controller to LSI Logic SAS. This is an odd case since it only happens if you're doing a VM export of an agent in an ESX 4 VM with hardware version 7.
- If a VM export can't be performed due to being in use, the registry is still updated with a new last-exported time. This will be resolved in the next release.
- In Rescue Image restore, initializing a destination disk while other disks are mapped to volumes causes other disks lose mapping. This will be resolved in a future release.
- Newly replicated RPs don't always appear in console immediately. **WORKAROUND:** Wait for the recovery points to be updates, make take several minutes.
- AdHoc VM or RP Export automatically aborts if protected server settings are changed. This will be resolved in a future release.

Known Limitations

- Do NOT protect SCC nodes by IP address or FQDN. Replay logs an error "Failed to canonicalize source 'hostname' from target path" and replication will fail. Use the server name to protect the machine.

- Replay does not support Hyper-V Cluster Shared Volumes in this release. Support for CSV clusters will be offered in a future release.
- Replay will not snap volumes located on an attached VHD.
- BMR of Win2k8 R2 or Win7 machines with SRP will fail to boot without perform several post-processing steps manually. Refer to article: <http://www.appassure.com/support/KB/4130306/>
- "Add Boot Entry for RRC" option doesn't work for Win7/2k8r2 boxes with a SRP
- Exports fail and VMs don't boot for Windows 7 and 2008 R2 agents with an SRP volume. See article for details on how to resolve: <http://www.appassure.com/support/KB/4130305/>
- Replay can't export disks bigger than 2TB to VMWare VMDKs
- 'Failed to load disk (VDS) information' error appears, when you start BootCDBuilder on Win XP.
- All volumes except C are Offline when booting a VM created from export on 2008.
- Exported VMs may be unbootable on systems with mismatched boot and system volumes
- Base image is taken after restoring to new machine from Rescue Image.
- SQL tab missing on server properties page when protecting a SQL2000 machine.
- Email alerts not sent if email subject is VERY long.

Push Install Security Considerations

The push install feature is used to install Replay Agents remotely from the Replay Core to centralize the deployment of agents.

If both computers are in the same domain

Push Agent installation from computer A (Replay Core) to computer B (Replay Agent) when both computers are in the same domain.

User permissions:

- Computer A – User should be in local "Administrators" group.
- Computer B – User should be in local "Administrators" group

Firewall settings:

- Computer A – Can be on
- Computer B – Should be enabled "Remote Administration" rule. See appendix A.

UAC:

- Computer A – Can be on
- Computer B – Can be on

If one machine is in workgroup other machine in a domain

Push Agent installation from computer A (Replay Core) to computer B (Replay Agent) when computer A is in a domain and computer B is in a workgroup.

User permissions:

- Computer A – User should be in local "Administrators" group.
- Computer B – User should be in local "Administrators" group

Firewall settings:

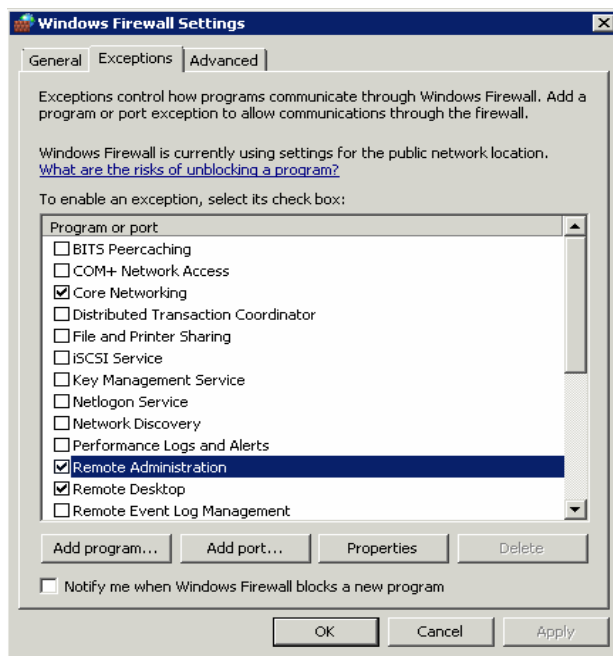
- Computer A – Can be on
- Computer B – Should be enabled "Remote Administration" rule. See appendix A.

UAC:

- Computer A – Can be on
- Computer B – Should be off.

How to enable "Remote Administration" rule in firewall on Windows 2008/Vista

Go to control panel. Open Windows Firewall. Click change settings. Go to Exceptions tab. Check Remote Administration.



How to enable "Remote Administration" rule in firewall on Windows 2008 R2/Windows 7

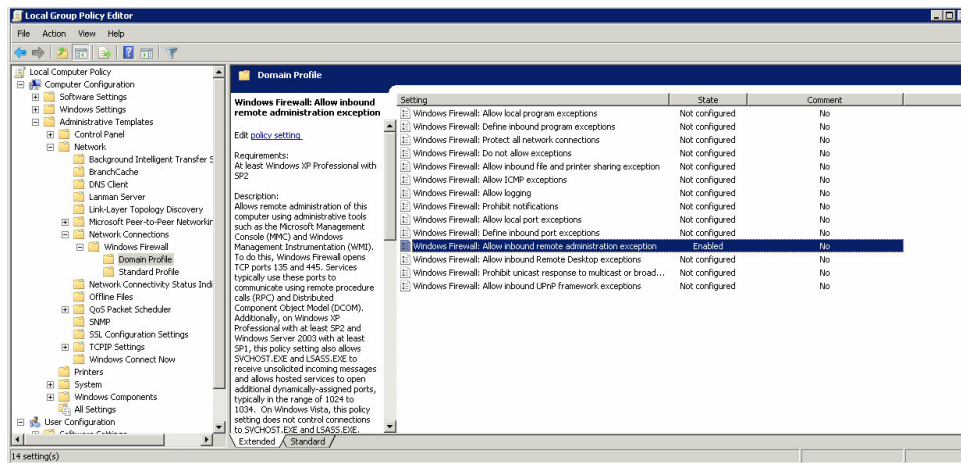
Local Policy

1. Click Start, click Run, type gpedit.msc, and then click OK.
2. Under Console Root, expand Computer Configuration, expand Administrative Templates, expand Network, expand Network Connections, expand Windows Firewall, and then click Domain Profile.

3. Right-click Windows Firewall: Allow remote administration exception, and then click "Properties".
4. Click Enabled, and then click OK.

Domain Policy

1. Create new GPO in active directory or use current linked GPO, and edit it.
2. Under Computer Configuration, expand Administrative Templates, expand Network, expand Network Connections, expand Windows Firewall, and then click Domain Profile.
3. Right-click Windows Firewall: Allow remote administration exception, and then click Properties.
4. Click Enabled, and then click OK.



Replay Agent/Core Authentication

Unique credentials can be specified for each Replay Agent that is not in the same domain or workgroup as the Replay Core. Replay requires authentication for the following components:

1. Replay Admin Console when connecting to a remote Replay Core for management
2. Replay Core communicating with Replay Agents.
3. Replay Agents communicating with Replay Cores
4. Replication between Cores
5. Replay Agent and Replay Core services

All credentials are validated to ensure the user is in the local "Administrators" group or in the "ReplayAdministrators" group (domain or local). If the credential is not in either of the groups, authentication will fail. If you use the ReplayAdministrators group, these credentials will also ensure that the Administrator level credentials are not required for authorization purposes.

Optionally, this approach allows the security administrator to set up different credentials for different Replay Agents. For single domain or multi-domain implementation with trusts, the default service credentials are sufficient but for multiple domain environments specific Replay Agent and Replay Core credentials are required.

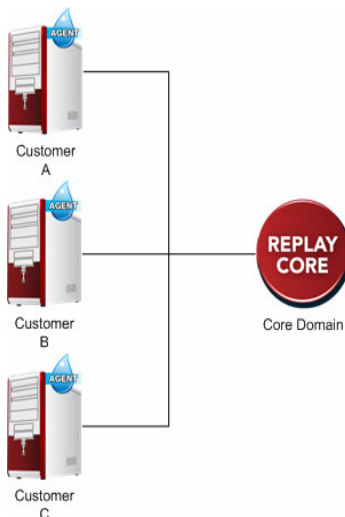
Example 1

There are machines in the network located on multiple domains and workgroups. The security administrator may want to create 1 account on the Replay Core in the ReplayAdministrators group and 1 account each on the agent machines. To configure authentication using the **ReplayAdministrators** group:

- WORKGROUPA will have WORKGROUPA\ragent1 for agent credentials and COREDOMAIN\radmin for core credentials.
- DOMAINB will have DOMAINB\ragent2 for agent credentials and COREDOMAIN\radmin for core credentials.
- DOMAINC will have DOMAINC\ragent3 for agent credentials and COREDOMAIN\radmin for core credentials.

Example 2

There are machines at multiple customer sites. The security administrator may want to create 3 accounts on the Replay Core in the ReplayAdministrators group and 1 account each on the Agent machines. To configure authentication using the **ReplayAdministrators** group:



- CUSTOMER A will have CUSTOMER-A\ragent for agent credentials and MSPDOMAIN\CUSTOMER-A for core credentials.
- Customer B will have CUSTOMER-B\ragent for agent credentials and MSPDOMAIN\CUSTOMER-B for core credentials.
- Customer C will have CUSTOMER-C\ragent for agent credentials and MSPDOMAIN\CUSTOMER-C for core credentials.

Exchange 2010 Support

Replay is an Exchange-aware application that supports the VSS writer for Exchange 2010. For single server implementations, Replay protects the active databases. For DAG implementations, passive mailbox database copies can be protected using Replay reducing the performance impact on active databases.

After performing a restore of a volume containing Exchange 2010 databases in a DAG configuration, you may have to activate a copy of a database (if the database was previously active on this node) or perform a synchronization (if the database was a copy).

Using Replay on Exchange Mailbox Role Servers

If a server is not a member of a DAG, the active databases are protected. Replay will protect all of the volumes including the system volume, the database volumes and log volumes. Full system recoveries, volume and database recoveries are supported. Mailbox database and volume rollbacks to Exchange 2010 DAG clusters require some manual steps to complete successfully. See the rollback and restore sections below for more details.



Using Replay on Database Availability Group Members

If a server hosting the data being backed up is a member of a database availability group (DAG) and hosts both active and passive database copies, the best practice is to protect the volumes that contain passive copies of the databases. This means that passive copies should be placed on volumes that don't contain active copies. You need to configure Replay to protect the volumes that contain the passive copies only. In the example below, protect the D volume on DAG member 1, F volume on DAG member 2 and the E volume on DAG member 3. Of course, the system volume should be protected along with all volumes on the CAS servers. Full member node recoveries and passive volumes and database restores are supported.



Rolling Back Non-System Volumes Containing Exchange 2010 Mailbox Databases

To perform a roll back on a volume containing Exchange 2010 data on a DAG failover cluster node, you must take the following steps:

- Ensure that whichever volumes you are rolling back to currently have only active mailbox databases or replicated mailbox database that are in the suspended state.
- Ensure the active mailbox databases corresponding replicated mailbox databases are in the suspended state.
- Roll back the volumes using the Replay Admin Console
- Wait for successful completion of the rollback.
- In EMC mount the restored mailbox database.
- In EMC, on the mailbox database with the Suspended status, perform Update Database Copy operation on the suspended copy. NB: when asked about clearing existing logs or checkpoints always answer yes.

Restoring Exchange 2010 Mailbox Databases

To perform a restore of an individual mailbox database to an Exchange 2010 DAG failover cluster, the automatic rollback feature in Replay is not available. Instead, the following manual steps must be taken:

- Stop all Replay snapshots until resumed
- In the Exchange Management Console (EMC) suspend mailbox database copy for the active mdbs you are about to restore
- In EMC, dismount the active mailbox databases you are about to restore
- In Replay Admin Console, mount as read-only the recovery point that contains the mailbox database you are about to restore
- On the active mailbox databases, move or delete ALL files that comprise the mailbox databases you are restoring from their respective directories
- Copy ALL files that comprise mailbox database that you are restoring from the mounted snapshot to their corresponding directories on the ACTIVE DAG cluster node
- In EMC mount the restored mailbox databases.
- In EMC, on the mailbox databases with the Suspended status, perform Update Database Copy operation on the suspended copy. NB: when asked about clearing existing logs or checkpoints always answer yes.

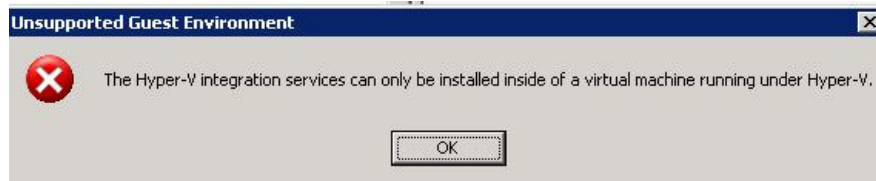
Upon correctly executing these steps the mailbox database will be restored to the active DAG node, servicing clients with a healthy copy in progress.

Converting Windows 2003/Windows XP Replay Images to Hyper-V

In order to export Windows 2003 machines to Hyper-V, you must install the Hyper-V integration components on the Windows 2003 server before creating a Replay snapshot. You can find the integration components ISO, vmguest.iso, in the c:\windows\system 32 folder on any Windows 2008 Hyper-V host.

If you run the setup.exe in the root of this disk on a Windows 2003 server, it will not install. You will get the message

The Hyper-V integration services can only be installed inside of a virtual machine running under Hyper-V



To get around this you have to drill down to the en-us\update folder and run update.EXE. Now on the server you will then see the hyper-v guest components installed in add/remove programs.

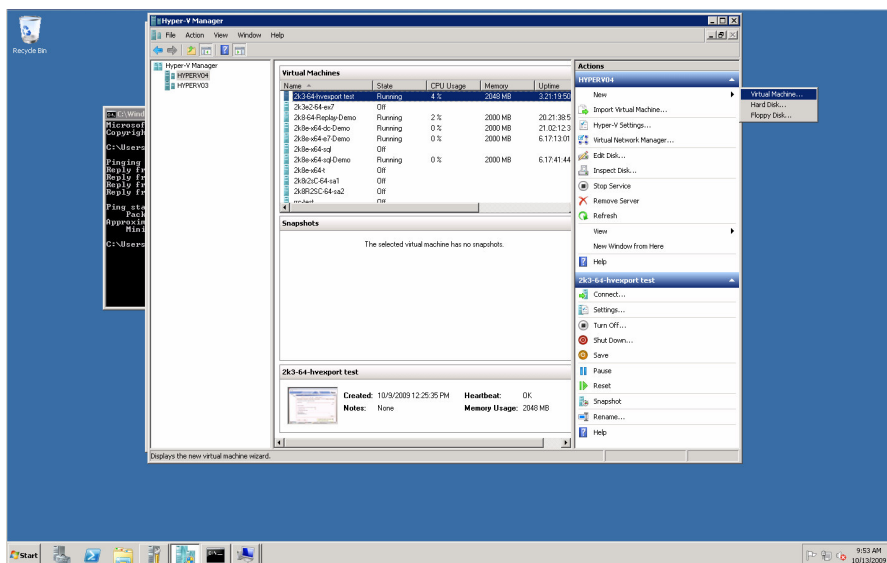
You can now proceed with creating a Replay snapshot of the Windows Server 2003/Windows XP machine. When the snapshot is complete, create a VHD by using the "Create VM" command from the Recovery Points tab and select "Hyper-V R2" as the export type.

Windows Server 2008 and Windows Server 2008 R2 includes the integration components so the above steps are not required.

Attaching an Exported VHD

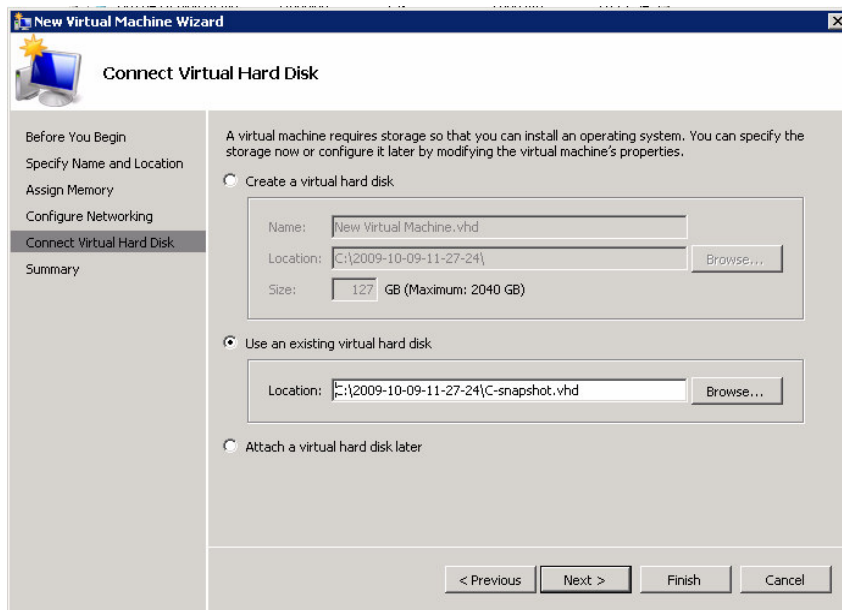
In order to attach an exported VHD, please perform the steps below.

1. Make sure the VHD is accessible from the Hyper-V host.
2. Open the Hyper-V console and create a new VM.



3. Configure the new Virtual Machine.
4. Attach the VHD from the Replay export.

5. After creating the new virtual machine, use settings for the virtual machine and match the number of CPU's from the source machine.
6. After the new VM is booted for the first time installed the hyper-v integration components then it will ask for a reboot, reboot.



Resync vs. Base Images

The difference between a base image and a resync lies in how the Replay Core handles the data it receives from the Replay Agent. In the case of a base image, every block sent by the agent is stored in a new base image file, which starts a new epoch chain. In a resync, every block sent by the agent is compared to the value of the same block as it appears in the most recent snapshot of the agent; any block that doesn't match is written to a new epoch file, which becomes part of an existing epoch chain.

Whenever an agent transmits a base image (due to volume inconsistency after a system failure, an improper volume dismount, a dirty volume, or a missing previous epoch), the core attempts to perform a resync if possible (the only exception to this is when the 'Force Base Image' option is used in the admin console). A resync is possible if there is a valid epoch chain on the core for the volume being transferred (uniquely identified not by drive letter but by a Replay-assigned GUID), and the most recent epoch in that chain can be successfully mounted by Replay. If a resync is not possible, the core automatically reverts to transferring a normal base image.

Scheduling Detailed Integrity Checks and Rollups

Detailed integrity checks and rollups jobs can be scheduled on a per protected server basis. This feature is useful when protecting multiple very large transactional environments from one Replay Core. For example, you can schedule rollups to run on the weekend to reduce pressure during the week when you run detailed integrity checks.