ExaGrid

Using Veeam Backup and Replication™ Software With an ExaGrid System

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Preface

This guide provides instructions on how to use the Veeam Backup and Replication Software backup product with the ExaGrid System. This guide assumes the reader is experienced with Veeam and the ExaGrid System.

Veeam provides a number of ways to backup data. This guide provides basic backup examples. More experienced users will be able to use the information provided in this guide and build more complex backup schemes.

Purpose

The purpose of this guide is to suggest configurations, processes and procedures that will optimize the use of Veeam with the ExaGrid System.

Related Documentation

Title	Part Number
ExaGrid Administrator's Guide	210-0165-xx
ExaGrid Release Notes	210-0174-xx

Contacting ExaGrid Technical Support

If you have technical questions about this product that are not answered in this document contact ExaGrid Support:

- Email: support@exagrid.com
- Phone: 800-868-6985 and at the prompt, press 2.

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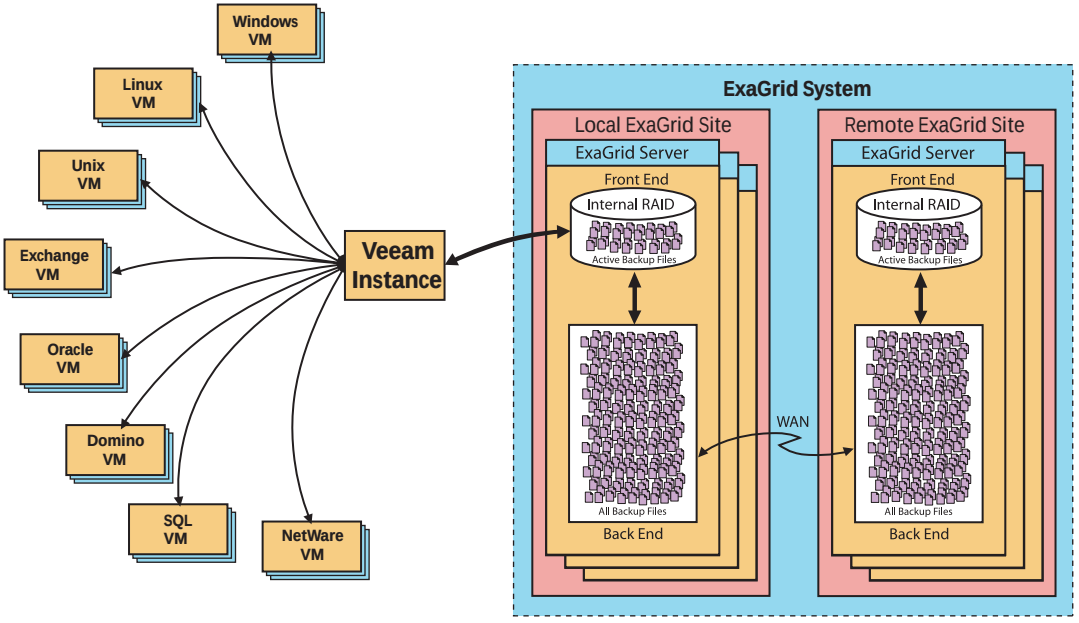
Using Veeam 5.x With an ExaGrid System

This guide provides a basic example of how to use Veeam 5.x to backup to an ExaGrid Share.

Experienced Veeam 5.x users will be able to use the information provided in this guide and build more complex backup schemes.

The ExaGrid System supplements Veeam 5.x's backup capabilities, providing improved data protection management, fast and reliable online data restores, enhanced security, and rapid data recovery from system or site disasters.

The ExaGrid System Architecture is described in detail in the *ExaGrid Administrator's Guide* and ExaGrid online help. The following architectural information may be of particular interest to Veeam 5.x users:



- A Veeam 5.x Server writes to an ExaGrid Share on an ExaGrid Server using the CIFS protocol.
- The first time the backup job is written to an ExaGrid System, there is nothing for it to deduplicate against; so the ExaGrid System only compresses the backup.
- The next time the backup job writes to the ExaGrid System, the new backup is compared to the previous backup.
- The ExaGrid System keeps only the unique bytes in the previous backup.
- The ExaGrid System keeps the most recent version of the backup in its entirety.
- In dual site configurations, you can specify whether or not to maintain a copy of a share on the second site.

ExaGrid Shares

Before you can use Veeam 5.x to backup to an ExaGrid System, you must first create an ExaGrid Share. You will then use Veeam 5.x to write to the ExaGrid Share.

ExaGrid Share Considerations

How many shares to create, which ExaGrid Server(s) will host which shares and what data will be backed up to a share must be part of your overall backup strategy. As part of your strategy, consider:

- For systems with multiple ExaGrid Servers, creating shares on ExaGrid Servers in such a way that the backup load is evenly distributed across ExaGrid Servers.
- Creating no more than 20 shares per ExaGrid Server but no more than 80 shares per ExaGrid Site.
- Use unique share names across your ExaGrid System. You must use unique share names on each ExaGrid Server. In addition, ExaGrid recommends using unique share names across your ExaGrid System. Doing so will:
  - Make ExaGrid reports easier to interpret
  - Avoid share name conflicts in disaster recovery scenarios
  - Avoid share name conflicts if you decide to migrate a share to another ExaGrid Server
- Creating multiple shares. Doing so allows you to:
  - More easily manage and identify data contained in a share.
  - Group data that needs to be copied and protected to a second site. This will ensure that only the data that needs to reside on the second site is copied over your network, thereby keeping network traffic to a minimum.
  - More efficiently migrate shares to a new ExaGrid Server. The more data a share contains, the longer it will take to migrate. When creating shares and their associated backups, consider future growth of your system and which data you may want to move (migrate) to a ExaGrid Server in an expanded system.
- How many NICs are available on the ExaGrid Server being written to. Systems with multiple NICs allow you to write backup data from multiple sources to multiple shares.
- Veeam backup jobs with similar VM guest machines (platform, software, etc.) will get additional deduplication when sent to a common ExaGrid Veeam Share.

How to Create a Veeam 5.x Share

This section provides a very high-level description of how to create an ExaGrid Share. Detailed instructions on how to create an ExaGrid Share can be found in the *ExaGrid Administrator's Guide* and the ExaGrid online help.

To create an ExaGrid Share:

1. In the ExaGrid Manager's navigation tree, click the ExaGrid Server's name on which you want to create the share.
2. In the ExaGrid main menu, click **Manage**.
3. From the drop down menu, click **Shares**.
4. In the Task area click **New**. The Create New Share page is displayed.
5. From the drop down list select **Veeam**.
6. In the space provided, enter a name for the share. You must use unique share names on each ExaGrid Server. In addition, ExaGrid recommends using unique share names across your ExaGrid System. Doing so will:
   - Make ExaGrid reports easier to interpret
   - Avoid share name conflicts in disaster recovery scenarios
   - Avoid share name conflicts if you decide to migrate a share to another ExaGrid Server.
7. For multi-site systems, select whether or not you want to replicate (copy) the share to a second site. Putting a copy onto another site provides an additional layer of protection for your data.

   For example, you can create a share dedicated to full backups and keep a copy of those backups on another site. At the same time you can create a share dedicated to incremental backups and not copy the share to the second site.
8. If the share is to be copied to another site, from the drop down menu, select the site.
9. Enter the IP address and subnet mask for the device(s) that will write to the share.

Note – Some devices may use more than one IP address. You must include all IPs/names of all devises (physical or virtual) that will write to the share.

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10. Click **Done.**

Recommended Veeam 5.x Job Settings

Veeam 5.X users must use ExaGrid's Veeam Share as a mount point for Veeam to write its backups.

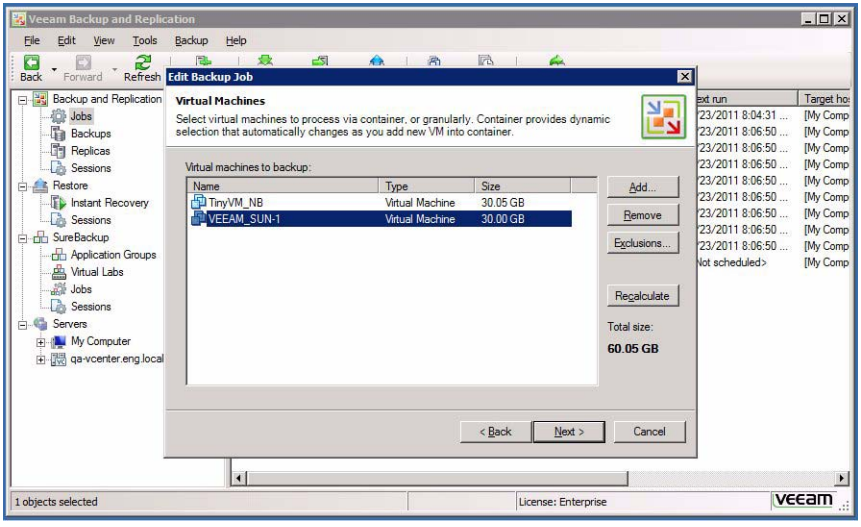
The following is a list of the settings required to use Veeam 5.x to backup to an ExaGrid System.

- Processing Mode Advanced dialog box:
  - You may use **Encrypt LAN** traffic as needed
- Backup Destination Advanced Settings, Backup tab:
  - Ensure **Reversed Incrementals** is unchecked
- Backup Destination Advanced Settings, **Storage** tab:
  - Check **Enable inline data deduplication.**
  - Set **Optimize for** as **Local Target**.
  - From the Compression drop down menu, select **None**
- Backup Destination Advanced Settings, **Advanced** tab:
  - Uncheck **Enable automatic backup integrity checks**.
- Synthetic backups
  - Synthetic backups are run on the ExaGrid Server that hosts the Veeam Share. To minimize the impact on system performance, ExaGrid recommends running synthetic backups according to Veeam's recommended recipe of: After the initial full backup, run daily incrementals and weekly synthetics.
- Instant Recovery, Sure Backup and Application Item Recover
  - These Veeam features may only be used from an ExaGrid Source Share. do not use them with an ExaGrid InstantDR Share.
- Guest File Level Recovery
  - May be used from either an ExaGrid Source Share or an ExaGrid InstantDR Share.
- Import
  - Veeam's Import function may be used to browse to and restore a file from an ExaGrid InstantDR share. However, you may not power on a VM that resides on an InstantDR share.
- Agent Nodes
  - Veeam allows you add Linux boxes as servers. ExaGrid Servers are Linux boxes and MAY NOT be added.

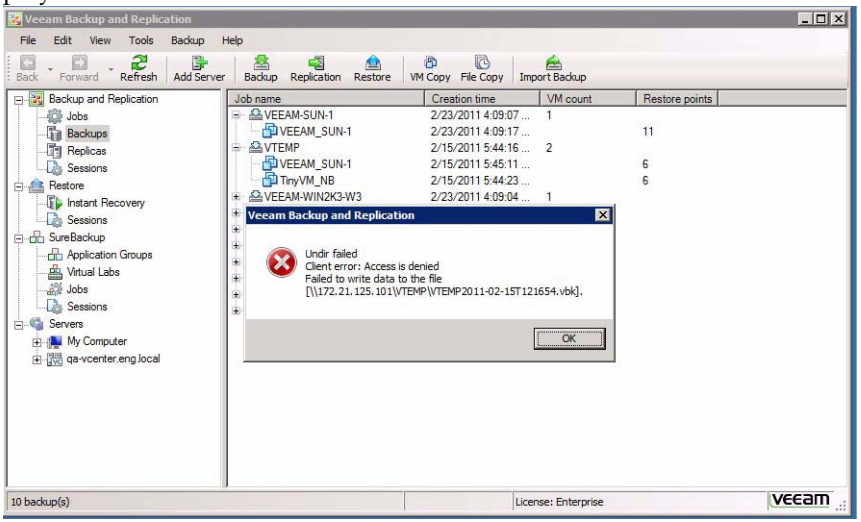
- Deleting VMs from a backup file

  Veeam provides a facility to delete individual VM backups from a backup job.

  Instead of deleting VMs, ExaGrid requires changing backup jobs to stop backing up unwanted VMs. This will allow Veeam to age out the backup files that contain the unwanted VMs.



In some cases, if you try to delete a single VM from a backup job an error dialog box will be displayed



Finally, if you do delete a VM from a backup job, Veeam will not recognize that backup file as one of its save points and will not age it out when it reaches the job's defined retention period. Such backup files must be removed manually:

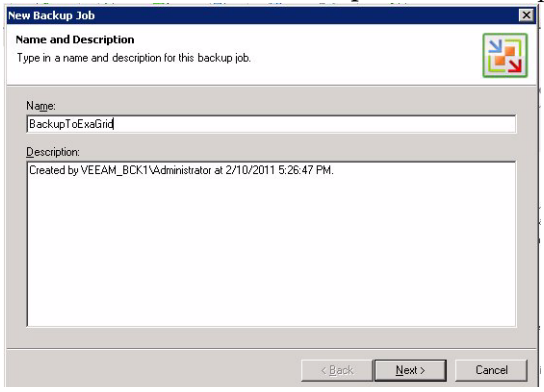
1. Via Windows Explorer, access the ExaGrid Veeam share that contains the Veeam backup files.

2. Delete the Veeam backup files (.vbk and .vib) whose time stamp in the backup job's name is older than the backup job's defined retention period.

Creating a Veeam 5.x Backup

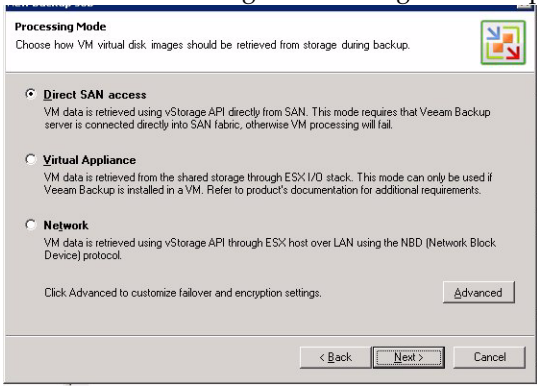
To create a Veeam backup job with the recommended settings:

1. In the Veeam main menu, click **Backup** and the backup wizard will start:



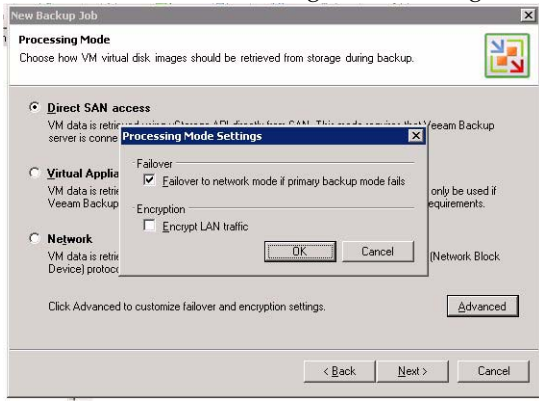
2. In the **Name and Description** dialog box, enter a name and description for the backup job.

3. Click **Next** and the Processing Mode dialog box is displayed:

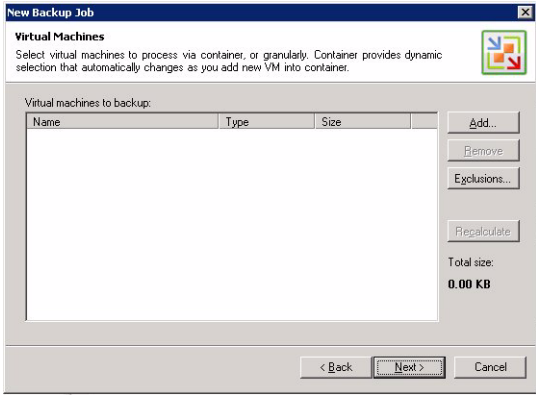


4. Select a mode as needed.

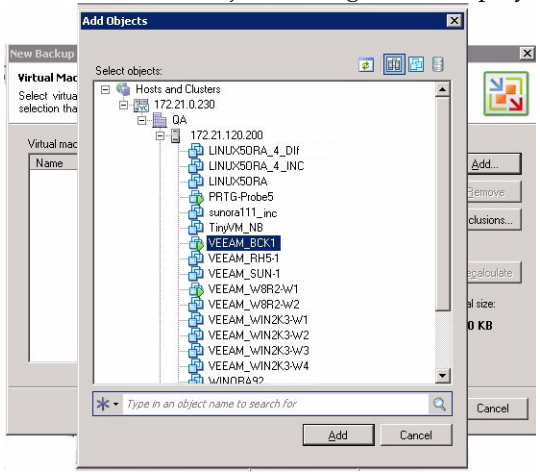
5. Click **Advanced** and the Processing Mode Settings dialog box is displayed:



6. Check the **Failover setting** as needed.
7. Select **Encrypt LAN** traffic as needed
8. Click **OK** and the Processing Mode Settings dialog box closes
9. Click **Next** and the Virtual Machines dialog box is displayed:



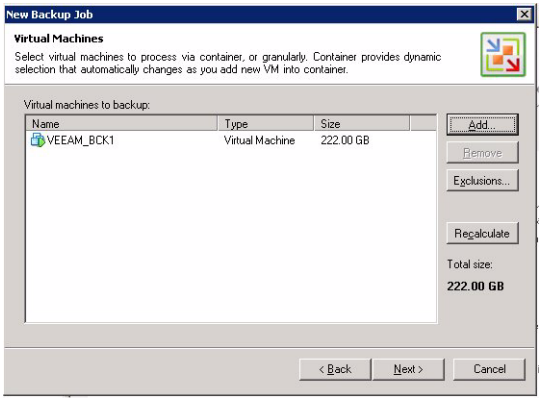
10. Click **Add** and the Add Objects dialog box is displayed:



11. Expand the objects tree until you find the virtual machine(s) you want to backup.

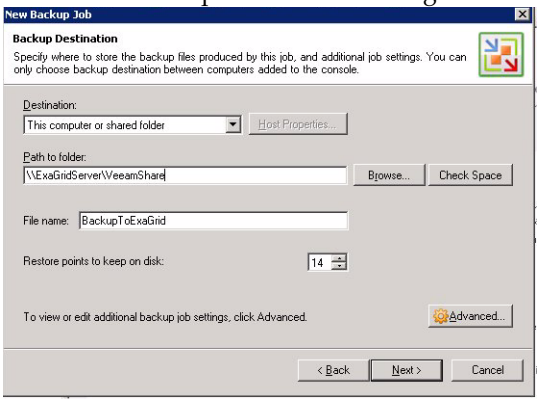
12. Select a virtual machine(s).

13. Click **Add** and the selected virtual machine is added to the list of virtual machines to be backed up:



14. Add more virtual machines as needed.

15. When you are done adding virtual machines, in the Virtual Machine's dialog box click **Next** and the Backup Destination dialog box is displayed:

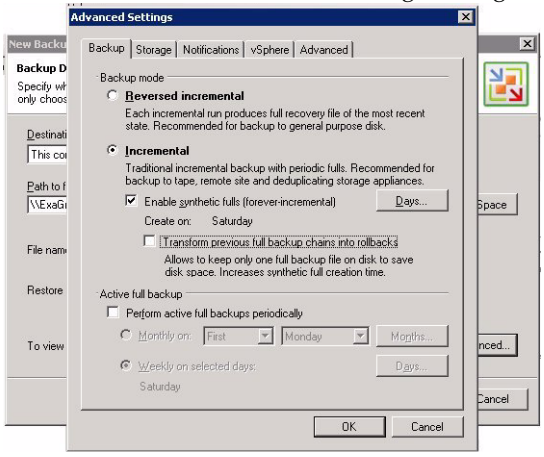


16. In the destination space, keep the default of **This computer or shared folder**.

17. In the **Path to Folder** space, enter the fully qualified path to the ExaGrid Veeam Share that you created for this backup job.

18. Enter a **File name** as needed. Using the job name, which is the default, will make finding the file name easier.

19. Click **Advanced** and the Advanced Settings dialog box is displayed:



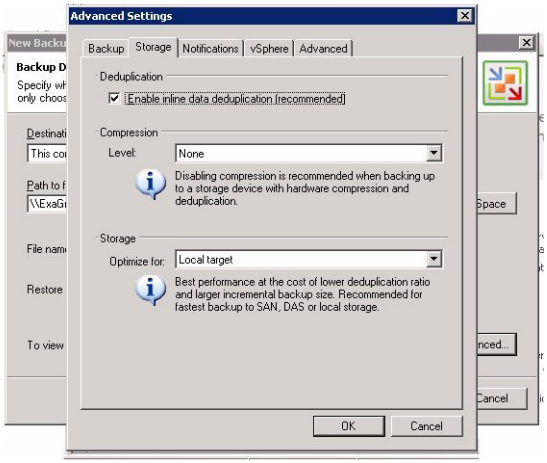
20. Ensure **Reversed Incrementals** is unchecked.

21. Enable synthetic fulls as needed

Note – Since synthetic backups are run on the ExaGrid Server that hosts the Veeam Share, to minimize the impact on system performance, ExaGrid recommends running synthetic backups according to Veeam's recommended recipe of after the initial full: daily incrementals, and weekly synthetics.

22. Make other selections as needed.

23. Click the **Storage** tab and the Advanced Settings for storage features are displayed:



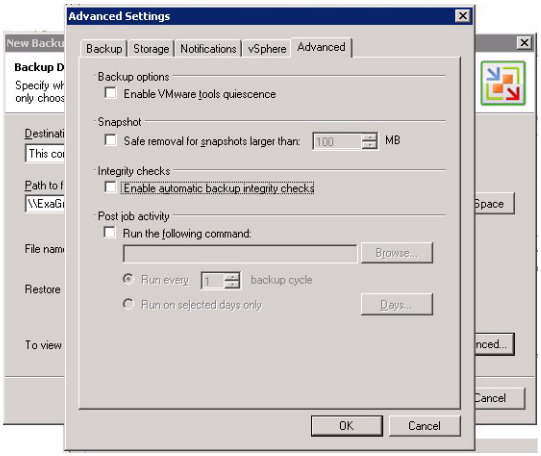
24. Check **Enable inline data deduplication.**

25. From the Compression Level drop down menu, select **None.**

26. From the Storage Optimize for drop down menu, select **Local Target**.

27. Make selections in the **Notification** and **vSphere** tabs as needed.

28. Click the **Advanced** tab and the Advanced Settings for the advanced features are displayed:

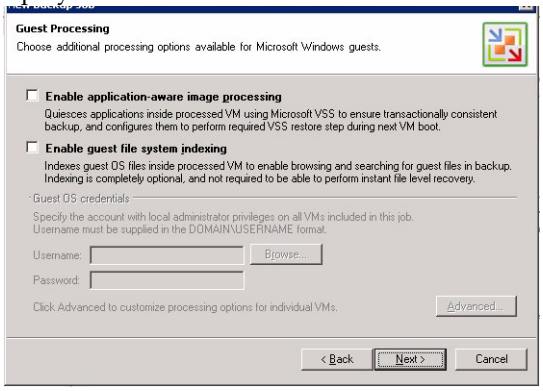


29. Uncheck **Enable automatic backup integrity checks**.

30. Make other selections as needed

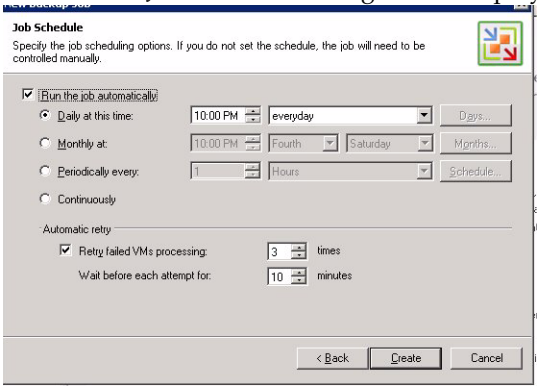
31. Click **OK** and the Advanced Settings are set

32. In the Backup Destination dialog box click **Next** and the Guest Processing dialog box is displayed:



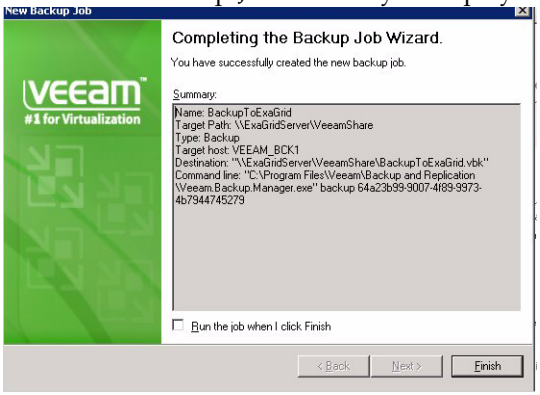
33. Set Guest Processing options as needed.

34. Click **Next** and the Job Schedule dialog box is displayed:



35. Set the job schedule as needed.

36. Click **Next** and the backup Job Summary is displayed:



37. Click **Finish** and your backup job will run according to schedule.

Recovering

Recovers are done from the Veeam user interface. Consult the Veeam documentation for details.

Disaster Recovery

A Veeam server close to the ExaGrid Site that hosts a replicated Veeam InstantDR Share can find and import backup(s) on a replicated Veeam Share.

Once imported, you must recover the entire VM (or entire disks in the VM). ExaGrid does not support booting a VM from an InstantDR share.

In case of a disaster, if a Veeam Share is replicated to another ExaGrid Site, the Veeam share can be recovered to the ExaGrid Site that hosts the replicated share. The recovered ExaGrid Share will become the primary share. In this case, because the recovered share is the primary share, you may, via Veeam, boot the VM directly from the recovered, primary share.

Using Veeam 4.x With an ExaGrid System

Veeam 4.X users must use ExaGrid's Utility Share as a mount point for Veeam to write its backups.

Utility Shares are designed to accommodate any data type. Data may be copied manually, through a script or from an application to a Utility Share.

- Data in Utility Shares is not deduplicated and can not be replicated to a second ExaGrid Site.
- You may only create one Utility Share per ExaGrid Server.
- When you create a Utility Share you must allocate a specific amount of storage space to the Utility Share. The space allocated is taken proportionately from the host ExaGrid Server's landing space and retention space.
- When you create a Utility Share, the amount of available landing space and retention space reported in Summary Reports will be automatically adjusted.
- When allocating space, you must consider the impact of the space allocation on your backup landing space as well as your retention space.

Caution – It is possible to allocate space for a Utility Share such that it interferes with your ExaGrid Server's ability to accept and retain backups from other backup applications. Because of this, ExaGrid recommends that you allocate no more than twenty percent (20%) of the ExaGrid Server's space to a Utility Share.

How to Create an ExaGrid Utility Share

This section provides a very high-level description of how to create an ExaGrid Utility Share. Detailed instructions on how to create an ExaGrid Utility Share can be found in the *ExaGrid Administrator's Guide* and the ExaGrid online help.

To create an ExaGrid Utility Share:

1. From the navigation tree, select the ExaGrid Server that will host the share.
2. In the main menu, click **Manage**.
3. From the drop down menu, click **Shares**. The Shares page is displayed.
4. In the Tasks column, click **New**. The New Share Wizard is displayed.
5. From the share type drop down menu, select **Utility**.
6. In the space provided, enter a name for the share.
7. Select **CIFS** as the protocol that Veeam will use to write to the ExaGrid Utility Share.
8. Use the Reserved Space slider to allocate space for the Utility Share.

Caution – A Utility Share's size should not exceed 20% of the total space on its host ExaGrid Server.

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9. In the spaces provided, enter the Share Access Whitelist information:

   a. In the spaces provided enter the IP address or DNS names of backup servers, media servers and other devices allowed to backup to this share. If a backup server uses multiple IP addresses, all IPs for that server must be entered in the list.

   b. In the spaces provided, enter the subnet mask associated with the backup servers that are allowed to write to this share. If you have specified an IP address for the backup server(s), leaving this field blank will restrict access to the specified IP address.

   c. To add IP addresses and subnet masks, click **Add**.

Note – Some devices may use more than one IP address. You must include all IPs/names of all devices (physical or virtual) that will write to the share.

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10. Click **Create** and the new share confirmation screen is displayed.

11. Click **OK** and the new ExaGrid Utility Share is created.

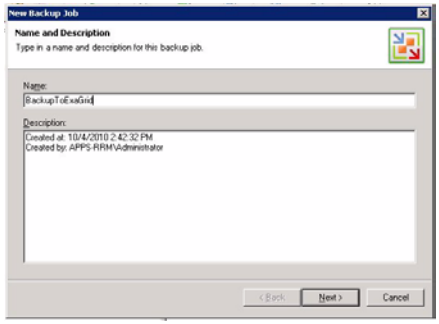
Recommended Veeam 4.x Job Settings

The following is a list of the settings required to use Veeam 4.x to backup to an ExaGrid System.

- Veeam 4.x backups must be written to an ExaGrid Utility Share. Utility Shares are not deduplicated and can not be replicated to a second ExaGrid Site.
- A Utility Share's size should not exceed 20% of the total space on its host ExaGrid Server.
- The Utility Share must be set to accept CIFS backups.
- Veeam recommends that the amount of space allocated should equal the total size of the VM(s) being backed up.
- To minimize the amount of space consumed, in the job's Advanced Settings:
  - Check **Enable inline deduplication**
  - From the **Compression** level drop down menu, select **Optimal**.

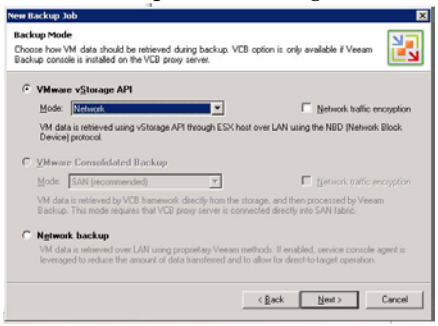
To create a Veeam backup job with the recommended settings:

1. In the Veeam main menu, click **Backup** and the backup wizard will start:



2. In the **Name and Description** dialog box, enter a name and description for the backup job.

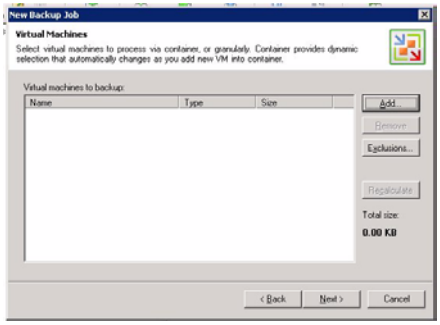
3. Click **Next** and the backup Mode dialog box is displayed:



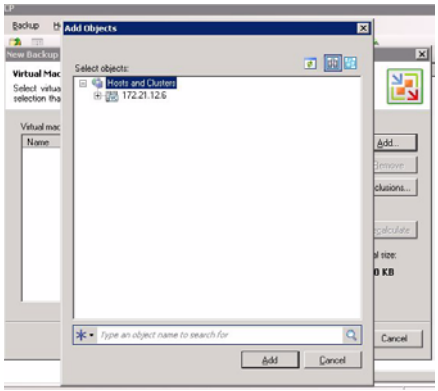
4. Select **VMware vStorage API**.

5. From the **Mode** drop down menu, select **Network.**

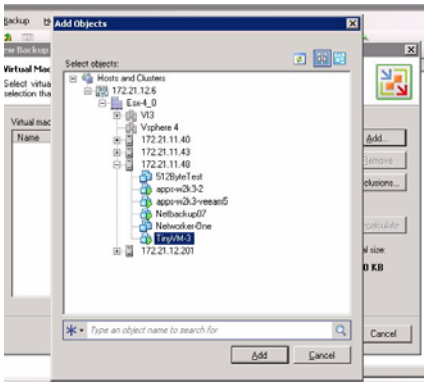
6. Click **Next** and the Virtual Machines dialog box is displayed:



7. Click **Add** and the Add Objects dialog box is displayed:

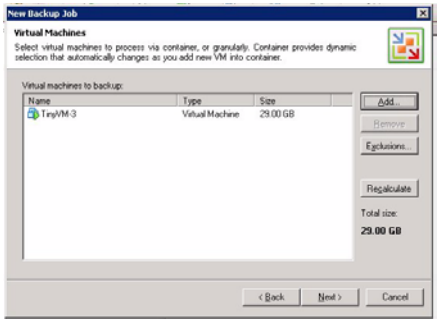


8. Expand the objects tree until you find the virtual machine you want to backup



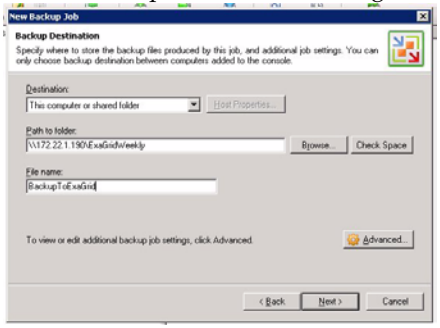
9. Select the virtual machine

10. Click **Add** and the virtual machine is added to the Virtual Machine's dialog box:



11. Add more virtual machines as needed.

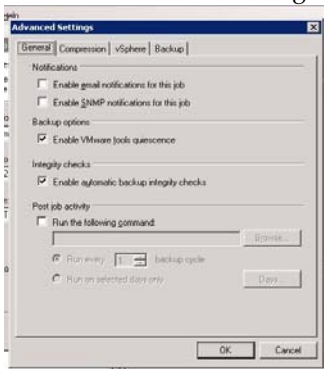
12. When you are done adding virtual machines, in the Virtual Machine's dialog box click **Next** and the Backup Destination dialog box is displayed:



13. In the **Path to Folder** space, enter the fully qualified path to the ExaGrid Utility Share that you created for this backup job.

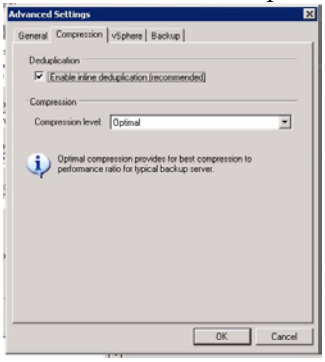
14. Enter a **File name** as needed.

15. Click **Advanced** and the Advanced Settings dialog box is displayed:



16. Set the General Advanced Settings as needed.

17. Click the **Compression** tab and the compression advanced settings are displayed:



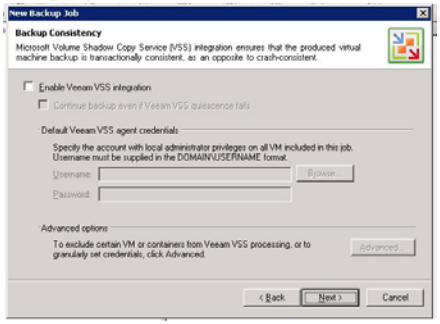
18. Check **Enable inline deduplication.**

19. From the **Compression level** drop down menu, select **Optimal**.

20. In the other **Advanced Settings** tabs, make other selections as needed.

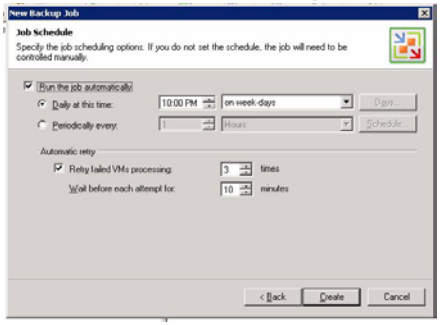
21. Click **OK** and the Advanced Settings are set

22. In the Backup Destination dialog box click **Next** and the backup Consistency dialog box is displayed:



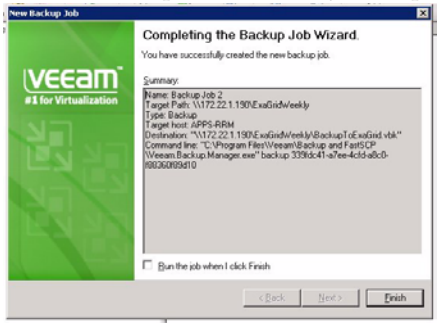
23. Make Backup Consistency settings as needed.

24. Click **Next** and the Job Schedule dialog box is displayed:



25. Set the job schedule as needed.

26. Click **Next** and the backup Job Summary is displayed:



27. Click **Finish** and your backup job will run according to schedule.

ExaGrid

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Part Number: 210-0317-01

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