

reduxio

Reduxio Best Practices for  
**Veeam Backup & Replication v9**

For more information, refer to Reduxio website at <http://www.reduxio.com>.  
If you have comments about this documentation, submit your feedback to [docs@reduxio.com](mailto:docs@reduxio.com).

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## **Preface**

This *Reduxio Best Practices for Veeam Backup and Replication* guide provides recommendations on the integration of Reduxio and the Veeam Backup & Replication Suite.

## **Intended Audience**

This *Reduxio Best Practices for Veeam Backup and Replication* guide is intended for anyone who needs to plan and configure Reduxio storage systems integrated with Veeam Backup & Replication Suite.

This information is written for experienced system and storage administrators.

## **Technical Support**

For additional support, refer to <https://support.reduxio.com>.

# Overview

## Introduction

Veeam® Backup & Replication™ is an advanced backup and availability solution used by many virtualization customers. It provides backup, recovery and replication for VMware vSphere and Microsoft Hyper-V virtual environments.

Reduxio storage provides built-in data recoverability for VMs and databases back to any second in the past without requiring an additional hardware, software or configuration.

As a Veeam Technology Alliance Partner, Reduxio has worked with Veeam to provide a complete, robust and easy-to-use data protection solution for the virtual environment.

## The Business Challenge

Customers are finding it harder than ever to protect the IT infrastructure. On one hand, there is an increasing demand for application performance and availability, but on the other hand, the need to constantly protect applications and data. In other words, the requirement is to keep the environment recoverable from any disaster at all times.

## Reduxio Storage and Veeam

Reduxio Storage unique built-in data protection capability to any second, complemented by Veeam's rich remote backup capabilities provide best in class data availability and protection.

With the combined solution customers can:

- Achieve ultimate data availability.
- Reduce VM recoverability to seconds and minutes.

## Best Practices

### Recommended Usage

Table 1 - Solution Use Cases lists the various use cases of the combined Reduxio/Veeam solution.

[Table 1 - Solution Use Cases](#)

Use Case	Best Practice
If a VM needs to be recovered to a time unavailable in Veeam...	<p>For backup:</p> <ul style="list-style-type: none"><li>• Configure daily Veeam backup job.</li><li>• Configure Reduxio history policy to provide the desired history of seconds.</li></ul> <p>For recovery:</p> <ul style="list-style-type: none"><li>• If there is a Veeam backup job available for the required restore time use it for the recovery.</li></ul>

	<ul style="list-style-type: none"> <li>• Otherwise, use Reduxio BackDating for VM recoveries. It is recommended to use the Reduxio Storage Manager for vSphere to perform this recovery.</li> </ul>
<p>If an RDM needs to be recovered but backup was performed with support for Storage Snapshots...</p>	<p>RDMs are skipped during Storage Snapshot backups.</p> <p>For backup:</p> <ul style="list-style-type: none"> <li>• Consider switching to a standard backup method.</li> </ul> <p>For recovery:</p> <ul style="list-style-type: none"> <li>• Use Reduxio BackDating. BackDating supports the recovery of any volume, including RDMs.</li> </ul>

## Changed Block Tracking (CBT)

Changed Block Tracking (CBT) is a VMware feature that lets virtual machines keep track of disk sectors that have changed. CBT provides backup software such as Veeam Backup & Replication the ability to only back up sectors that have changed since the last backup.

In contrast, when CBT is disabled, Veeam uses a proprietary filtering mechanism. The entire VM image must be scanned so checksums can be calculated for every data block. Checksums are stored next to the regular VM data files. When incremental backup is run, Veeam Backup & Replication must calculate checksums for every current block. This creates many additional read IOs to the storage system.

To enable CBT:

1. In Storage screen, Advanced, vSphere tab, select both options:
  - **Use changed block tracking data (recommended)**
  - **Enable CBT for all protected VMs automatically**

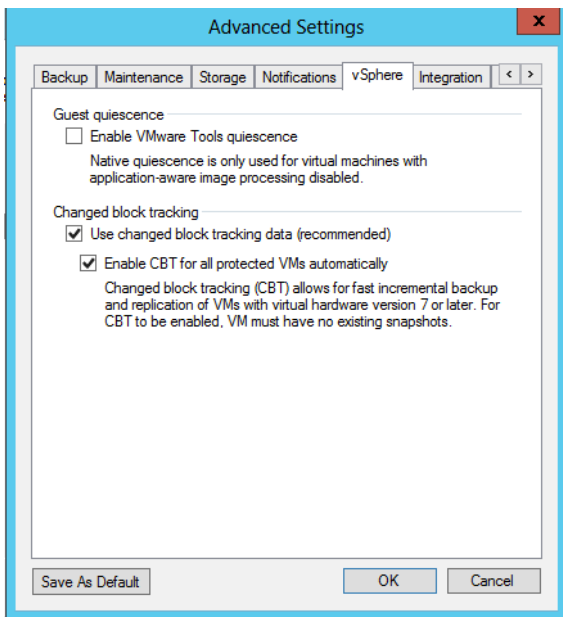


Figure 1 - Backup Job, Advanced Settings

For more information on CBT, refer to:

[VMware KB: Changed Block Tracking \(CBT\) on virtual machines \(1020128\)](#)

## Backup and Reduxio Tier-X™

The first run of a backup job creates a full backup of a VM image. This involves a full read of the entire VM's data blocks from the Reduxio system. Subsequent job runs are incremental, only reading the changed blocks.

When a VM is stored on a Reduxio system, its blocks may be read from any of the following locations, depending on each block's frequency of access:

- Cache
- SSD tier
- HDD tier

The Reduxio Tier-X algorithms automatically place blocks in the best tier based on the changing access patterns. During a VM backup, as blocks are requested by the backup server, Tier-X will fetch the necessary data from the relevant location. If the data is not available in cache, it is fetched from SSD or HDD. In cases where it is fetched from HDD, if this additional read is enough to make this block a frequently accessed one, this block will be promoted to SSD.

## Conclusion

Reduxio enterprise flash storage brings high capacity savings, high performance and exceptional data recovery capability to virtual infrastructure environments. Reduxio BackDating combined with Veeam Backup & Replication software, VMs are protected against the full range of possible disasters. VMs can be recovered to any second, using the Reduxio built-in BackDating capability, and from another site, using Veeam software.

Using the intuitive BackDating feature administrators can recover databases to any second in the past.

# References

## Reduxio Documentation

- [\*Reduxio Administration Guide\*](#)

## Veeam Documentation

- [\*Veeam Backup & Replication v9.0 User Guide for VMware vSphere\*](#)