

Hitachi Content Platform v7 Self-Certification on Symantec Enterprise Vault 10

Lab Validation Report

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Lab Validation Report

The purpose of this report is to document the lab validation results achieved during the Hitachi Content Platform (HCP) version 7.x self-certification tests on Symantec Enterprise Vault version 10.0.4. The results ascertain the integration between Hitachi Content Platform version 7.x, Enterprise Vault (EV) version 10.0.4, and Hitachi Content Platform Adapter for Symantec Enterprise Vault streamer interface version 1.3.

The results demonstrated that both functional and performance tests met the Symantec defined goals satisfactorily and successfully. The lab validation results have been accepted by Symantec, and they have officially confirmed HCP v7.x support by EV version 10.0.4. The certified HCP version 7.x will appear in the next release of the Enterprise Vault compatibility charts, and will automatically appear in subsequent Enterprise Vault releases.

The converged solution stack of HCP and EV, along with the streamer interface, provides robust, flexible, scalable, and easy to manage active archives for both compliance and reference data over the REST interface. This delivers enhanced and better functionality than the legacy CIFS/NFS protocol. It also provides support for many of the advanced storage features of HCP, including replication.

Product Features

This section describes the products that were used in validation testing.

Hitachi Content Platform

[Hitachi Content Platform](#) is a distributed object store that provides advanced storage and data management capabilities. This helps you address challenges posed by ever-growing volumes of unstructured data. Divide a single Content Platform into multiple virtual object stores, secure access to each store, and uniquely configure each store for a particular workload.

Eliminate storage silos using Content Platform with a single object storage infrastructure that supports a wide range of data types, applications, and users with different service level needs in enterprise and cloud environments.

Hitachi Content Platform has a powerful REST-based interface as well as an S3-compatible interface. It automatically moves content based on its business value or your storage related service level agreement to your choice of public cloud storage tiers, including Amazon S3, Microsoft® Azure®, and Google cloud storage based on policy, and still retains control and visibility at all times because the metadata is securely stored on site.

Hitachi Content Platform Adapter for Symantec Enterprise Vault

Hitachi Content Platform and Symantec Enterprise Vault integrate/communicate using the REST interface through the implementation of Hitachi Content Platform Adapter for Symantec Enterprise Vault. The adapter/streamer has full support for tenants and namespaces and allows EV to access HCP in on-premises, cloud, and mixed environments. The streamer interface provides a robust, high performance interface between HCP and Symantec EV. High performance means that more objects can be archived per hour over the legacy CIFS interface and replica awareness is provided for EV.

HCP Adapter for Symantec Enterprise Vault supports storing, retrieving, and deleting EV content streams to and from HCP at the request of EV. HCP systems are presented as primary and/or secondary storage within the Enterprise Vault Administration Console. It also provides support for many of the advanced storage features of HCP, including replication.

Symantec Enterprise Vault

Symantec Enterprise Vault, the industry leader in archiving, enables organizations to efficiently store, effectively manage, and easily discover and retrieve unstructured information as needed for business. Enterprise Vault archives emails and files from primary storage and servers to a centrally managed repository. Retention policies can be placed on content that is centrally managed and enforced by HCP at the storage layer. Once stored, EV allows quick search and retrieval of archived emails and files.

Enterprise archiving reduces storage footprint and costs by up to 60% or more by moving deduplication and compression closer to the source while retention and deletion policies keep information for only as long as it is needed. Content is archived to the cloud, leveraging cloud storage connectors to designate Hitachi Data Systems and other providers as a storage tier for archiving.

Test Environment Configuration

This section describes the hardware and software components used in the test environment configuration.

Table 1. Hardware Components

<i>Hardware</i>	<i>Configuration</i>	<i>Quantity</i>
Hitachi Content Platform 300	<ul style="list-style-type: none"> ▪ Hitachi Compute Rack 220S Intel Xeon CPU E5-2420 0 @ 1.90 GHz ▪ Dual 6 core ▪ 32 GB RAM ▪ 4 node HCP ▪ RAID 6, 6 × 2 TB per node 	1
Symantec Enterprise Vault	<ul style="list-style-type: none"> ▪ Hitachi Compute Rack 220H ▪ Dual × 8 core Intel Xeon E5620 @ 2.40 GHz ▪ 24 GB RAM ▪ Microsoft Windows Server 2012 R2 	1
Microsoft SQL Server	<ul style="list-style-type: none"> ▪ Dell R710 ▪ Dual × 8 core Intel Xeon E5620 @ 2.40 GHz ▪ 12 GB RAM ▪ Microsoft Windows Server 2008 R2 Enterprise 	1

Table 2. Software Components

<i>Software</i>	<i>Configuration</i>	<i>Quantity</i>
Hitachi Content Platform	<ul style="list-style-type: none"> ▪ v7.1.1.17 	1
Symantec Enterprise Vault	<ul style="list-style-type: none"> ▪ v10.0.4 	1
Microsoft SQL Server	<ul style="list-style-type: none"> ▪ SQL Server 2008 R2 	1
Hitachi Content Platform Adapter for Symantec Enterprise Vault	<ul style="list-style-type: none"> ▪ v1.3 	1

Figure 1 shows a high-level configuration overview.

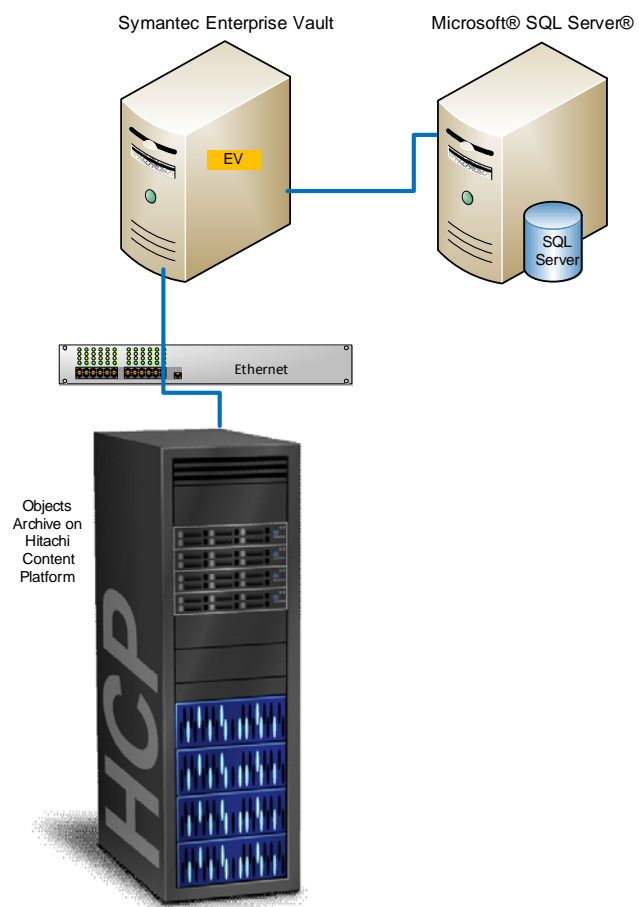


Figure 1

Test Methodology

In order to certify major releases of Hitachi Content Platform with major releases of Enterprise Vault, Symantec furnishes a self-certification kit that encompasses the test case document, questionnaire, and test result template. The test case document is comprehensive and lists all the test configuration steps and pre-checks that need to be incorporated for seamless test execution.

The test scope of this self-certification exercise is to certify HCP v7, which is a WORM device with EV10. Symantec must receive successful functional and performance test results for their analysis in order for HCP v7 to achieve certification status.

The test case is divided into two categories:

Functional tests

- Small Files with After backup set
- Large Files with After backup set
- Small Files with Immediately after archive set
- Large Files with Immediately after archive set
- Rebuild Indexes
- Partition Rollover
- WORM Storage Systems: Retrieving and Extending Retention
- WORM Storage Systems: Retention Boundary Tests
- Verification with EVSVR Operations
- Storage Expiry
- WORM Storage Systems: Storage Expiry and Delete Tests
- Vault Store Delete Test

Performance Tests

- Archive
 - Retrieval
 - Storage Expiry
 - User Delete
-

Table 3 provides the performance rates that are to be achieved for successful completion of Self Certification.

Table 3. Performance Rates

<i>Performance Type</i>	<i>Minimum Rate (Items per Hour)</i>
Archiving	60,000
Retrieval	120,000
Storage Expiry	60,000

The following points are taken into consideration

1. The test cases should be run using the Enterprise Vault Service Account.
 2. All the required Tenants and Namespaces are created on HCP.
 3. All the required data access users with permissions are created on the HCP tenant and namespace.
 4. The HTTP and HTTPS protocols are selected from within the HCP namespace used for testing.
 5. In our testing, the EV server also holds the role of file server.
 6. All NON-WORM test case sections are ignored and not applicable.
 7. Any feature of EV that utilizes the streamer interface such as reading, creation, modification, and deletion of archived items is tested in conjunction with HCP.
 8. HCP is located on the same physical LAN as the Enterprise Vault environment to ensure that performance is not impacted.
 9. The archival and retrieval performance is measured in conjunction with HCP.
 10. The archival performance test will archive 200,000 files to HCP. The total count of archived items/hour is derived using this metric.
 11. The retrieval performance test will retrieve 200,000 files and writes elapsed seconds for every 1,000 items downloaded. Retrieved items/hour is derived using this metric.
 12. The storage expiry will delete all 200,000 archived items. This test is executed after the object retention period has expired (24 hours from the time it was archived). The retention period is set to 1 day in order to execute this test.
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Analysis

This section includes the observations made during the testing and suggests appropriate recommendations accordingly.

Observations

During testing, the following observations were made:

1. All the test cases were successfully executed with a status of "passed."
 2. The test case "enable partition rollover" was successfully executed; however, the use of partition rollover with HCP is not recommended.
 3. Retention boundary tests have been excluded because minimum and maximum retention boundaries are not a feature of HCP.
 4. With respect to the archive performance test requirement, 200,000 files were archived during the test run. All of the files were archived successfully with a status of "archived." The archival rate was well over the minimum threshold value of 60,000 items per hour.
 5. The retrieval performance test successfully downloaded 200,000 archived items. The test significantly exceeded the minimum rate of 120,000 items per hour and retrieved close to 1 million items per hour.
 6. The storage expiry test successfully deleted all 200,000 files from HCP. The test exceeded the minimum rate of 60,000 items per hour.
 7. It has been observed that storage expiry is based on the local time, while the archived date is based on UTC. During the testing it was observed that if the local time was behind UTC, the deletion/expiry of items was late, and conversely if local time is ahead of UTC, expiry can occur early. This has been reported to Symantec and a bug has been raised.
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Recommendations

Based on testing, these recommendations should be followed:

1. With the latest release of HCP v7, all HCP systems should have 32 GB RAM.
 2. Enterprise Vault server should have 8 CPUs and 16 GB RAM.
 3. MSMQ should be located on a dedicated drive instead of the system drive.
 4. Increase the number of threads for the storage archive process to achieve a higher archival rate.
 5. It's always advisable in a production environment to use two distinct physical servers each for Enterprise Vault and SQL Server to achieve the best performance.
 6. For SQL Server, consider having separate disks for SQL installation, data, and logs. Refer to [Enterprise Vault SQL Best Practices](#) for more information.
 7. Follow the network bandwidth guidelines in the [Symantec Performance Guide](#).
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Appendix - Test Results

Table 4 provides a summary of test results.

Table 4. Test Results

<i>Test Case</i>	<i>Results</i>
<i>Functional Tests</i>	
■ Small Files with After backup set	Pass
■ Large Files with After backup set	Pass
■ Small Files with Immediately after archive set	Pass
■ Large Files with Immediately after archive set	Pass
■ Rebuild Indexes	Pass
■ Partition Rollover	Pass
■ WORM Storage Systems: Retrieving and Extending Retention	Pass
■ Verification with EVSVR Operations	Pass
■ Storage Expiry	Pass
■ WORM Storage Systems: Storage Expiry and Delete Tests	Pass
■ Vault Store Delete Test	Pass
<i>Performance Tests</i>	
■ Archiving	Pass
■ Retrieval	Pass
■ Storage Expiry	Pass
■ User Delete	Pass

References

This section contains references that can be used for additional information.

Hitachi Data Systems:

- [Hitachi Content Platform](#)
- [Hitachi Content Platform and Symantec Enterprise Vault](#)
- [Hitachi Content Platform Failover Processing Using Storage Adapter for Symantec Enterprise Vault](#)
- [Hitachi Content Platform v7 Self-Certification on Symantec Enterprise Vault 11](#)

Symantec:

- [Enterprise Vault Documentation](#)
 - [Symantec Enterprise Vault SQL Best Practices](#)
 - <http://www.symantec.com/docs/TECH74666>
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