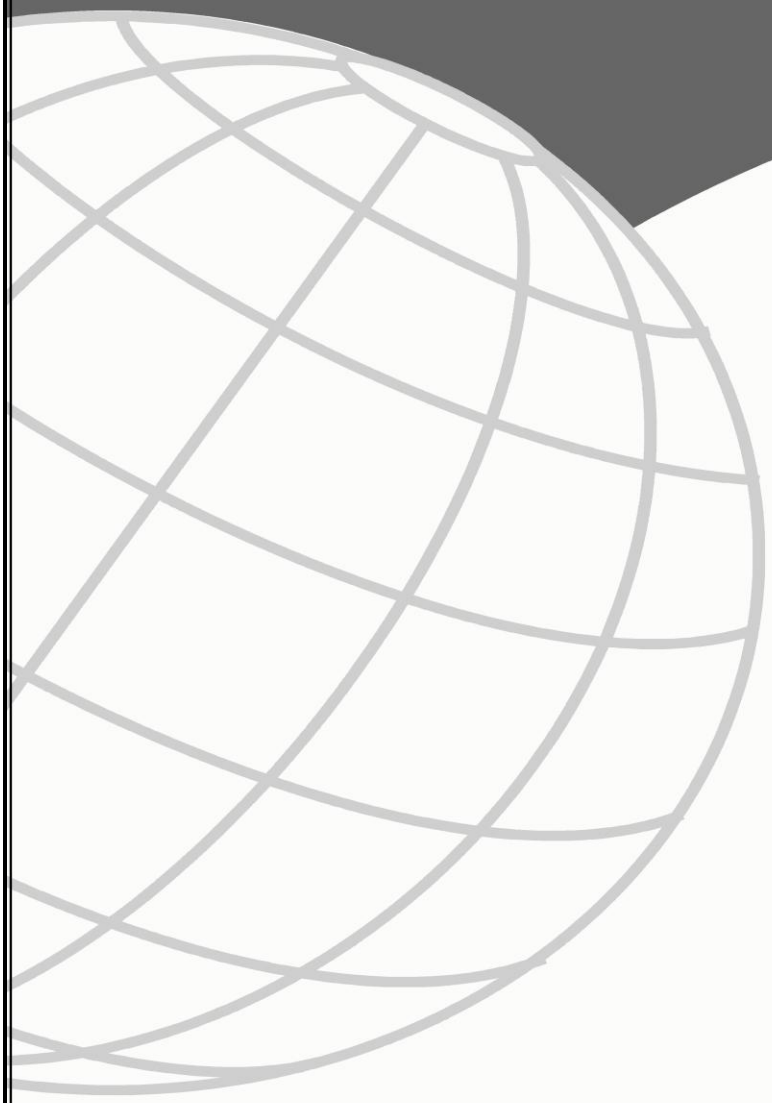

Monitoring Symantec Backup Server

eG Enterprise v6

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Monitoring the Symantec Backup Server

Symantec Backup Exec server (previously Veritas Backup Exec server) is a high-performance data management solution for Windows networks. With its true 32-bit client/server design, Backup Exec provides fast, reliable backup and restore capabilities for servers and workstations across the network.

In IT infrastructures providing mission-critical services to end-users, an efficient backup and restore mechanism is necessary for ensuring that critical servers that are involved in the delivery of a service do not suffer any data loss. Symantec Backup Exec servers are becoming very crucial to the normal functioning of such infrastructures. If the backup/restoration engine of the server fails, or consumes too much time to backup or restore the data of one/more key infrastructure components, these components might not be able to function properly until such time that all its data is restored to it. This in turn could have a disastrous effect on the service delivery. If such an outcome is to be prevented, the Symantec Backup Exec server needs to be closely monitored.

eG Enterprise offers an exclusive *Symantec Backup server* monitoring model (see Figure 1.1), which keeps tabs on the backup and restore operations performed by the server, and reports deviations much before they impact the performance of the server as a whole, or the dependent service.

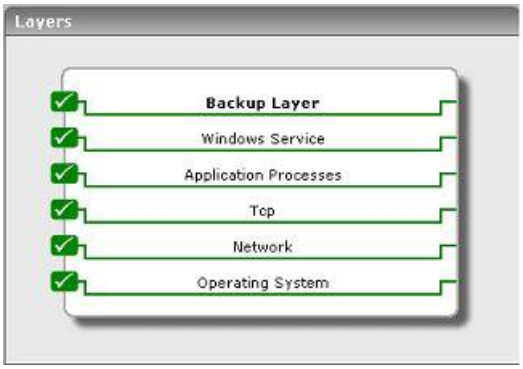

Figure 1.1: The layer model of the Symantec Backup server

The bottom 5 layers of Figure 1.1 have already been discussed elaborately in the *Monitoring Generic Servers* document. The section to follow will discuss the **Backup Layer** alone in detail.

1.1 The Backup Layer

This tests mapped to this layer measure the level of efficiency with which the Symantec Backup server performs backups.

Figure 1.2: Tests running on the Backup Layer

1.1.1 BE Jobs Test

The **BE Jobs** test reports key statistics pertaining to the backup exec engine of the Symantec Backup server. The measures made by this test are as follows:

Purpose	Reports key statistics pertaining to the backup exec engine of the Symantec Backup server		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Active job count: Indicates the number of jobs currently active that are either running or pending.	Number	A high value indicates how active the backup server is, currently. A low value is indicative of lack of activity in the backup server.
	Job count: Indicates the total number of jobs running in the Backup server.	Number	

	Failed jobs: This refers to the number of backup jobs that failed since the last time the test was executed.	Number	A high value of this measure indicates that the backup server is unable to verify or open the object for backup. Check the media for errors.
	Aborted jobs: Indicates the number of aborted jobs.	Number	
	Avg. job run time: Indicates the average time taken by all jobs in the backup server.	Mins	
	Successful jobs count: This refers to the number of backup jobs that were completed successfully since the last time the test was executed.	Number	A high value of this measure indicates the good health of the backup server. A low value indicates that the backup jobs could be aborting or are being skipped due to errors in opening the objects or in the media.
	Avg device wait time: Indicates the average time spent waiting for a storage device by all the jobs since the Backup Exec Engine service was last started.	Mins	A low value is desired for this measure. A high value for this measure indicates that the load on the backup server is high and the backup server is taking to long to process the jobs.
	Avg mount time: Indicates the average time spent waiting for a media (i.e., output device) to be mounted on the storage device (for backup) by all the jobs since the Backup Exec Engine service was last started.	Mins	

	Avg server active time: Indicates the percentage of time for which the Backup Exec Engine service was active since it was last restarted i.e., the percentage of time for which one or more jobs were running.	Percent	A high value is desired for this measure.
	Avg server run time: Indicates the average time for which the Backup Exec Engine service was up since it was last restarted.	Mins	

1.1.2 Backup Job Test

The **Backup Job** test reports the general statistics pertaining to the Backup Exec server running on the Windows network.

Purpose	Reports the general statistics of the Backup Exec server in Windows network.		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Backup job count: Indicates the number of backup jobs in-progress during the current test execution cycle.	Number	A very high value indicates heavy load on the backup server.
	Backup job run time: Indicates the time taken by all backup jobs.	Mins	

	Backup device wait time: Indicates the total time backup jobs have spent waiting for a storage device.	Mins	
	Backup mount time: Indicates the total time all backup jobs have spent waiting for media to be mounted in a storage device.	Mins	
	Total bytes: This indicates the size (in megabytes) of the data that was backed up since the last measurement period.	MB	This measure also indicates how active the backup server is, currently. A sudden low trend indicates that there could be an error in reading the data from the media.

1.1.3 Diff Jobs Test

The **Diff Jobs** test measures how well the Symantec Backup server performs differential backups.

Purpose	Indicates how well the Symantec Backup server performs differential backups		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Diff job count: Indicates the total number of differential backup jobs.	Number	

	Avg diff job dbcctime: Indicates the average time taken running DBCCs by all differential backup jobs which run DBCCs.	Mins	
	Avg diff job pre scantime: Indicates the average time taken running the pre scan by all differential backup jobs with pre scan.	Mins	
	Avg diff job runtime: Indicates the average time taken by all differential backup jobs.	Mins	
	Avg diff job verifytime: Indicates the average verify time taken running all the differential backup jobs.	Mins	

1.1.4 Incr Jobs Test

This test measures how well the Symantec Backup server performs incremental backups.

Purpose	Indicates how well the Symantec Backup server performs incremental backups		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Incr job count: Indicates the total number of incremental backup jobs.	Number	

	Avg incr job dbcctime: Indicates the average time taken running DBCCs by all incremental backup jobs which run DBCCs.	Mins	
	Avg incr job pre scantime: Indicates the average time taken running the pre scan by all incremental backup jobs with pre scan.	Mins	
	Avg incr job runtime: Indicates the average time taken by all incremental backup jobs.	Mins	
	Avg incr job verifytime: Indicates the average verify time taken running all the incremental backup jobs.	Mins	

1.1.5 Normal Jobs Test

This test measures how well the Symantec Backup server performs normal backups.

Purpose	Indicates how well the Symantec backup server performs normal backups		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Normal job count: Indicates the total number of normal backup jobs.	Number	

	Average normal job dbcctime: Indicates the average time taken running DBCCs by all normal backup jobs which run DBCCs.	Mins	
	Average Normal job scantime: Indicates the average time taken running the pre scan by all normal backup jobs with pre scan.	Mins	
	Average Normal job runtime: Indicates the average time taken by all normal backup jobs.	Mins	
	Average normal job verifytime: Indicates the average verify time taken running all the normal backup jobs.	Mins	

1.1.6 Backup Objects Test

This test reports statistics pertaining to backup objects.

Purpose	Reports statistics pertaining to backup objects		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the	**Measurement**	**Measurement Unit**	**Interpretation**

test	**Corrupt object count:** Indicates the number of objects that were found to be corrupt or are corrupt on the media due to some error reading the data during backup.	Number	
	Error skipped object count: Indicates the number of objects that have been skipped because there was an error opening the object during backup.	Number	
	Failed verify object count: Indicates the number of objects failed to verify during verify operations.	Number	
	Inuse skipped object count: Indicates the number of objects that have been skipped because they were in use during backup.	Number	
	Infected object count: Indicates the number of objects that were skipped during backup because they were found to be infected.	Number	
	Total objects: Indicates the total number of objects that have been backed up.	Number	
	Total containers: Indicates the total number of container objects that have been backed up.	Number	
	Total container bytes: Indicates the total number of Megabytes from container objects that have been backed up.	MB	

	Total directories: Indicates the total number of directories that have been backed up.	Number	
	Total directory bytes: Indicates the total number of megabytes from directories that have been backed up.	MB	
	Total files: Indicates the total number of files that have been backed up.	Number	
	Total file bytes: Indicates the total number megabytes from files that have been backed up.	MB	
	Total noncontainers: Indicates the total number of non container objects that have been backed up.	Number	
	Total noncontainer bytes: Indicates the total number of Megabytes from non container objects that have been backed up.	MB	

1.1.7 Exchange Backup Test

The **Exchange Backup** test reports statistics pertaining to the backup jobs that were executed on the Xchange database.

Purpose	Reports statistics pertaining to backup objects
Target of the test	A Symantec Backup server
Agent deploying the test	An internal agent
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup Exec server. Here it is *NULL*.

Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Xchg databases count: Indicates the total number of Exchange databases that have been backed up.	Number	
	Xchg database bytes: Indicates the total number of megabytes from Exchange databases that have been backed up.	MB	
	Xchg mail folders count: Indicates the total number of Exchange mail folders that have been backed up.	Number	
	Xchg mail folderbytes: Indicates the total number of megabytes from Exchange mail folders that have been backed up.	MB	
	Xchg mail message count: Indicates the total number of Exchange mail messages that have been backed up.	Number	
	Xchg mail message bytes: Indicates the total number of megabytes from Exchange mail messages that have been backed.	MB	
	Xchg mailboxes count: Indicates the total number of Exchange mailboxes that have been backed up.	Number	
	Xchg mailbox bytes: Indicates the total number of megabytes from Exchange mailboxes that have been backed up.	MB	

1.1.8 SQL Backup Test

The SQL Backup test reports statistics pertaining to the SQL server database backups.

Purpose	Reports statistics pertaining to the SQL server database backups		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	SQL server databases count: Indicates the total number of SQL Server databases that have been backed up.	Number	
	SQL server database size: Indicates the total number of megabytes from SQL Server databases that have been backed up.	MB	
	SQL server file groups count: Indicates the total number of SQL Server file groups that have been backed up.	Number	
	SQL server filegroup size: Indicates the total number of megabytes from SQL Server file groups that have been backed up.	MB	
	SQL server tables count: Indicates the total number of SQL Server tables that have been backed up.	Number	

	SQL server table size: Indicates the total number of megabytes from SQL Server tables that have been backed up.	MB	
	SQL server file group containers count: Indicates the total number of file group containers of the SQL server that have been backed up since the Backup Exec Engine service was last restarted.	Number	
	SQL server file group container size: Indicates the amount of data of the file group containers that have been backed up since the Backup Exec Enginee service was last restarted.	MB	
	Data backed up per sql server filegroup container: Indicates the average data that is backed up per SQL server file group container.	MB	The value of this measure is calculated using the formulae: SQL server file group container size / SQL server file group containers count
	SQL server table containers count: Indicates the total number of SQL server table containers that have been backed up since the Backup Exec Enginee service was last restarted.	Number	
	SQL server table container size: Indicates the amount of data of the table containers that have been backed up since the Backup Exec Engine service was last restarted.	MB	

	Data backed up per sql server table container: Indicates the average of data that is backed up per SQL server table container.	MB	The value of this measure is calculated using the formulae: SQL server table container size/ SQL server table containers count
	Total utility partitions count: Indicates the total number of utility partitions of the SQL server that have been backed up since the Backup Exec Engine service was last restarted.	Number	
	Total utility partition size: Indicates the amount of data of the utility partitions that have been backed up since the Backup Exec Engine service was last restarted.	MB	
	Data backed up per utility partition: Indicates the average data that is backed up per utility partition.	Percent	The value of this measure is calculated using the formulae: Total utility partition size/ Total utility partitions count

1.1.9 Backup Jobs Test

This test reports the general statistics pertaining to the Backup Exec server running on the Windows network. This test is disabled by default, and has been retained only to ensure backware compatability with previous versions of eG Enterprise. To enable the test, go to the **ENABLE / DISABLE TESTS** page using the agents -> Tests -> Enable/Disable menu sequence, pick **Veritas Backup Exec** as the component-type, pick **Performance** as the test type, select this test from the **DISABLED TESTS** list, and click the **>>** button to move it to the **ENABLED TESTS** list. Finally, click on the **Update** button therein.

Purpose	Reports the general statistics of the Backup Exec server in Windows network.		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is *NULL*.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Active job count: Indicates the number of jobs currently active that are either running or pending.	Number	A high value indicates how active the backup server is, currently. A low value is indicative of lack of activity in the backup server.
	Failed jobs: This refers to the number of backup jobs that failed since the last time the test was executed.	Number	A high value of this measure indicates that the backup server is unable to verify or open the object for backup. Check the media for errors.
	Successful jobs: This refers to the number of backup jobs that were completed successfully since the last time the test was executed.	Number	A high value of this measure indicates the good health of the backup server. A low value indicates that the backup jobs could be aborting or are being skipped due to errors in opening the objects or in the media.

1.1.10 VMware Backup Test

This test auto discovers the virtual machines that are to be backed up and reports the number of virtual machines that are backed up and the amount of data from the virtual machines that have been backed up and the percentage

of data that have been backed up.

Purpose	Auto discovers the virtual machines that are to be backed up and reports the number of virtual machines that are backed up and the amount of data from the virtual machines that have been backed up and the percentage of data that have been backed up.		
Target of the test	A Symantec Backup server		
Agent deploying the test	An internal agent		
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST** - The host for which the test is to be configured 3. **PORT** – Refers to the port used by the Symantec Backup server. Here it is NULL.		
Outputs of the test	One set of results for the server being monitored		
Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Total VMware virtual machine size: Indicates the amount of data from the VMware virtual machines that have been backed up since the Backup Exec Engine service was last restarted.	MB	
	Total VMware virtual machines: Indicates the total number of VMware virtual machines that have been backed up since the Backup Exec Engine was last restarted.	Number	
	Data backed up per virtual machine: Indicates the percentage of data that is backed up per virtual machine.	Percent	A high value is desired for this measure.

2

Conclusion

This document has described in detail the monitoring paradigm used and the measurement capabilities of the eG Enterprise suite of products with respect to **the Symantec Backup server**. For details of how to administer and use the eG Enterprise suite of products, refer to the user manuals.

We will be adding new measurement capabilities into the future versions of the eG Enterprise suite. If you can identify new capabilities that you would like us to incorporate in the eG Enterprise suite of products, please contact support@eginnovations.com. We look forward to your support and cooperation. Any feedback regarding this manual or any other aspects of the eG Enterprise suite can be forwarded to feedback@eginnovations.com.