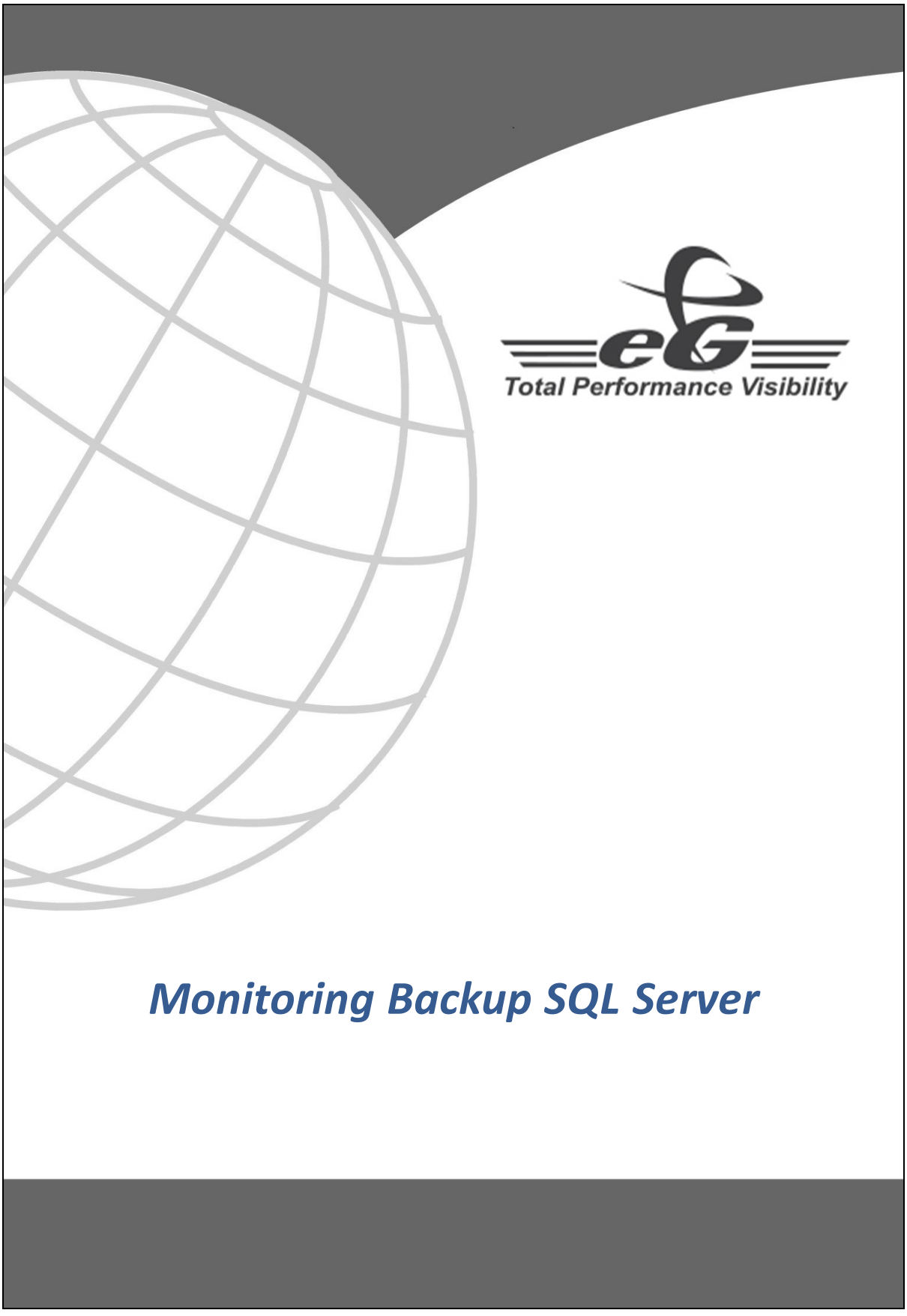

Monitoring Backup SQL Server

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1

Administering the eG Manager to monitor the Backup SQL Server

1. Login to the eG administrative interface as an administrator (admin).
2. Check whether the Backup SQL server has been auto-discovered. If not, run discovery using the **DISCOVERY** page (Infrastructure -> Components -> Discover) or manually add the Backup SQL server using the **ADD/MODIFY COMPONENTS** page (Infrastructure -> Components -> Add/Modify). The eG Enterprise system automatically manages the manually added components.
3. The discovered components however, need to go through a manual management exercise, using the **COMPONENTS - MANAGE/UNMANAGE** page (Infrastructure -> Components -> Manage/Unmanage). This process is depicted by Figure 1.1 and Figure 1.2 below.

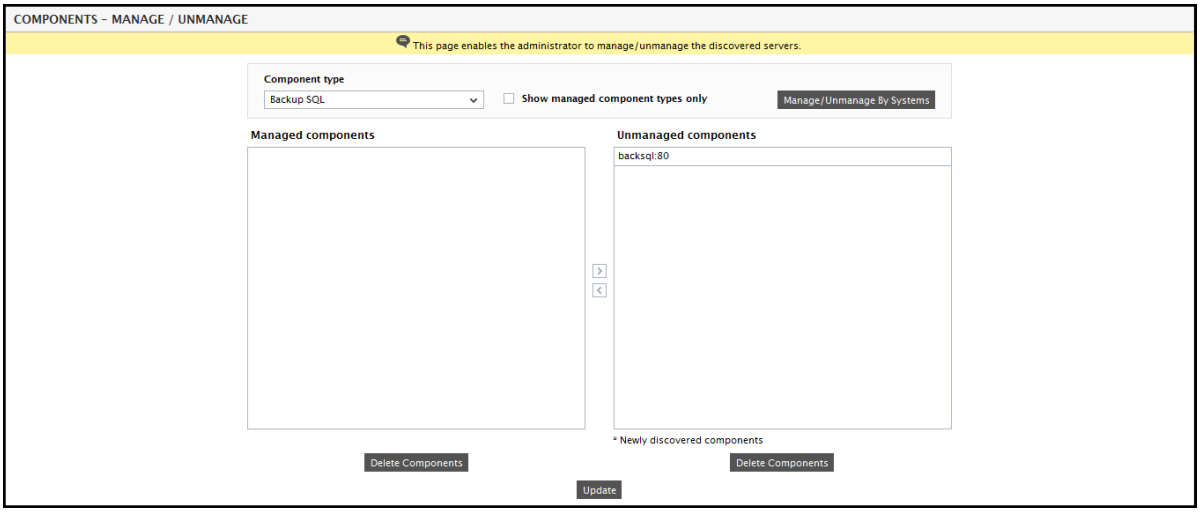

Figure 1.1: Viewing the list of unmanaged Backup SQL servers

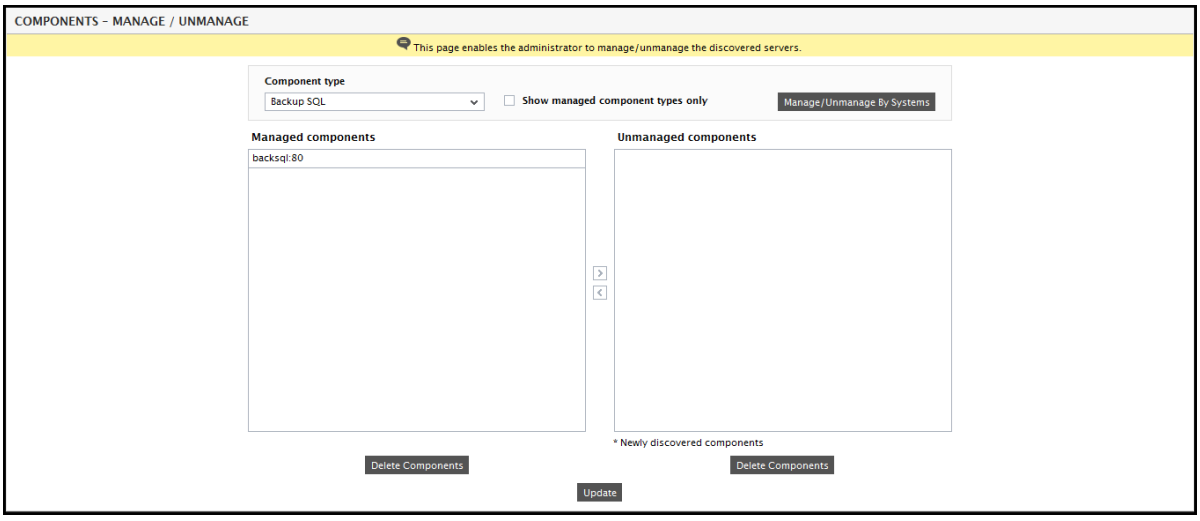

Figure 1.2: Managing a Backup SQL server

4. Now, if you try to sign out of the user interface, you will be prompted to configure **Backup SQL** test for the Backup SQL server. Click on it to configure it. To know how to configure this test, click here.
5. Finally, sign out of the eG administrative interface.

2

Monitoring Backup SQL Servers

Backup SQL servers are those SQL servers in a cluster that serve as backups to a primary SQL server during its downtime. Just like the primary SQL server, it is also necessary to monitor the Backup SQL server, because if both the primary and the backup server are unavailable for use at the same time, then this would bring down the cluster as well as the business service dependent on it.

eG Enterprise provides a specialized *Backup SQL* monitoring model (see Figure 2.1) that periodically checks if the Backup SQL server is available, and in the process, reveals whether critical SQL health parameters are stable.

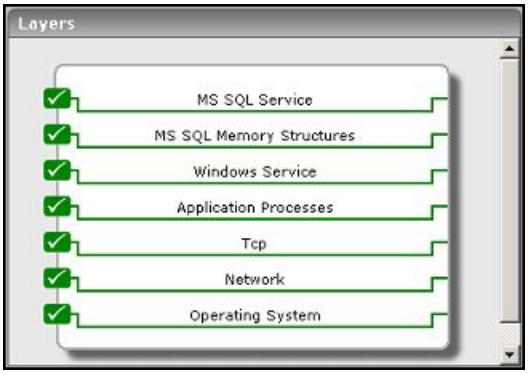

Figure 2.1: The layer model of a Backup SQL server

This section will deal with all other layers except the bottom 3 layers, as these layers have already been discussed in the *Monitoring Unix and Windows Servers* document.

2.1 The Application Processes Layer

This layer checks whether the Backup SQL server process is running or not.

Figure 2.2: The tests associated with the Application Processes layer

2.1.1 Backup Processes Test

For every process pattern configured for a Backup SQL server, the process test reports a variety of CPU and memory statistics. By default, the test reveals the current status and resource usage of the critical SQL server process.

Target of the test : A Backup SQL server

Agent deploying the test : An internal agent

Outputs of the test : One set of results per process pattern specified

1. **TEST PERIOD** - How often should the test be executed
2. **HOST** - The host for which the test is to be configured
3. **PORT** - The port to which the specified **HOST** listens
4. **PROCESS** - In the **PROCESS** text box, enter a comma separated list of names:pattern pairs which identify the process(es) associated with the server being considered. processName is a string that will be used for display purposes only. processPattern is an expression of the form - expr or expr or expr or expr or *expr1*expr2*... or expr1*expr2, etc. A leading '*' signifies any number of leading characters, while a trailing '*' signifies any number of trailing characters. The pattern(s) used vary from one application to another and must be configured per application. For example, for an iPlanet application server (Nas_server), there are three processes named kcs, kjs, and kxs associated with the application server. For this server type, in the **PROCESS** text box, enter "kcsProcess:*kcs*, kjsProcess:*kjs*, kxsProcess:*kxs*, where * denotes zero or more characters. Other special characters such as slashes (\) can also be used while defining the process pattern. For example, if a server's root directory is /home/egurkha/apache and the server executable named httpd exists in the bin directory, then, the process pattern is "*/home/egurkha/apache/bin/httpd*".

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Processes running:	Number of instances of a process (es) currently executing on a host.	Number	This value indicates if too many or too few processes corresponding to an application are executing on the host.
CPU utilization:	Percentage of CPU used by executing process (es) corresponding to the pattern specified.	Percent	A very high value could indicate that processes corresponding to the specified pattern are consuming excessive CPU resources.
Memory utilization:	For one or more processes	Percent	A sudden increase in memory utilization

Measurement	Description	Measurement Unit	Interpretation
	corresponding to a specified set of patterns, this value represents the ratio of the resident set size of the processes to the physical memory of the host system, expressed as a percentage.		for a process(es) may be indicative of memory leaks in the application.

2.2 The Windows Service Layer

The **BackupSrvc** test mapped to this layer, by default, periodically monitors the availability of the critical MS SQL service on the Backup SQL server.

Figure 2.3: The tests associated with the Windows Service layer

2.2.1 Backup Service Test

This test checks the availability of the service that corresponds to the Backup SQL server.

Target of the test : A Backup SQL server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every ServiceName that has been configured.

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** - The port to which the specified **HOST** listens.
4. **SERVICENAME** - Name of the service that is to be checked. More than one service name can also be

provided with comma as the separator.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Availability:	Indicates the availability of the service.	Percent	A value of 100 indicates that the specified service has been configured and is currently executing. A value of 0 for this measure indicates that the specified service has been configured on the server but is not running at this time. A value of –1 indicates that the service has not been configured on the target system.

2.3 The MS SQL Memory Structures Layer

This layer tracks the health of the memory and buffer structures of a Backup SQL server.

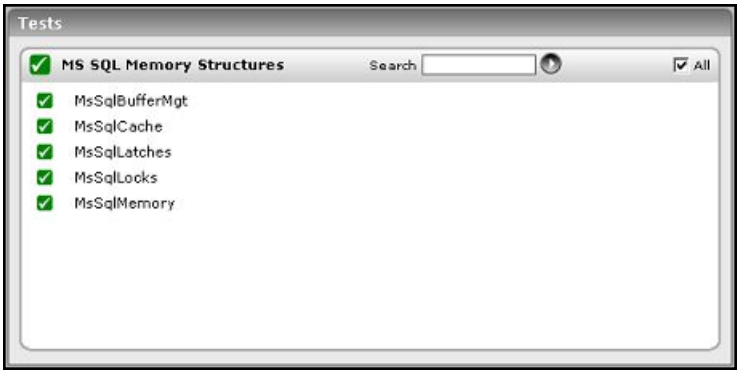

Figure 2.4: The tests associated with the MS SQL Memory Structures layer

Refer to the *Monitoring Microsoft SQL* server document for the details on these tests.

2.4 The MS SQL Service Layer

The tests associated with this layer track the health of the services associated with a Backup SQL server.

Figure 2.5: The tests associated with the MS SQL Service layer

Except the **Backup Sql** test in Figure 2.5 all other tests have discussed in the *Monitoring Microsoft SQL* document.

2.4.1 Backup SQL Test

This test monitors the availability and response time from clients by the Backup MS Sql database server in a cluster.

Target of the test : A Backup SQL server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for the Backup SQL server being monitored

Configurable parameters for the test

1. **TEST PERIOD** – How often should the test be executed
2. **HOST** – The IP address of the server
3. **PORT** – The port on which the server is listening
4. **USER** – A database user name.
5. **PASSWORD** - The password associated with the above user name (can be 'NULL'). Here, 'NULL' means that the user does not have any password.
6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** (if any) by retyping it here.
7. **DATABASE** - The name of the database to connect to. The default is "master".
8. **QUERY** – The select query to execute. The default is "select * from master.dbo.spt_monitor".
9. **CASE** – Takes the value "upper" or "lower" depending upon the case-sensitivity of the SQL server installation.
10. **CLUSTERNAME** – The IP/hostname of the primary MS SQL server in a cluster
11. **CLUSTERPORT** – The port number at which the primary MS SQL server listens

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Service availability:	Indicates the availability of the server	Percent	The availability is 100% when the server is responding to a request and 0% when it is not. Availability problems may be caused by a misconfiguration/malfunctioning of the database server, or if the server has not been started.
Response time:	Indicates the time taken by the database to respond to a user query	Seconds	A sudden increase in response time is indicative of a bottleneck at the database server.

3

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 **Backup SQL** servers. 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.