Monitoring Backup SQL Server

eG Innovations Product Documentation

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Total Performance Visibility

Table of Contents

Table of Figures

Chapter 1: Introduction

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. To avoid such eventualities, the issues occurring on the Backup SQ server should be detected at the earliest. This can be easily done using eG Enterprise. A specialized monitoring model offered by eG helps administrators to continuously monitor the Backup SQL server.

Chapter 2: How to Monitor Backup SQL Server Using eG Enterprise?

eG Enterprise can monitor the Backup SQL server in an agent-based or an agentless manner. In case of the agentless approach, the remote agent used to monitor the Backup SQL server should be deployed on a remote Windows host in the environment. The broad steps for monitoring the database server are as follows:

- Manage the target Backup SQL server using eG Enterprise and configure the tests mapped to the target server. To know how to do it, refer to Section **2.1**.

After managing the target server, sign out of the eG administrative interface. Then, login to the eG monitoring console to view the state of and metrics reported by the specialized monitoring model that eG Enterprise offers for the Backup SQL server.

2.1 Managing the Backup SQL Server

eG Enterprise can automatically discover the Backup SQL server in the environment. The discovered server can be managed using the following steps:

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 2.1 and Figure 2.2 below.

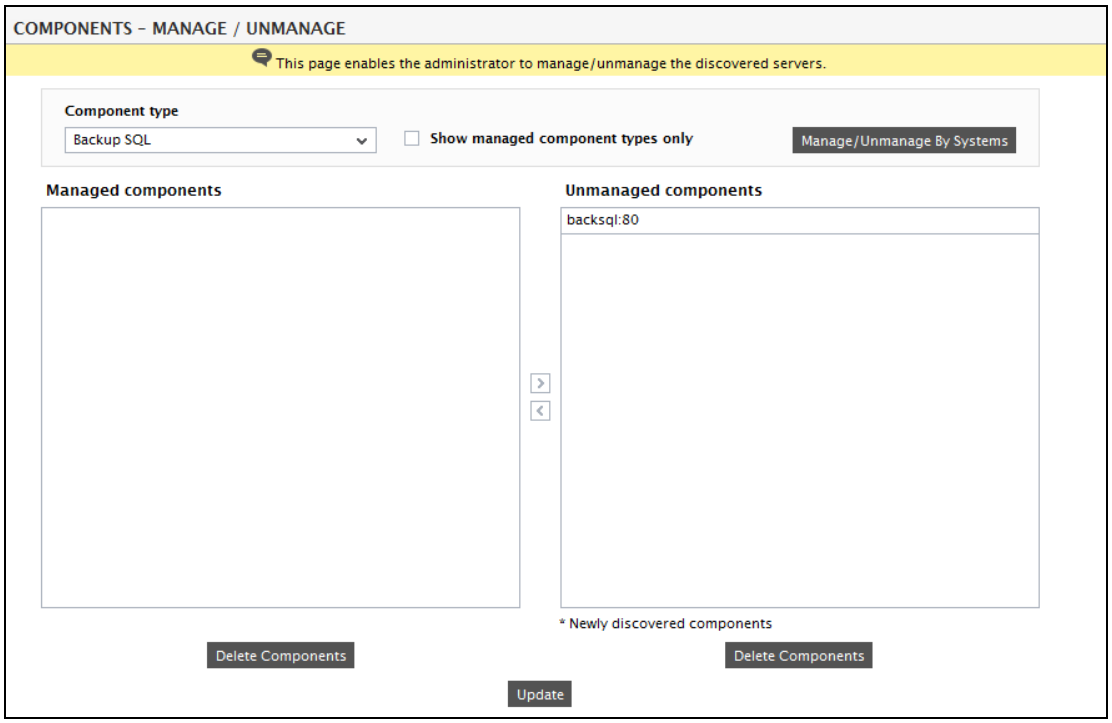

Figure 2.1: Viewing the list of unmanaged Backup SQL servers

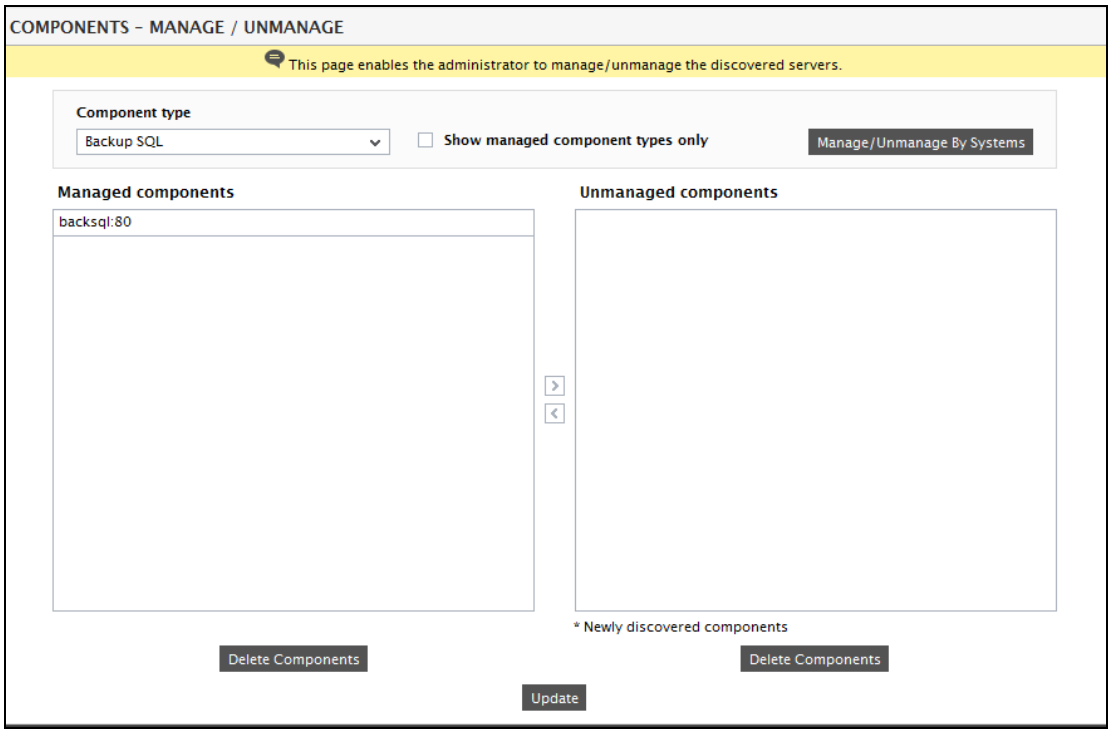

Figure 2.2: Managing a Backup SQL server

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 the test to configure it. To know how to configure this test, Section **3.4.1**.
5. Finally, sign out of the eG administrative interface.

Chapter 3: Monitoring Backup SQL Server

eG Enterprise provides a specialized *Backup SQL* monitoring model (see Figure 3.1) that periodically checks if the Backup SQL server is available, and in the process, reveals whether critical SQL health parameters are stable.

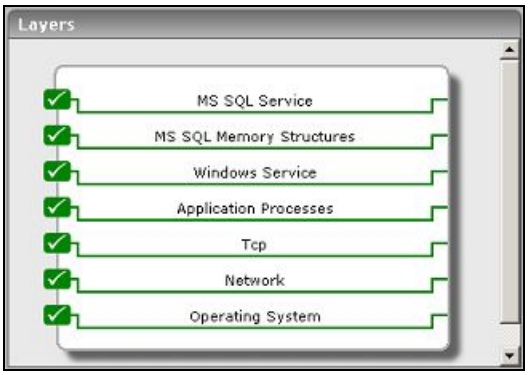

Figure 3.1: The layer model of a Backup SQL server

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.

3.1 The Application Processes Layer

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

Figure 3.2: The tests associated with the Application Processes layer

3.1.1 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.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified Host listens.
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	Number	This value indicates if too many or too few processes corresponding to an

Measurement	Description	Measurement Unit	Interpretation
	executing on a host.		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 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.	Percent	A sudden increase in memory utilization for a process(es) may be indicative of memory leaks in the application.

3.2 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 3.3: The tests associated with the Windows Service layer

3.2.1 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

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified Host listens.
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.

3.3 The MS SQL Memory Structures Layer

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

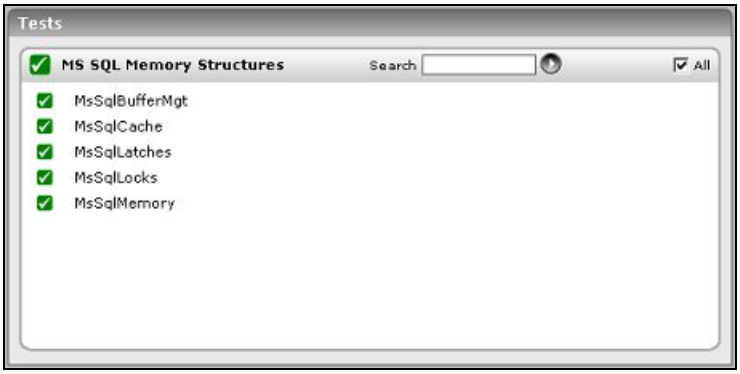

Figure 3.4: The tests associated with the MS SQL Memory Structures layer

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

3.4 The MS SQL Service Layer

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

Figure 3.5: The tests associated with the MS SQL Service layer

Except the **Backup Sql** test in Figure 3.5 all other tests have discussed in the *Monitoring Microsoft SQL* document.

3.4.1 Backup SQL Test

This test monitors the availability and response time from clients by the Backup Microsoft 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

Parameter	Description
Test Period	How often should the test be executed.
Host	The IP address of the host for which this test is to be configured.
Port	The port at which the specified Host listens.
User	A database user name.

Parameter	Description
Password	The password associated with the above user name (can be 'NULL'). Here, 'NULL' means that the user does not have any password.
Confirm Password	Confirm the Password (if any) by retyping it here.
Database	The name of the database to connect to. The default is "master".
Query	The select query to execute. The default is "select * from master.dbo.spt_monitor".
ClusterName	The IP/hostname of the primary Microsoft SQL server in a cluster.
ClusterPort	The port number at which the primary Microsoft 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.

About eG Innovations

eG Innovations provides intelligent performance management solutions that automate and dramatically accelerate the discovery, diagnosis, and resolution of IT performance issues in on-premises, cloud and hybrid environments. Where traditional monitoring tools often fail to provide insight into the performance drivers of business services and user experience, eG Innovations provides total performance visibility across every layer and every tier of the IT infrastructure that supports the business service chain. From desktops to applications, from servers to network and storage, from virtualization to cloud, eG Innovations helps companies proactively discover, instantly diagnose, and rapidly resolve even the most challenging performance and user experience issues.

eG Innovations is dedicated to helping businesses across the globe transform IT service delivery into a competitive advantage and a center for productivity, growth and profit. Many of the world's largest businesses use eG Enterprise to enhance IT service performance, increase operational efficiency, ensure IT effectiveness and deliver on the ROI promise of transformational IT investments across physical, virtual and cloud environments.

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