Monitoring Borland Enterprise Server

eG Innovations Product Documentation

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Total Performance Visibility

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Chapter 1: Introduction

The Borland Enterprise Server is a set of services and tools that enable users to build, deploy, and manage enterprise applications in any corporate environment. These applications provide dynamic content by using JSP, servlets, and Enterprise Java Bean (EJB) technologies.

To ensure the stability of the mission-critical services that are supported by the BES, it is imperative to monitor the BES regularly. This is where eG Enterprise helps administrators.

This document engages you in an elaborate discussion on how eG Enterprise monitors the BES.

Chapter 2: How to Monitor Borland Enterprise Server Using eG Enterprise?

This chapter will discuss how to configure Borland Enterprise Server to work with the eG Agent.

Before starting monitoring the Borland Enterprise Server, ensure that the following BER jars are put in front of the eG jars in the class path of the eG agent, to ensure effective monitoring of BES:

- agentclient.jar
- ias.jar
- jaas.jar
- jcert.jar
- jnet.jar
- jsse.jar
- lm.jar
- vbjorb.jar
- vbsec.jar

2.1 Managing the Borland Enterprise Server

To add and manage the BES component, do the following:

1. Log into the eG administrative interface.
2. If the BES is already discovered, then directly proceed towards managing it using the **COMPONENTS - MANAGE/UNMANAGE** page (Infrastructure-> Components-> Manage/Unmanage). However, if it is yet to be discovered, then run discovery (Infrastructure-> Components -> Discovery -> Start) to get it discovered or add it manually using the **COMPONENTS** page (Infrastructure -> Components -> Add/Modify). Figure 2.1 clearly illustrates the process of adding a BES component. Remember that components manually added are managed automatically. Discovered components, however, are managed using the **COMPONENTS - MANAGE/UNMANAGE** page.

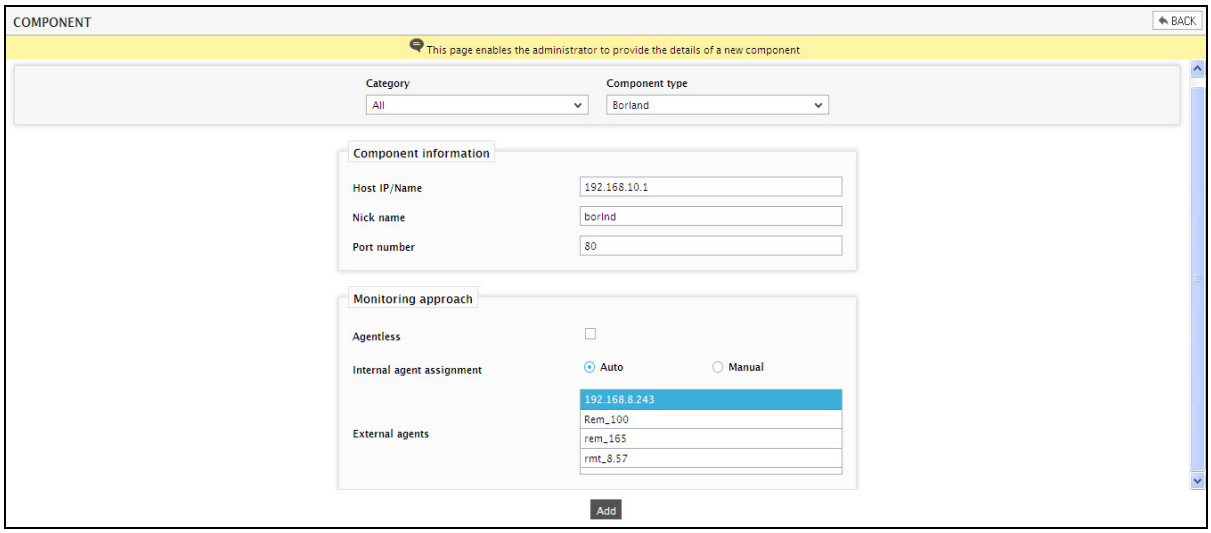

Figure 2.1: Adding the Borland server

3. Specify the **Host IP/Name** and the **Nick name** of the BES in Figure 2.1. Then click on the **Add** button to register the changes.
4. Next, try to sign out of the eG administrative interface. Upon doing so, a list of unconfigured tests will appear prompting you to configure the tests pertaining to Borland Server. Click on any test to configure it. To know how to configure the test refer to **Monitoring Borland Enterprise Servers (BES)**.
5. Then, try to signout of the administrative interface. This time, you will be prompted to configure the **Processes** test. Refer to *Monitoring Windows and Unix Server* document to know details on configuring the **Processes** test.
6. Finally, signout of the administrative interface.

Chapter 3: Monitoring Borland Enterprise Servers (BES)

eG Enterprise has developed a specialized *Borland* monitoring model (see Figure 3.1), that monitors all internal and external parameters that can affect the performance of the BES.

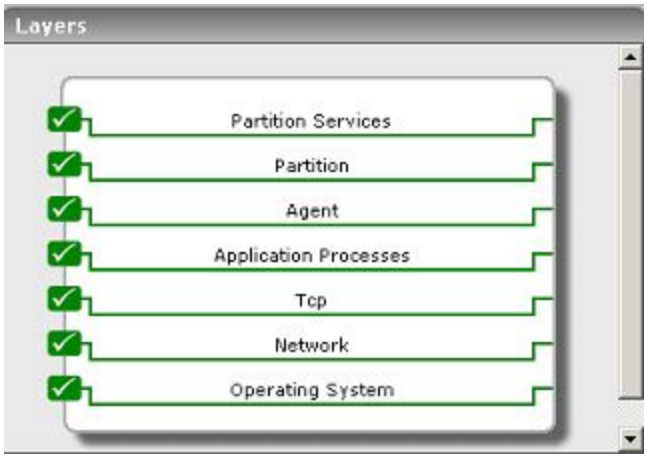

Figure 3.1: The layer model of a Borland Enterprise server

Every layer of Figure 3.1 is mapped to a set of tests, which when executed on the BES, extracts critical statistics that can enable administrators to determine the following:

- Does the BES management agent have adequate memory to discharge its duties?
- Is sufficient memory available to the BES partitions?
- Where is BES spending too much time? - is it on any of the CMP-related activities? is it on any JDBC1 or JDBC2 activity? is it on activating or passivating EJBs? or is it on specific transactions?

The following sections discuss each of the top 3 layers of Figure 3.1 elaborately. The other layers have already been dealt with in the *Monitoring Windows and Unix Servers* document.

3.1 The Agent Layer

To monitor the memory usage of the BES management agent, use the **AgentStat** test associated with this layer.

Figure 3.2: The tests associated with the Agent layer

3.1.1 Agent Statistics Test

This test reports the runtime statistics pertaining to a BES management agent.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Memory available	Indicates the heap available for the management agent.	MB	
Memory used	Indicates the amount of heap used by the management agent.	MB	
Max memory used	Indicates the maximum amount of heap used by the management agent.	MB	
Active threads	Indicates the current number of active threads in the management agent	Number	
Num of partitions	Indicates the number of partitions in use under this management agent	Number	

3.2 The Partition Layer

The tests associated with the **Partition** layer help administrators determine how efficiently the BES performs garbage collection, and how well its partitions function.

Figure 3.3: The tests associated with the Partition layer

Note:

Refer to the *Monitoring Oracle WebLogic Application Server* document to know how to configure the JVMGC test.

The section to will therefore deal with the PartitionStat test only.

3.2.1 Partition Stat Test

The PartitionStat test reports the runtime statistics of a BES partition.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Memory available	Indicates the heap available for the partition.	MB	
Memory used	Indicates the amount of heap used by the partition.	MB	
Max memory used	Indicates the maximum	MB	

Measurement	Description	Measurement Unit	Interpretation
	amount of heap used by the partition.		
Active thread count	Indicates the current number of active threads in the partition	Number	
Deployed archives	Indicates the number of archives deployed in the partition	Number	

3.3 The Partition Services Layer

The tests mapped to this layer reports the time taken by BES for performing the following (see Figure 3.4):

- CMP and other activities
- JDBC1 and JDBC2 activities
- Activating and Passivating stateful session beans
- Different types of transactions

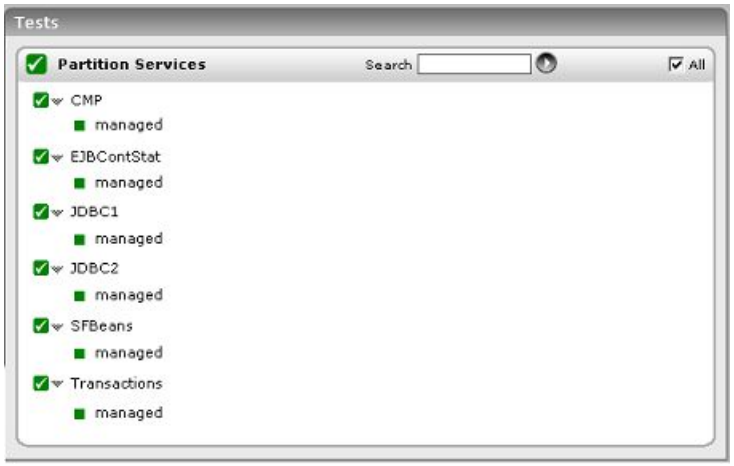

Figure 3.4: The tests associated with the Partition Services layer

3.3.1 CMP Test

This test reports the time taken by the BES EJB container for performing CMP related activities.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user.
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
EntityHome	Indicates the time spent in the container, implementing EJBHome-related operations specific to Entity beans.	Secs	
Cmp	Indicates the time spent in the CMP engine (excluding other CMP tasks listed explicitly).	Secs	
CmpInit	Indicates the time spent initializing the CMP engine (startup cost only).	Secs	
CmpQuery	Indicates the time spent in the CMP engine doing	Secs	

Measurement	Description	Measurement Unit	Interpretation
	SQL queries.		
CmpUpdate	Indicates the time spent in the CMP engine doing SQL updates	Secs	
CmpGetConn	Indicates the time spent in the CMP engine getting JDBC connections (startup cost only).	Secs	
CmpPrepareStmt	Indicates the time spent in the CMP engine preparing statements (startup cost only).	Secs	

3.3.2 Ejb Cont Stat Test

This test reports the time taken by the BES EJB container for performing various activities.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
DispatchPOA	Indicates the time spent on receiving the TCP request, and sending the reply.	Secs	
DispatchHome	Indicates the time spent in the container dispatching methods to EJBHome objects.	Secs	
DispatchRemote	Indicates the time spent in the container dispatching methods to EJBRemote objects.	Secs	
DispatchBean	Indicates the time spent in the bean methods.	Secs	
ResourceCommit	Indicates the time spent specifically in committing the work done on the resource (that is, in committing to a database such as Oracle)	Secs	
Synchronization	Indicates the time spent in various Synchronization callbacks.	Secs	
LoadClass	Indicates the time spent loading classes from EJB Jars, etc. (startup cost only).	Secs	
ORBActivate	Indicates the time spent in the ORB, allocating objects from pools	Secs	
ORBDeactivate	Indicates the time spent in the ORB, releasing objects to pools	Secs	

3.3.3 JDBC1 Test

This test reports the time taken by BES for performing JDBC1 related activities.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Jdbc1GetCon	Indicates the time spent in the Jdbc1 data source to get a pooled connection.	Secs	
Jdbc1NewCon	Indicates the time spent in the Jdbc1 datasource to get a new connection (startup cost only).	Secs	
Jdbc1RegRes	Indicates the time spent in the Jdbc1 datasource to	Secs	

Measurement	Description	Measurement Unit	Interpretation
	register a transaction resource in transaction service.		

3.3.4 JDBC2 Test

This test reports the time taken by BES for performing JDBC2 related activities.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Jdbc2GetCon	Indicates the time spent in the Jdbc2 datasource to get a pooled connection.	Secs	

Measurement	Description	Measurement Unit	Interpretation
Jdbc2NewCon	Indicates the time spent in the Jdbc2 datasource to get a new connection (startup cost only).	Secs	
Jdbc2RegRes	Indicates the time spent in the Jdbc2 datasource to register a transaction resource in transaction service.	Secs	
Jdbc2NewXaCon	Indicates the time spent in the Jdbc2 datasource to get a new XA-enabled connection (startup cost only)	Secs	
Jdbc2XaStart	Indicates the time spent in the Jdbc2 datasource, starting a transaction branch	Secs	
Jdbc2XaEnd	Indicates the time spent in the Jdbc2 datasource to end a transaction branch.	Secs	

3.3.5 SFBeans Test

This test reports the time taken by the EJB container for passivating and activating stateful session beans.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Activation time	Indicates the time spent in activating a stateful session bean.	Secs	If the EJB container spends more time in passivating and activating the bean instances, then try increasing the timeout period for EJBs. The default value is five seconds. This property can be set in the container properties file for the Partition you are configuring. This file is located at: */var/servers//adm/properties/partitions/(partition-name)/services/ejbcontainer.properties*. This file can be edited to set the *ejb.sfsb.passivation_timeout* property.
Passivation time	Indicates the time spent passivating stateful session beans.	Secs	If the EJB container spends more time in passivating and activating the bean instances, then try increasing the timeout period for EJBs. The default value is five seconds. This property can be set in the container properties file for the Partition you are configuring. This file is located at: */var/servers//adm/properties/partitions/*

Measurement	Description	Measurement Unit	Interpretation
			(partition-name)/services/ejbcontainer.properties. This file can be edited to set the *ejb.sfsb.passivation_timeout* property.

3.3.6 Transactions Test

This test reports the time taken by the EJB container for performing transaction related activities.

Target of the test : A BES server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for every BES partition 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 smart agent port number.
MGMT_Port_ Number	The port number where the management agent listens.
User	The name of a BES user.
Password	The password of the specified user.
Confirm Password	Confirm the Password by retyping it here.
Realm	The BES server realm.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Begin transactions	Indicates the time spent beginning transactions.	Secs	

Measurement	Description	Measurement Unit	Interpretation
Commit transactions	Indicates the time spent beginning transactions.	Secs	
Rollback transactions	Indicates the time spent rolling back transactions	Secs	

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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