Monitoring SilverStream Application Server

eG Innovations Product Documentation

eG
Total Performance Visibility

Table of Contents

Table of Figures

Chapter 1: Introduction

The SilverStream Application Server is a comprehensive, J2EE certified platform for building and deploying enterprise-class Web applications. It supports the full Java 2 Enterprise Edition standard -- JavaServer Pages (JSP pages), Enterprise JavaBeans (EJBs), and all the other J2EE 1.2 components and technologies.

Errors in the functioning of this application server could have an adverse impact on the overall performance and availability of the dependent web applications; this in turn would result in significantly decreasing the productivity of the end-users, who transact business with the help of these web applications. To avoid such an unpleasant outcome, the SilverStream application server's performance should be scrutinized regularly.

eG Enterprise offers specialized monitoring model to periodically monitor the helath of the Silverstream application server. The metrics collected by the eG agent enable administrators to quickly and accurately determine server availability and responsiveness, resource usage at the host-level and at the application server level, how well the application server processes requests, how quickly the server completes transactions, overall server security, etc.

This document engages you in an elaborate discussion on how eG Enterprise monitors each of the SilverStream application servers.

Chapter 2: How to Monitor the SilverStream Application Server using eG Enterprise?

eG Enterprise monitors the SilverStream Application server in an agent-based manner. An eG agent installed on the target server periodically monitors and collects the critical metrics related to the performance of the server. Using the metrics that the eG agents collect, administrators can track the availability, performance, and usage of SilverStream application servers.

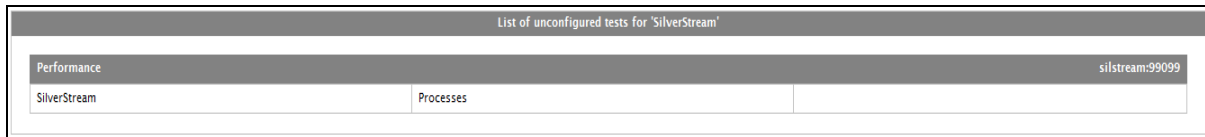## 2.1 Managing the SilverStream Application Server

The eG Enterprise cannot automatically discover the SilverStream Application server so that you need to manually add the component for monitoring. To manage a SilverStream Application Server component, do the following:

1. Log into the eG administrative interface.

2. Follow the Components -> Add/Modify menu sequence in the Infrastructure tile of the **Admin** menu.

3. In the **COMPONENT** page that appears next, select SilverStream as the **Component type**. Then, click the **Add New Component** button. This will invoke Figure 2.1.

Figure 2.1: Adding SilverStream Application Server

4. Specify the **Host IP/Name** and the **Nick name** of the SilverStream Application in Figure 2.1. Then, click on the **Add** button.

5. When you attempt to sign out, a list of unconfigured tests appears (see Figure 2.2).

List of unconfigured tests for 'SilverStream'		
Performance		silstream:99099
SilverStream	Processes	

Figure 2.2: List of Unconfigured tests for the SilverStream Application server

6. Configure the tests by clicking on the test names in the list of unconfigured tests. To know details on configuring the **SilverStream** test, refer to Section **3.1.1**.

7. For information on the **Processes** test, refer to *Monitoring Unix and Windows Servers* document.

8. Then, signout of the eG administrative interface.

Chapter 3: Monitoring SilverStream Application Servers

eG Enterprise provides a special SilverStream monitoring model (see Figure 3.1) to periodically monitor the helath of the Silverstream application server. The eG agents can track the availability, performance, and usage of SilverStream application servers. Critical information about the health of a SilverStream server such as the current load on the server, current sessions, percentage of thread pool utilization, processing time for requests, memory usage patterns, etc., can be obtained from the eG agents. Coupled with eG Enterprise's relative thresholding, single click diagnosis, historical trending, and integrated monitoring capabilities, this new enhancement offers a powerful, single stop monitoring solution for customers using SilverStream application servers.

The SilverStream server uses a SilverServer application process to start the server. The **Processes** test parameters for SilverStream servers should be configured to monitor this process. To obtain statistics specific to a SilverStream server, the eG Enterprise suite relies on the Client API provided by SilverStream server. SilverStream server can be configured to listen on three different ports – Runtime port, design port and Admin port. When the SilverStream server is first installed on a particular port number, all the three port numbers will have the same value. Through eG Enterprise's administrative interface, the Admin port number on which the SilverStream server listens must be specified. For the eG Enterprise suite to use the SilverStream Client API, the root path of the SilverStream installation must be specified through eG Enterprise's administrative interface. If SilverStream server is configured to authenticate users connecting to it, a valid username and password must be specified through eG Enterprise's administrative interface. While configuring the parameters for this test, the value corresponding to the **ISAUTHENTICATED** should be "**Y**".
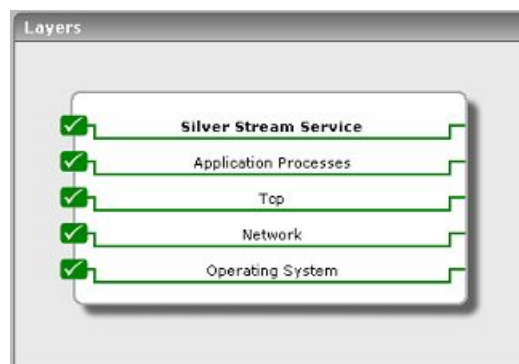

Figure 3.1: Layer model for a SilverStream application server

The sections that follow elaborate on the first layer of Figure 3.1only, as all other layers have been extensively dealt with in the *Monitoring Unix and Windows Servers* document.

3.1 The Silver Stream Service Layer

This layer tracks the health of the SilverStream server using the SilverStream test (see Figure 3.2).

Figure 3.2: Tests mapping to the Silver Stream Service layer

3.1.1 SilverStream Test

Using the SilverStream client API, this test tracks various statistics relating to the SilverStream server.

Target of the test : A SilverStream application server

Agent deploying the test : An internal agent

Outputs of the test : One set of results for each SilverStream application server.

Configurable parameters for the test

Parameter	Description
Test Period	How often should the test be executed.
Admin Port	The port number on which the SilverStream server is listening for administrative purpose.
rootpath	Root path where SilverStream server is installed.
IsAuthenticated	Is the server running in an authenticated mode or not. Value should be entered as **Y** (for **Yes**) and **N** (for **No**).
User	If the SilverStream server is running in an authenticated mode, then the user name has to be supplied.
Password	If the SilverStream server is running in an authenticated mode, then the password

Parameter	Description
	corresponding to the user name has to be supplied.
Confirm password	Confirm the password by retyping it here.

Measurements made by the test

Measurement	Description	Measurement Unit	Interpretation
Server usage	The current utilization of the server. It is a value between 1 and 4. A value of 1 indicates light utilization while a value of 4 indicates high utilization of the server.	Number	If the server is under high utilization for a prolonged period of time, it is indicative of the server reaching its maximum capacity.
Thread usage	The percentage of threads associated with the client connections. This includes threads, which may or may not be currently handling user requests.	Percent	If this measure reaches 100%, then the client connections are queued before execution. In this situation, the total number of threads spawned by the server can be increased depending on the capacity.
Percent idle threads	The percentage of threads associated with client connections, which are not currently handling user requests.	Percent	This measure is indicative of the percent of threads waiting for further user requests.
Request rate	Number of requests per second to the SilverStream server.	Reqs/Sec	A sudden increase in this value indicates an unusual burst of requests for your application server. This usually means that there is sudden high activity on your application or abnormal/malicious attacks.
Mean response time	The average time taken to process the requests coming to the server.	Secs	A sudden increase in the mean response time is indicative of a bottleneck on the application server.
Max response time	The maximum time taken to process any request	Secs	A sudden increase in the maximum response time is indicative of a

Measurement	Description	Measurement Unit	Interpretation
	since the start of the server.		bottleneck on the application server.
Data transmit rate	The rate of data transmitted by the server while serving client requests.	KB/Sec	A large increase in the data transmission rate can be indicative of an increase in the popularity of one or more web sites hosted on the server. This measure is directly related to Request_rate.
Memory utilization	The percentage of memory used by the SilverStream server inside the Java virtual machine in which it is running.	Percent	A sudden increase in memory utilization may be indicative of memory leaks in the applications running on the server. When this measure reaches 100%, it indicates that the SilverStream server has reached its maximum capacity.
Total sessions	The total number of sessions associated with the server.	Number	This is indicative of the number of user sessions maintained in the server.
Idle sessions	The number of sessions associated with the server, which is in idle state.	Number	This measure is indicative of the number of user sessions waiting for further user requests.

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.

To learn more visit www.eginnovations.com.

Contact Us

For support queries, email support@eginnovations.com.

To contact eG Innovations sales team, email sales@eginnovations.com.