

Benefits of the eG SAP Monitor

- **Centralized monitoring** of the performance of every layer of each tier of the SAP environment from any where, at any time
- **Proactive monitoring of the SAP service performance** to detect response time issues and identification of which step is causing the service slowdown
- **Rapid root-cause diagnosis of problems** ensures high uptime and performance of the SAP service
- **Clear demarcation of problems:** Only administrators responsible for fixing a problem are involved in troubleshooting; Helps optimize usage of over-worked domain experts
- As of release 5.3 of the eG SAP Monitor, integration with BC-XAL 6.10 is SAP certified. This certification ensures simpler implementation of monitoring for SAP applications because the eG SAP Monitor has been pre-tested by SAP for integration with their applications and can be up and running, out-of-the-box, quickly.

Challenges in Monitoring SAP Infrastructures

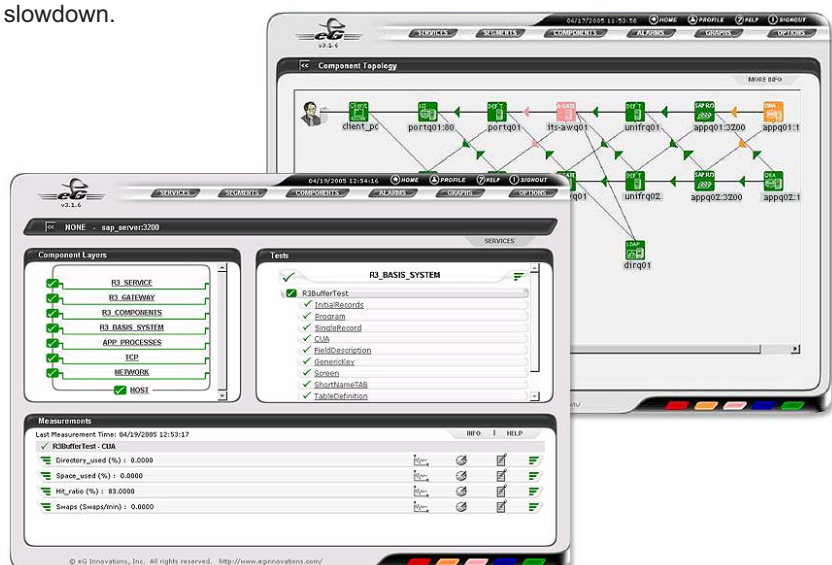
'Simple' is one word that has never been used to refer to a SAP environment. In fact, with the introduction of the SAP Enterprise architecture which comprises of multiple tiers of applications, to allow for web-based access to SAP services, IT infrastructures have become even more complex. Although it offers scalability, the SAP Enterprise architecture makes monitoring and management more challenging. In this architecture, the tight inter-dependencies between different tiers (web, J2EE, R/3, database, etc.) implies that a problem in one tier can impact the other tiers as well. Hence, a seemingly insignificant dip in the performance of one of the application tiers can result in an administrator's worst nightmare - an infrastructure-wide slowdown! In such a scenario, the administrator's challenge is how quickly can he/she find out where the problem is - Network? Firewall? Web/Citrix? J2EE? R/3 Server? Database? - and resolve the problem quickly, so as to ensure high uptime.

The eG SAP Monitor

The eG SAP monitor offers 100% web-based monitoring of every layer of each tier of the SAP environment from any where, at any time. Be it a network router, a firewall, a SAP Internet Transaction server, a SAP R/3 server, or an Oracle database, the eG suite includes customized models for all of these infrastructure components. These models determine what metrics are collected, how often, how the results of the monitoring are interpreted to provide proactive alerts, and how the metrics are correlated to determine where the root-cause of problems lie.

eG's SAP monitoring takes advantage of the SAP CCMS monitoring architecture. Using SAP's CCMS interfaces, eG agents collect and report on hundreds of performance and availability metrics of all the components of the SAP R/3 application - from the host operating system, to the network, to the critical SAP processes, the SAP database, SAP background jobs, etc. Critical system and application logs are also monitored continuously, and the eG management console acts as a central repository for log information from all the servers in the SAP environment. Real-time alerts are raised by email or SMS whenever any unusual events are detected in any of the logs.

To obtain a true perspective of the user experience, the eG client emulator can be used. This module allows a typical user session to be recorded and periodically played back. This external monitoring capability allows administrators to not only be proactively notified of any response time problems with the SAP service, but also to determine which step(s) is causing the slowdown.



Advantages of the eG SAP Monitor

There are many silo monitoring solutions for SAP infrastructures: network monitoring solutions for monitoring switches, routers, firewalls, etc., the SAP solution manager for the SAP J2EE application server and the R/3 application server, and individual database administration solutions. However, it is not practical to expect a service operator to look at each of these disparate monitoring solutions and to perform manual analysis and correlation across the different silos to determine where the problems really lie.

The value additions of the eG suite relative to such silo monitoring solutions are:

- **A single integrated console** that provides a real-time view of the status of every layer of every application or network device that supports the SAP service; the central dashboard provides a consistent interface across operating systems and SAP versions;
- **Accurate assessment of SAP service availability and response times** by emulation of SAP service sessions from different locations; Automatic identification of which step of the service interaction could be causing slowdowns;
- **Automatic baselining of hundreds of metrics** collected at the network, system, and application layers; Real-time analysis of current values with baselines to provide administrators with proactive alerts regarding problem situations;
- **Automatic root-cause diagnosis** by monitoring the entire SAP infrastructure end to end; Correlating performance across protocol layers and between applications and network devices to identify where the root-cause of problems lie - i.e., Network? Server? Database? R/3? Application?
- **Web-based customizable reports** on service usage and trends to assist capacity planning;
- **A single universal agent** that monitors any of over 75 applications and network devices; Multiple SAP instances or applications running on a server can be monitored with a single agent.

What the eG SAP Monitor Reveals?

SAP Service Monitoring	<ul style="list-style-type: none"> ▪ Is the SAP service working well? What are the response times? Is any step slowing down the entire service interaction? ▪ Are the critical application processes running? What is their resource usage?
Network & System Monitoring	<ul style="list-style-type: none"> ▪ How is the network performance impacting the overall service performance? ▪ Are the servers properly sized in terms of CPU, memory, disk activity, etc.? ▪ Are there any critical alerts in the system event logs?
Web Application Server Monitoring	<ul style="list-style-type: none"> ▪ How many sessions are currently being handled by the SAP web/application server, and are there sufficient processes configured to handle the load? ▪ Is the workload properly balanced across SAP web application server instances? ▪ What is the processing time of critical transactions on the server? ▪ Were there any errors while connecting to the R/3 server? ▪ Is the application server's memory adequately sized? Is the free memory too low?
SAP R/3 Server Monitoring	<ul style="list-style-type: none"> ▪ Are the buffers of the SAP R/3 server sized appropriately? Are there unusually high swap ins/outs? ▪ How many requests are queued waiting for free worker processes or data locks? ▪ What jobs are executing on the server ? Is the server adequately configured to handle the load? ▪ What time of day/day of week is the server activity at its peak and what jobs are executing then? ▪ Are there sufficient dialog processes configured to handle incoming user requests? ▪ Are there any ABAP dumps happening, indicating errors in the R/3 system?
SAP R/3 Database Monitoring	<ul style="list-style-type: none"> ▪ Is the SAP R/3 database accessible? How are the critical cache hit ratios of the database server? ▪ Are any of the database tablespaces reaching capacity?

Large infrastructures include separate infrastructures for development, staging, and production. In the development and staging environments, the eG suite can be used in conjunction with stress testing tools to determine where the performance bottlenecks lie and to plan for capacity. In production, the proactive monitoring and root-cause diagnosis capabilities of the eG suite are critical for ensuring high uptime and peak performance of the SAP infrastructure.