GMSEC SystemAgent (SA)

Overview

The GSFC Mission Services Evolution Center (GMSEC) SystemAgent (SA) is a GMSEC-compliant software component that provides resource and status information about the computer hosting the agent to other GMSEC components utilizing a middleware-based architecture. It also provides the capability to execute commands received from a GMSEC Directive message. In addition, it provides status and network information regarding a message-oriented middleware that the agent is currently connected to. The GMSEC SystemAgent is intended to be a tool that supports monitoring the overall health of a GMSEC System for a mission.

A Simplified GMSEC System

SystemAgent Operations Concept

The GMSEC SystemAgent is employed as a resource and status reporting tool for a GMSEC System. In a nominal GMSEC system configuration, each individual machine would have one SystemAgent running in the background to gather system resource information as well as monitoring users specified log files. Other GMSEC components such as CAT, GEDAT, ANSR, and GREAT can be installed on the same machine with SA. GEDAT subscribes to the resource messages output by all SystemAgents allowing the FOT or system administrators to monitor the health of the entire GMSEC system in one centralized location. Users can also specify CAT rules to send commands to SA for the purpose of error detection and correction. For instance, each SA sends CPU usage information of the host computer via GMSEC RSRC messages. CAT subscribes to these messages. If CAT detects that the CPU usage exceeds a certain threshold, CAT can send a Directive Request Message to the SA to take a corrective action such as rebooting the machine.

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At A Glance

The GMSEC SystemAgent monitors the health and safety of a host computer, publishes that information onto a GMSEC bus, and take corrective actions as directed by other GMSEC components.

Features

- Obtain system resource information on a machine

- Execute received command from a GMSEC Directive message
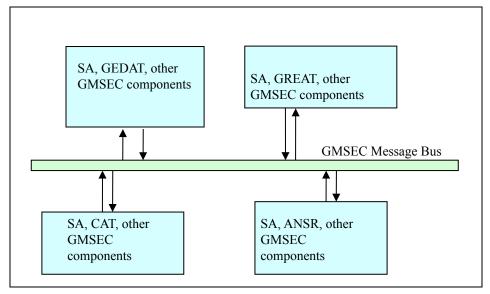
- Monitor log messages on a machine

Benefits

- Provide a consistent interface for accessing system resource information independent of the operating system.

- Support monitoring of the overall health of a GMSEC system, which includes multiple machines, in a centralized location.

- Provide a consistent interface for accessing middleware/bus server's status independent of the type of middleware/bus.

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