

GMSEC

GSFC Mission Services Evolution Center



At A Glance

The GMSEC API Monitor is a Windows-based tool for monitoring the published messages on the GMSEC bus.

Features

- Provides overview of machines and components on the GMSEC bus
- Provides charts for message traffic on the bus (by bytes, number of messages, and component lifetime)
- Provides message type and message timeline charts for each component

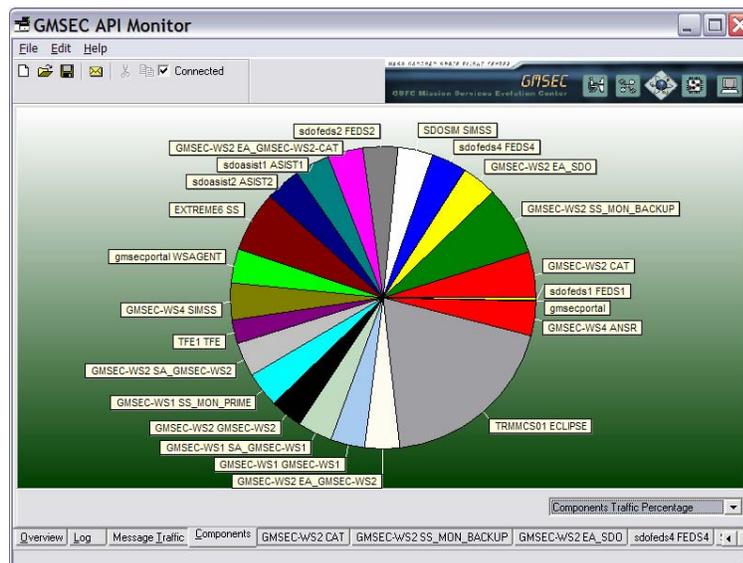
Benefits

- Easy to install and use
- Provides statistics and views unique to the API Monitor, including component charts and message traffic

NASA's GMSEC API Monitor

Summary

The GMSEC API Monitor is a Windows-based tool for monitoring published messages on the GMSEC bus. The monitor compiles aggregate statistics and builds charts displaying message types sent by each component on the GMSEC bus. There are four aggregate views on the data: Overview, Log, Message Traffic, and Components. In addition, every time the API monitor detects another GMSEC component, it creates a new page which will provide further graphs specific to that Component's messages.



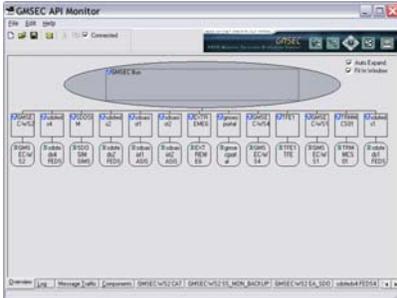
GMSEC API Monitor GUI

Implementation

The GMSEC API Monitor is a Microsoft Windows application, built using the Delphi wrapper of the GMSEC API. When the GMSEC API Monitor receives a message, it attempts to determine the GMSEC Component which sent the message, using the GMSEC-standard "Node" and "Component" fields to identify the component. The monitor then compiles aggregate statistics for the entire system as well as statistics for each component. From these statistics, it builds its graphs and charts. There are four aggregate views on the data: Overview, Log, Message Traffic, and Components.

NASA GSFC Mission Services Evolution Center, Code 581
Greenbelt, Maryland 20771
<http://gmsec.gsfc.nasa.gov>
email: gmsec@nasa.gov

GMSEC API Monitor Views

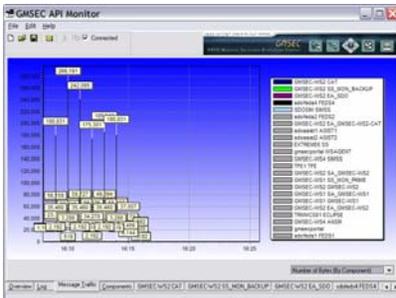
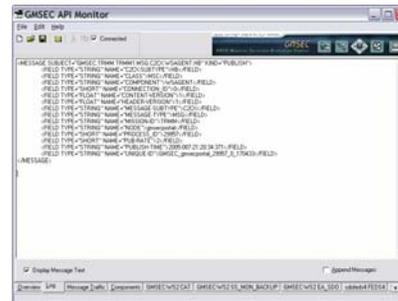


Overview View

The Overview View shows an hierarchical chart of the machines and the GMSEC components broadcasting messages on the bus. The view shows an organizational-type chart where each GMSEC component is organized under the machine it is based on. By double-clicking a component, you are taken to that component's Individual Component View.

Log View

The Log View shows the XML representation of the messages being received on the message bus. You have the option of only displaying the last message received or appending the message texts together.

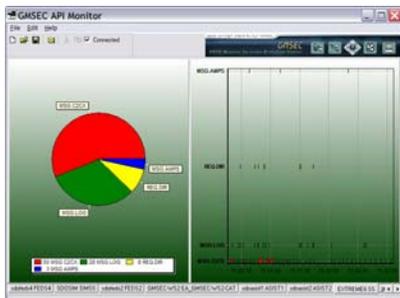
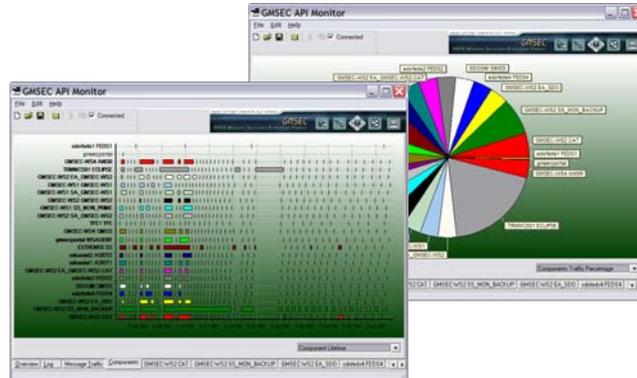


Message Traffic View

The Message Traffic View provides 4 different bar charts, which represent the aggregate messages being received. Each bar represents an aggregate of one minute's worth of data. This page has charts for Number of Messages (Overview by Publish messages, Request Messages, and Combined Publish and Request Messages), Number of Messages (Per Component), Number of Bytes (Overview, size of messages), and Number of Bytes (Per Component).

Components View

This view shows graphs grouped by messages received from each Component. There are three subviews in this section: Component Lifetime timeline (MSProject-like) chart, Components' traffic by number of messages pie chart, and Components' traffic by number of messages and size of messages pie chart.



Individual Component View

This view shows two charts side by side, representing aggregate data for the component over the entire session. The pie chart displays the percentage of each message type/subtype received from the component. The timeline chart shows when each of the different type of messages has been received for the component.

