

THE SAMGrid MONITORING SERVICE AND ITS INTEGRATION WITH MonALISA

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Client Side

The client side has been designed to make adding monitoring support to a service as simple and unobtrusive as possible. Monitoring events are essentially 'fire and forget'. The Event Receiver does no processing on an event when it is received, so that the client can return immediately. This helps keep the impact of adding monitoring to a service as low as possible.

In addition to this, our client side API has several other features designed to make adding monitoring support as simple as possible.

- C++ support
- Python support
- Multiple Event Servers Support
 - Send each event to many servers, providing redundancy
- Multithreading
 - Separate thread sends event to monitoring service, client code does not block
- Queues Events
 - In case of server downtime, events will be queued until the server is available or the queue becomes too large

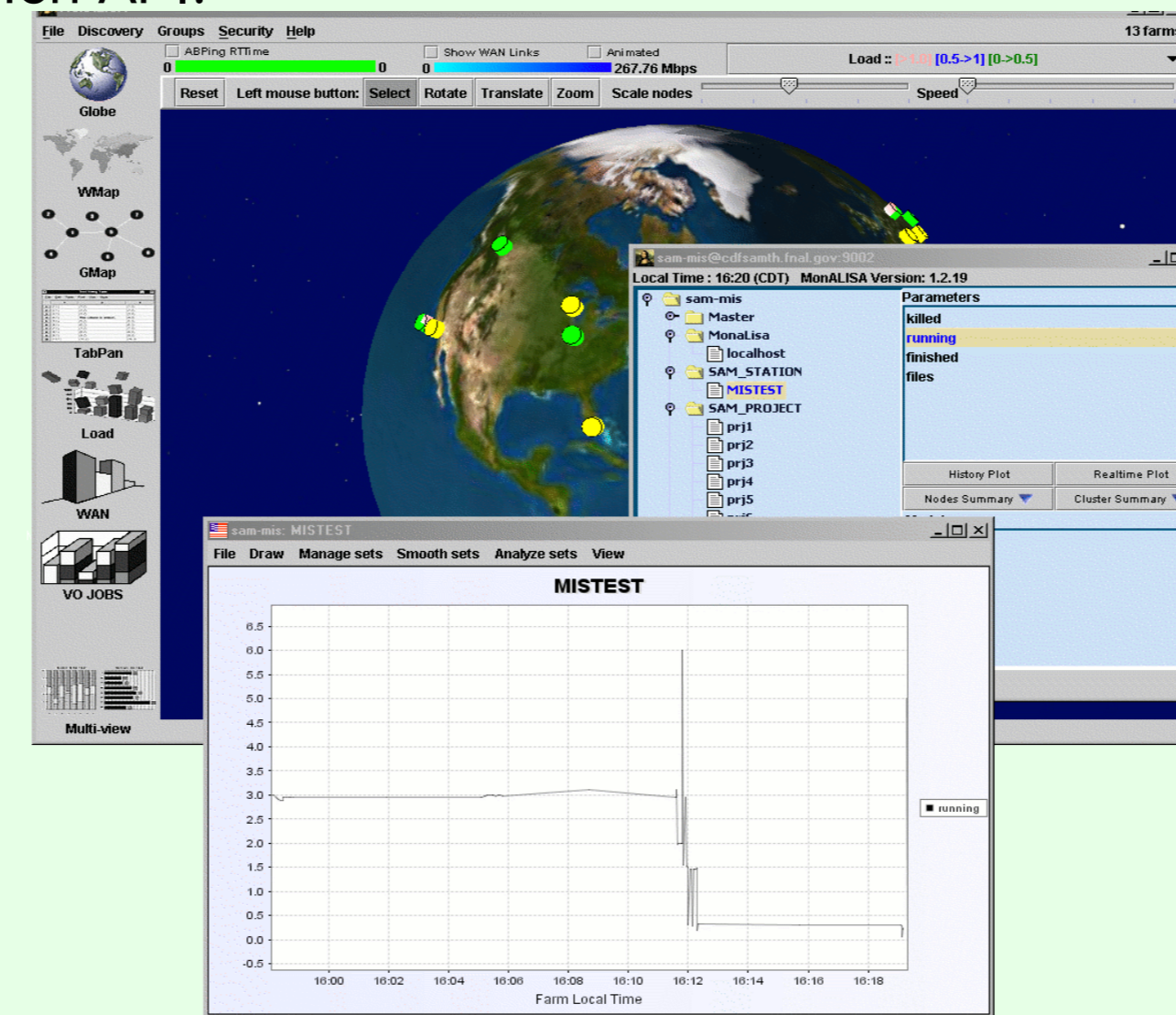
We have used an object oriented structure for Monitoring Events, so that for instance a FileTransferEvent is derived from a FileEvent. This design allows common fields to be filled in automatically, and helped simplify the process of adding monitoring to SAM services.

MonALISA

MonALISA is a popular monitoring system for grids. It is based around a Java/JINI/Web services model, and has excellent tools for monitoring farm systems. We have sought to integrate the MIS with MonALISA where possible. To do this we have created an event processor which extracts information from events and uses this to send status messages to a MonALISA server. The messages are encoded in XDR format and sent via UDP using MonALISA's ApMon API.

MonALISA support will allow integration with other monitoring applications already being deployed on compute farms at fermilab.

At present, MonALISA is best used for displaying numerical values that vary with time, such as the number of running projects. The screenshot to the right shows the MonALISA Java client plotting the number of projects on a SAM test station at CDF.



SAMTV

We use a custom system called SAMTV to display information about the health of the SAM system.

SAMTV present information on a webpage that can be easily navigated. A user might click on a SAM station to check on its projects, and then click on a project to check on the status of its files. This is useful both to users wishing to check on their project's progress, and administrators trying to track down problems.

In the past, SAMTV has collected information by analyzing log files. A prototype version of SAMTV using the event based monitoring system has now been produced. This new version offers extra features, as well as huge speed increases and greatly improved code maintainability.

