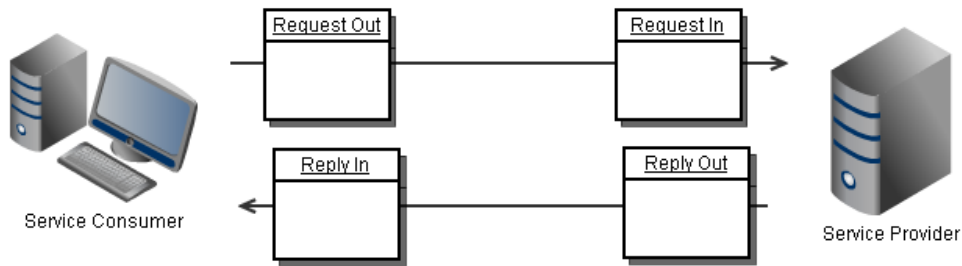


# Talend ESB Service Activity Monitoring

The Service Activity Monitoring (SAM) component logs service calls made with the Apache CXF Framework to a database. Typical use cases are tracking of errors, creating statistics and providing a basis for business monitoring.

Let's first have a look at a typical message exchange for a service call:



Each service call generates four events two on the client side and two on the server side. The monitoring solution logs each of these events to a central database and also correlates the events so they can be viewed in the context of the original service call.

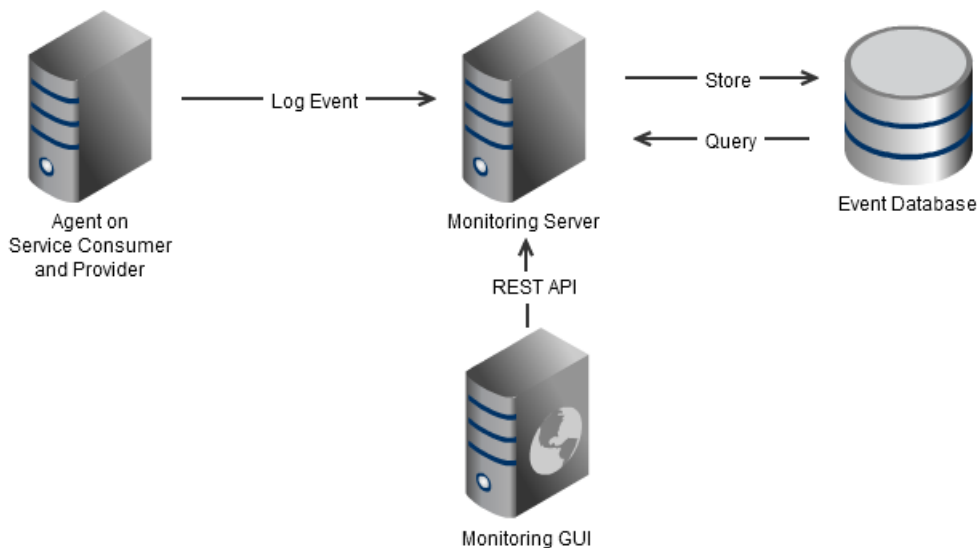
## Architecture

The Talend Service Activity Monitoring solution consists of three parts

- Agent (sam-agent): Hooks into cxf on consumer and provider side to trace the messages sent and received. For each messages a monitoring event is created and sent to the monitoring server
- Monitoring Server (sam-server): Offers a Monitoring Service where it listens for incoming monitoring events. Each event is stored into the database. Offers a rest based interface to browse and search events
- Monitoring GUI: Offers a web based user interface to browse and search monitoring events

While the Agent and Monitoring Server are part of the community edition and apache Licensed the Monitoring GUI will only be able for the Commercial product.

The following diagram shows how the components are deployed:



## Event Structure in database

Field	Type	Description
ID	bigint(20)	Stores the persistence id after commit
MESSAGE_CONTENT	longtext	SOAP message content
EI_TIMESTAMP	datetime	Timestamp of the event creation
EI_EVENT_TYPE	varchar	EventType is an enumeration. Values: REQ_IN; REQ_OUT; RESP_IN; RESP_OUT; FAULT_IN; FAULT_OUT
ORIG_CUSTOM_ID	varchar	Custom id is an empty field. It is not used by Agents currently
ORIG_PROCESS_ID	varchar	Process id is the OS process id
ORIG_HOSTNAME	varchar	Hostname of the event creator
ORIG_IP	varchar	IP address of the event creator
MI_PORT_TYPE	varchar	Service port type of event creator
MI_OPERATION_NAME	varchar	Service operation name of event creator
MI_MESSAGE_ID	varchar	Unique id for one message. (UUID)
MI_FLOW_ID	varchar	Unique id for the message flow. (UUID) All events with the same id belong together
MI_TRANSPORT_TYPE	varchar	Transport type of event creator
ORIG_PRINCIPAL	varchar	Principal info in the message header
CONTENT_CUT	tinyint	Flag if event content was cut

Additionally to the fixed event structure the EVENTS\_CUSTOMINFO table holds name/value pairs the customer can freely define.

Field	Type	Description
ID	bigint	id
EVENT_ID	bigint	ID of the event the custom info belongs to
CUST_KEY	varchar	custom property's key, e.g. Application name
CUST_VALUE	varchar	custom property's value, e.g. Dummy App

## Filters and Handlers

On the Agent as well as on the Monitoring Server events can be filtered. An event filter is defined by an interface and decides if an event should be processed or discarded. There are already several filters available and new ones can be created by the customer by implementing the interface. Among the available filters the most powerful is a XPath filter that can be used to filter events by any meta data. Handlers are processed after the filters and can change the events. Typical applications of handlers are hiding Passwords or Cutting off Attachments.

## Try it yourself

You can download the Talend ESB Community Edition and try the Service Activity Monitoring yourself. The getting started guide in the documentation will help with the setup.