

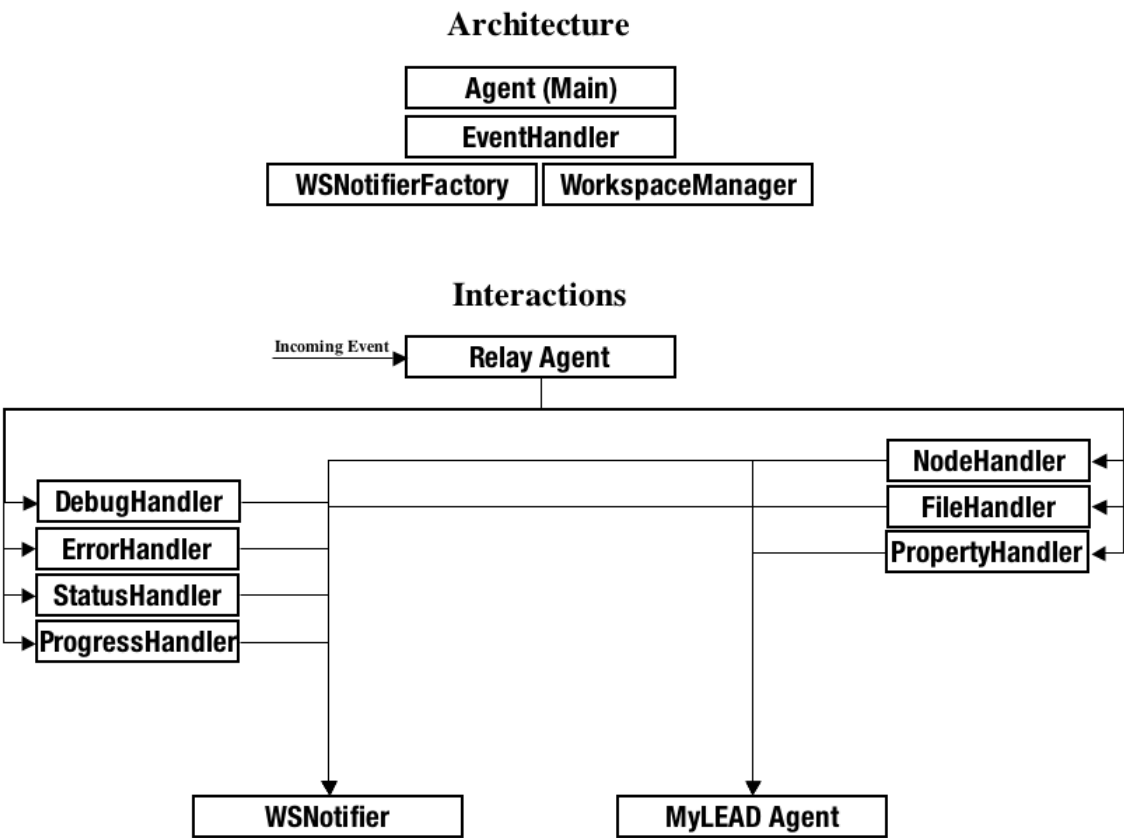
MyLEAD Relay Agent

As part of the LEAD project, our infrastructure is currently being integrated with the [LEAD portal](#). This agent represents the first of several steps to achieve this integration. Its position in our messaging system can be seen in the [NCSA message bus diagram](#).

Purpose

- To store workflow and file metadata associated with brokered submissions using the [MyLEAD Metadata Catalog](#).
- To translate our [LocalEvents](#) into [WS-Events](#) and place them on the [IU Message Bus](#) used in connection with the portal.

Design & Implementation



The structure of the relay agent is straightforward. The main component listens for events on our event bus with the header property '*metadataTo=MyLEAD*', and delegates them to the appropriate event handler. Each handler has a reference to the notifier factory and/or workspace manager, responsible for instantiating and invoking the Notifier and MyLEADAgent clients.

Actions are taken on these clients, as indicated in the following table:

Event	Status	IU/LEAD Client	Action
Debug		edu.indiana.extreme.lead.workflow_tracking.Notifier	debug()
Error		edu.indiana.extreme.lead.workflow_tracking.Notifier	exception()
Status	WORKFLOW SUBMITTED	edu.indiana.extreme.lead.workflow_tracking.Notifier	workflowInvoked()
Status	WORKFLOW CANCELLED	edu.indiana.extreme.lead.workflow_tracking.Notifier	workflowTerminated()
Status	WORKFLOW FAILED	edu.indiana.extreme.lead.workflow_tracking.Notifier	workflowTerminated()
Status	WORKFLOW DONE	edu.indiana.extreme.lead.workflow_tracking.Notifier	workflowTerminated()
Status	NODE PENDING	edu.indiana.extreme.lead.workflow_tracking.Notifier	invokingService()

Status	NODE SUBMITTED	edu.indiana.extreme.lead.workflow_tracking.Notifier	serviceInvoked
Status	NODE ATTEMPTED	edu.indiana.extreme.lead.workflow_tracking.Notifier	invokingServiceFailed
Status	NODE QUEUED	edu.indiana.extreme.lead.workflow_tracking.Notifier	jobStatus()
Status	NODE ACTIVE	edu.indiana.extreme.lead.workflow_tracking.Notifier	jobStatus()
Status	NODE CANCELLED	edu.indiana.extreme.lead.workflow_tracking.Notifier	sendingResult(); serviceTerminated()
Status	NODE FAILED	edu.indiana.extreme.lead.workflow_tracking.Notifier	sendingResult(); serviceTerminated()
Status	NODE DONE	edu.indiana.extreme.lead.workflow_tracking.Notifier	sendingResult(); serviceTerminated()
Progress		edu.indiana.extreme.lead.workflow_tracking.Notifier	jobStatus()
Node	WORKFLOW	edu.indiana.extreme.lead.workflow_tracking.Notifier	workflowInitialized()
Node	WORKFLOW	edu.indiana.dde.mylead.agent.MyLEADAgent_PortType	createExperiment()
Node	NODE	edu.indiana.extreme.lead.workflow_tracking.Notifier	serviceInitialized()
Node	NODE	edu.indiana.dde.mylead.agent.MyLEADAgent_PortType	createCollection()
Property		edu.indiana.dde.mylead.agent.MyLEADAgent_PortType	addAttributes(); updateAttributes()
File	TRANSFERRED (bulk)	edu.indiana.dde.mylead.agent.MyLEADAgent_PortType	createCollection(); registerFile() or registerFileMetadata()
File	CREATED	edu.indiana.extreme.lead.workflow_tracking.Notifier	dataProduced()
File	NAMELIST	edu.indiana.dde.mylead.agent.MyLEADAgent_PortType	registerFile()

The relay agent is booted with a properties file indicating the appropriate endpoints for WS Event notifications and the MyLEAD Agent service:

```
#NCSA event bus
eventListener.tag.1=loggingListener
eventSender.0=tcp://tb1.ncsa.uiuc.edu:61616,ncsa.tools.jms.localevent.JMSLocalEventSender
eventReceiver.0=tcp://tb1.ncsa.uiuc.edu:61616,ncsa.tools.jms.localevent.JMSLocalEventReceiver
receiveTopic.0=TROLL

#IU Message Broker
wsmg.broker.url=http://tyr11.cs.indiana.edu:12346/
#loopback=false

#MyLEAD agent
mylead.agent.url=https://tyr03.cs.indiana.edu:20243/myleadagent?wsdl
credential.file=hostcertkey-tb1.ncsa.uiuc.edu.pem
trusted.certs.file=trusted_cas.pem
fixed.properties.file=fixed.properties
dn.properties.file=dn.properties

#JDBC gridmap db
gridmap.connection.url=jdbc:mysql://localhost/brokerstore
gridmap.connection.username=mysql
gridmap.connection.password=mysql
```

Authentication & Authorization

The MyLEAD server security model is GSS; currently, the certificate used for this purpose must be the one obtained through the LEAD portal. **Until this mechanism is changed to accept multiple certificates for a given user name, all users wishing to have workflows registered in the MyLEAD Metadata Catalogue must be mapped in a special properties file visible to the relay agent.** This mapping is done by hand. In the future, it should be sufficient simply for the agent to access the [Workflow Broker's](#) persistent store for the DN associated with the submission.