MTP for MAGDA

Overview

MTP (Message Transport Protocol) is used to carry out the physical transfer of messages between two Agent Platforms (through ACC, Agent Communication Channel). MTP is required in the FIPA standard.

JADE uses MTP for inter-platform communications: every Agent Platform has a ACC, and every ACC has a number of MTPs for message-passing between agents located on different platforms. So, MTP allows the communication between different agent platforms running on different grid nodes.

MAGDA SDK is provided with a customized MTP version; this helps in inter-node mobility on a Grid system.

MAGDA MTP Installation

As introduced before, MAGDA SDK includes a mobility service for inter-platform mobility. For this purpose, a custom implementation for MTP was set up.

The mobility service has been developed as a Grid service, so the user needs a valid security certificate to let the agent run.

Before using the customized MTP, the following requirements must be fulfilled:

- a user must be provided with certifications and authorizations for the usage of the services published on the container;
- the Globus container must be started;
- the grid service/s must have been previously deployed.

When these operations have been completed, you can:

1. add the myhttp.jar library to your CLASSPATH environment variable;
2. make sure that the classpath contains the service libraries for inter-platform migration (IMPS).

Now, a JADE platform may be started on the front-end host:

```
java jade.Boot -gui -port 11099 -services jade.core.mobility.AgentMobilityService\jade.core.migration.
InterPlatformMobilityService
```

On the second platform, the myhttp MTP may be installed through the JADE GUI:

- Right-click on the icon representing the platform, then choose Manage Installed Mtps;

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1 FIPA: Foundation for Intelligent Physical Agents ([FIPA homepage](http://www.fipa.org)).
2 For further details, see MAGDA Virtual Cluster Documentation (in the “Security Configuration” section).
3 For further details about them, see MAGDA Virtual Cluster Documentation.
- Choose the container, and fill the *Class Name* and the *Address* fields:
  - Class Name: jade.mtp.myhttp.MessageTransportProtocol
  - Address: http://cluster.hpc.org:7788/acc

then choose *Add Mtp*:

- Uninstall every other version of MTP.

On the main platform-side, the installed MTP is the 'classic' one: a grid service (called *Invia*) will receive the message from the *myhttp* MTP and it will show it to the display.
Booting JADE Platform using MAGDA MTP

In MAGDA Virtual Cluster, some scripts are ready to be used in order to boot main container and secondary containers. They can be found in JADE-bin-3.5/scriptAvvio/ folder.

These scripts export the CLASSPATH environment variable (it contains Globus libraries and commands).