

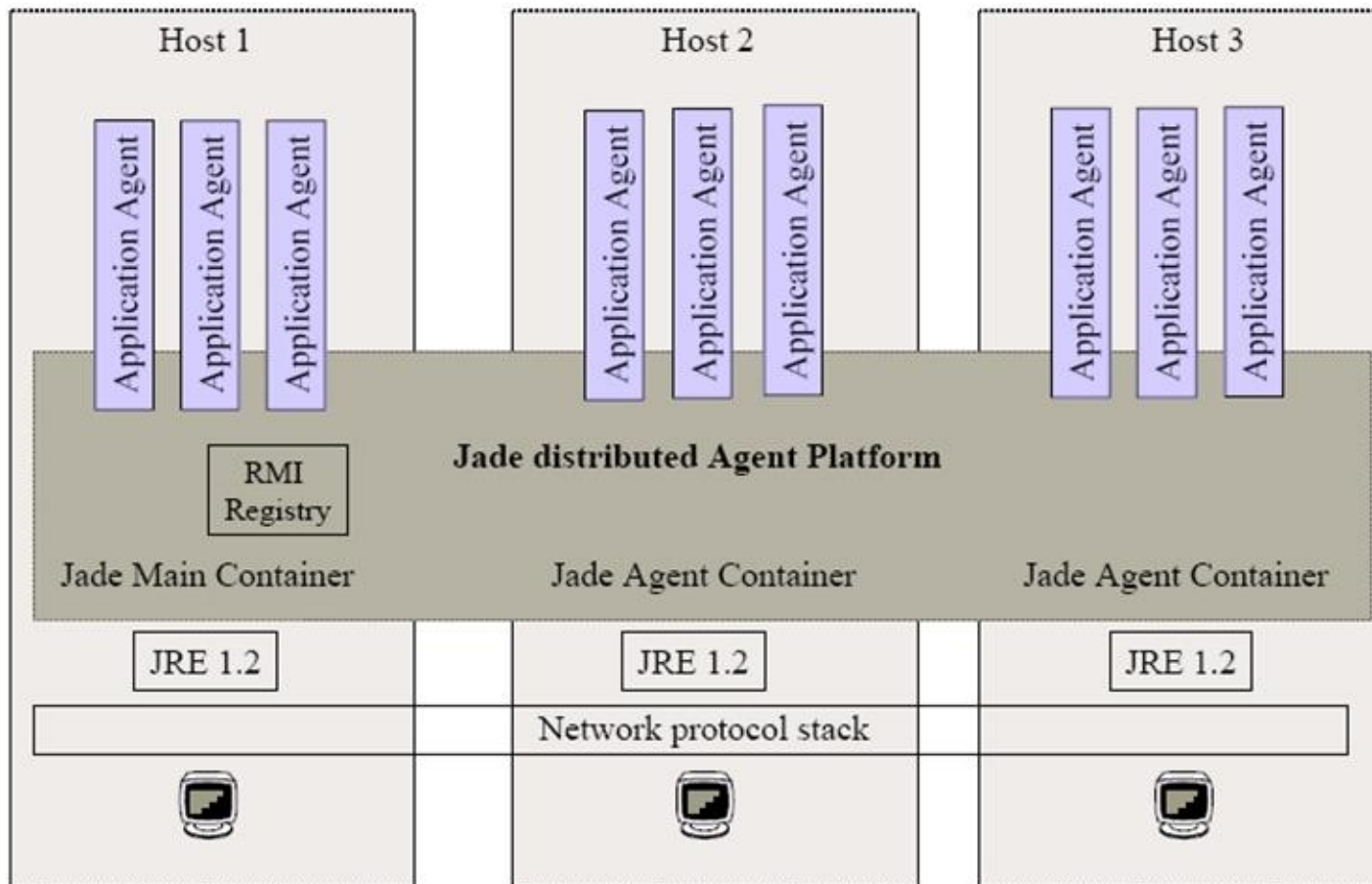
Workshop 6 in AOM & MAS

Msury Mahunnah,
Tallinn University of
Technology

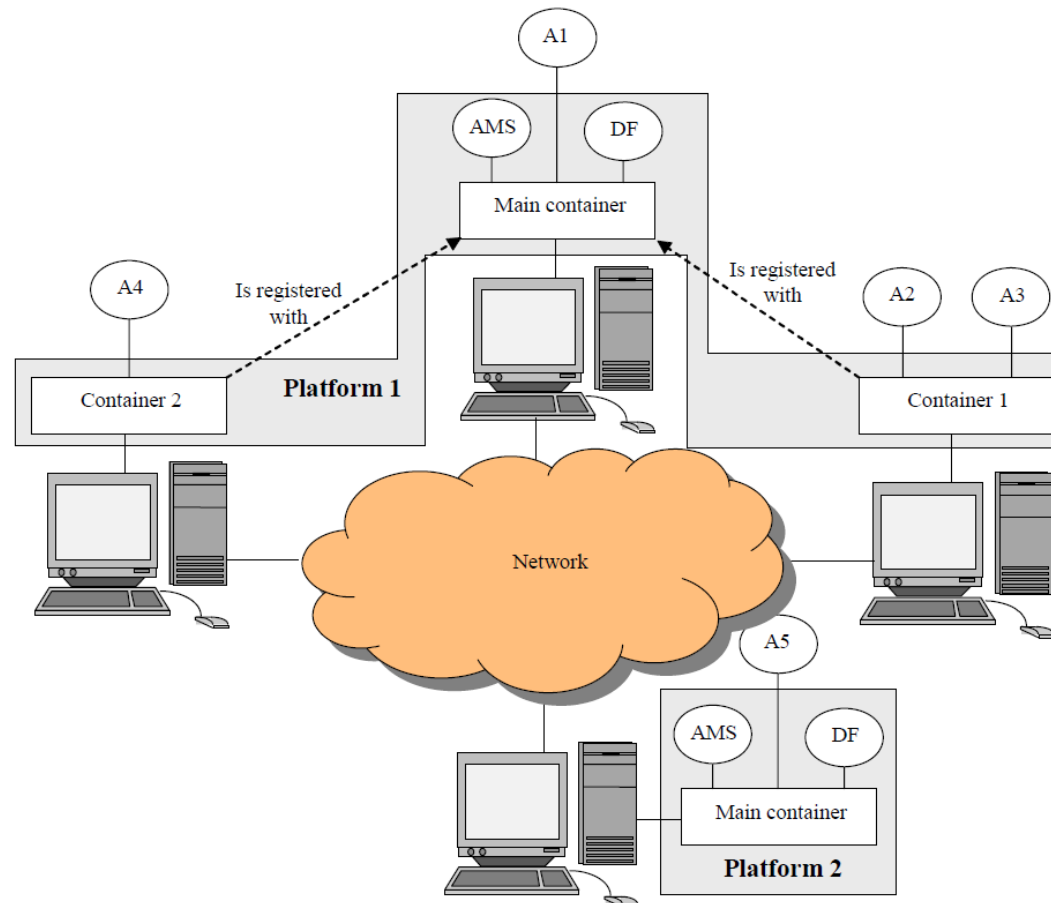
JADE (Java Agent Development Environment)

- Distributed agent platform which can be split among several hosts
- Java Application Programmer's Interface.
- Graphical User Interface to manage several agents from the same Remote Management Agent
- Library of FIPA interaction protocols, such as Contract Net
- Available at <http://jade.tilab.com/>

JADE Agent Platform



Agents, Containers and Platforms



AMS and DF

- AMS – Agent Management System
 - Providing naming services
- DF – Directory Facilitator
 - Provides Yellow Pages service

Creating JADE agent

```
import jade.core.Agent;
import jade.core.AID;

public class PhysicianAgent extends Agent {

    protected void setup() {
        // Printout a welcome message
        System.out.println("Hello! Physician-agent "+getAID().getName()+" is ready.");
    }
}
```

Running JADE agent

```
javac -classpath <JADE-classes> PhysicianAgent.java  
java -classpath <JADE-classes> jade.Boot -gui physician1:PhysicianAgent
```

Classpath can/should be set beforehand.

Passing arguments to an agent

```
import jade.core.Agent;
import jade.core.AID;
public class PhysicianAgent extends Agent {
    private String specialty;
    protected void setup() {
        // Printout a welcome message
        System.out.println("Hello! Physician-agent "+getAID().getName()+" is ready.");
        Object[] args = getArguments();
        if (args != null && args.length > 0){
            specialty = (String) args [0];
            System.out.println("My area of specialisation is "+specialty);
        } else {
            System.out.println("No specialty has been assigned.");
            doDelete();
        }
    }
    protected void takeDown(){
        System.out.println("Physician-agent "+getAID().getName()+" terminated");
    }
}
```

Running JADE agent with arguments

```
javac PhysicianAgent.java
```

```
java jade.Boot -gui physician1:PhysicianAgent(Cardiologist)
```

Terminating JADE agent

```
import jade.core.Agent;
import jade.core.AID;
public class PhysicianAgent extends Agent {
    private String specialty;
    protected void setup() {
        // Printout a welcome message
        System.out.println("Hello! Physician-agent "+getAID().getName()+" is ready.");
        Object[] args = getArguments();
        if (args != null && args.length > 0){
            specialty = (String) args [0];
            System.out.println("My area of specialisation is "+specialty);
        } else {
            System.out.println("No specialty has been assigned.");
            doDelete();
        }
    }
    protected void takeDown(){
        System.out.println("Physician-agent "+getAID().getName()+" terminated");
    }
}
```

Exercise

- Continue with the design for your miniprojects either manually or using a suitable tool