Platform for Multiagent Resource Allocation

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Why?
- to validate the theoretical results
- to induce new results

Quality of the solution:
- when we found optimal solution
  - ⇒ how many deals?
  - ⇒ how long?
- when we can’t found optimal solution
  - ⇒ how many deals?
  - ⇒ distance between solution and optimum?
  - ⇒ Do we still manage optimal solution?
Platform for Resources Allocation by Negotiation (2)

- Platform
  - flexible and open-source
  - allows to show the dynamic of the allocation
    - SW evolution with time
    - SW evolution with little change of parameters
    - test of non-appropriate protocol parameters
  - accepts easily external agent
Specifications of our platform (1)

- Possibility to change parameters like
  - deal type
  - with or without side payment

For each deal with or without side payment:

- 2 agents / 1 resource
  - R1 for 3€

- 2 agents / n resource
  - {R1, R2, ..., Rn} for 3€

- Exchange 2 agents / 1 resource/ag
  - R1 + 1€ to R7

- n agents / 1 resource/ag
  - {R1} for 3€

- n agents / n resource/ag
  - {R1, R4, ..., Rn} for 3€
  - {R2, R7, ..., Rp} for 1€
Specifications of our platform (2)

- Possibility to change algorithm on agent
- accept all the Social Welfare
  - egalitarian
  - utilitarian
  - pareto ...
- accept all agents type
  - cooperative
  - self-interested
  - individually rational...
Our expectations (1):
- possibility of testing all the negotiation parameters with logs
- existence of an agent system like mediator which controls negotiations (deal type, respect of protocols, ...)
- acceptance of external agents
- system agent which controls negotiation