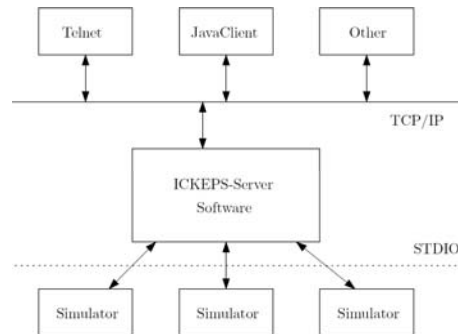


Knowledge Engineering Competition 2007

Stefan Edelkamp, Jeremy Frank

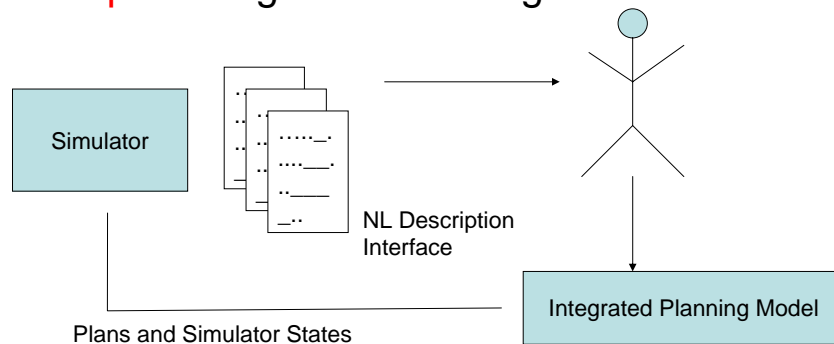


KE-Competiton 2005

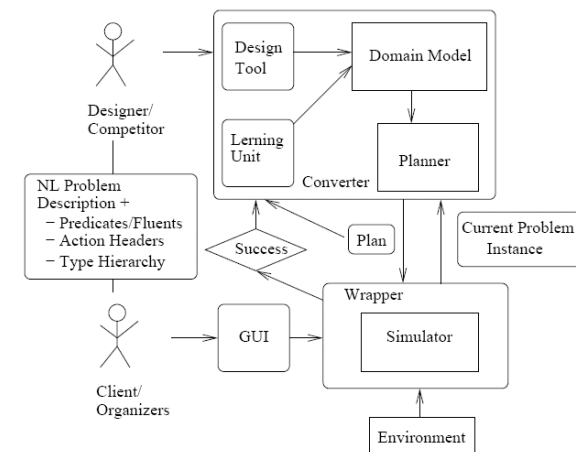
- 7 participating tools, very different in type
- Winner decisions not made accessible...
- ➔ No competition at all!
- ➔ Qualitative evaluation aspects needed

Knowledge Engineering Competition

- **Input:** Running Simulator + Natural Language Description
- **Output:** Integrated Planning Model



Refined Scenario



Technical Equipment

Simulators running on

- 1 LINUX PC

(sponsored by ICAPS)

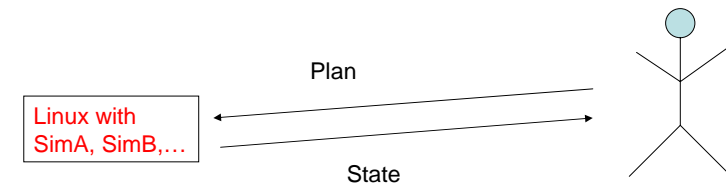
Interface: Server application software that connects client requests to simulators.

Competition Mode

Simulators run on LINUX Computer

Clients connect via **TCP/IP** on **open ports**

Exchange format for plans and simulator states: ASCII (e.g. PDDL or XML)



TCP/IP Connection

TCP/IP domain name has to be provided

TCP/IP port number is not the default port (11003), it has to be specified, too

Three parties:

Client: The competitor's planning environment

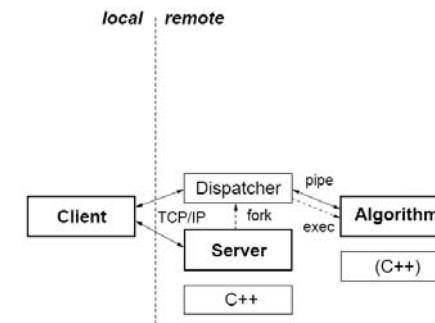
Simulator: Run on server side

Server: The interface connecting client to algorithm

Interfacing Simulators

Interface software for the competition:

TCP/IP server (written in c++) with dispatcher connects competitors to simulators



Client – Competitor's Side

Receives the **simulator list** from the server:

- If **no connection** can be **established**, an error message is returned
- If **a connection** is **established**, available simulators are listed

When a simulator is **selected**

its information is retrieved: ASCII and input requirements

When a simulator **runs**

it sends textual data (via STD I/O) to the server

Server – Simulators' Side

The server's **main purpose** is to make simulators accessible through **TCP/IP**. It is able to receive commands from **multiple clients** at the same time.

It allows the client to

- choose from the **list of available simulators**,
- **retrieve information** about the simulator,
- **specify input data**,
- **start it** and **receive output data**.

The server maintains a **list** of **installed simulators**. This list **may be changed without** the need of **stopping and restarting the server**.

Simulators in 2007

- Cyber-Security
- Graph-Transformation
- Manufacturing
- Power Supply Restoration
- Hubble Telescope
- Petri Nets

Competitors in 2007

3 competitors only, only 1 made it to connect to the Server and model domains

➔ Again no Competition!