pallas

Member of the ExperTeam Group

The UNICOREpro Client

A General Introduction

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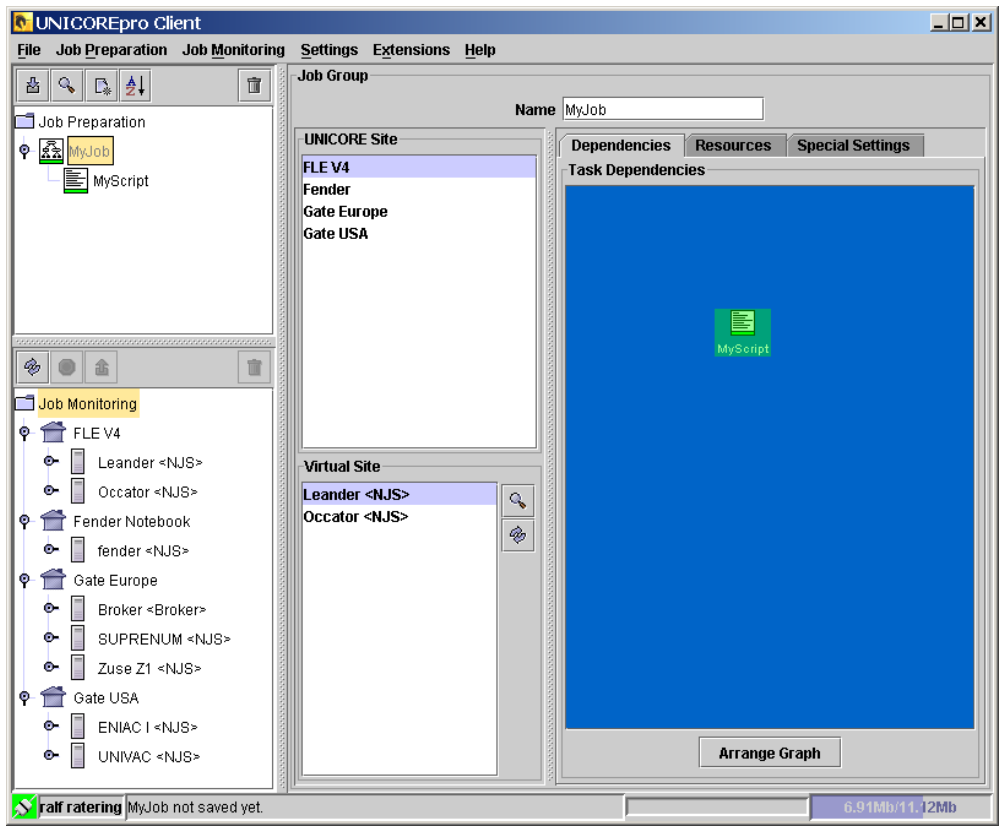
The UNICOREpro Client

- Graphical Interface to UNICORE Grids
- Open Source under Pallas Community License
- Job Preparation, Monitoring and Control
- Complex Workflows
- File Management
- Certificate Handling
- Integrated Application Support



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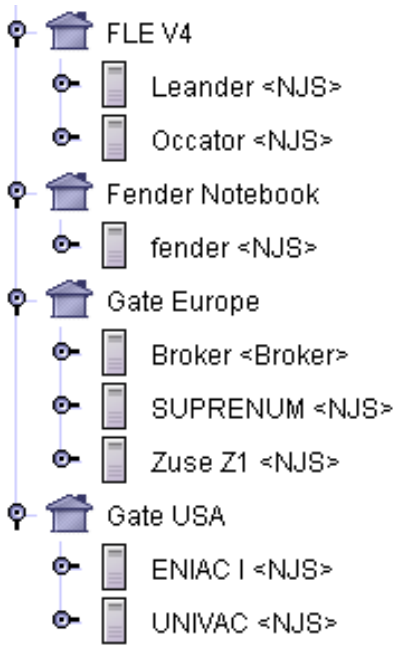
UNICORE Grids



UNICORE Sites:

Gateway installed at site

Virtual Sites:

NJS (Network Job Supervisor)

Configure your own Grid:

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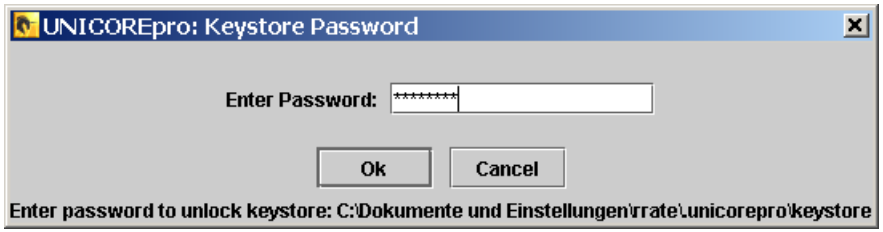
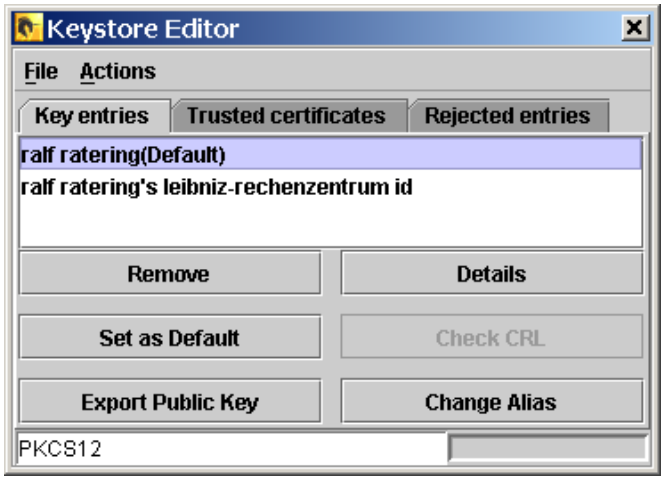
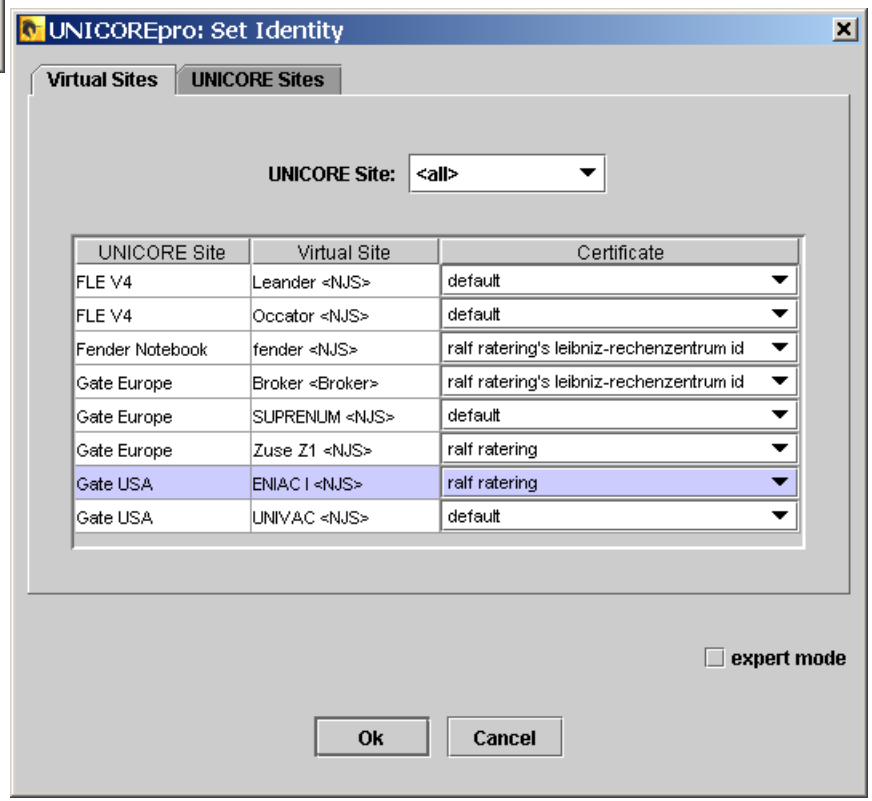
Authentication: User certificates



Unlock keystore at startup



Key entries: Who am I?



Using different identities

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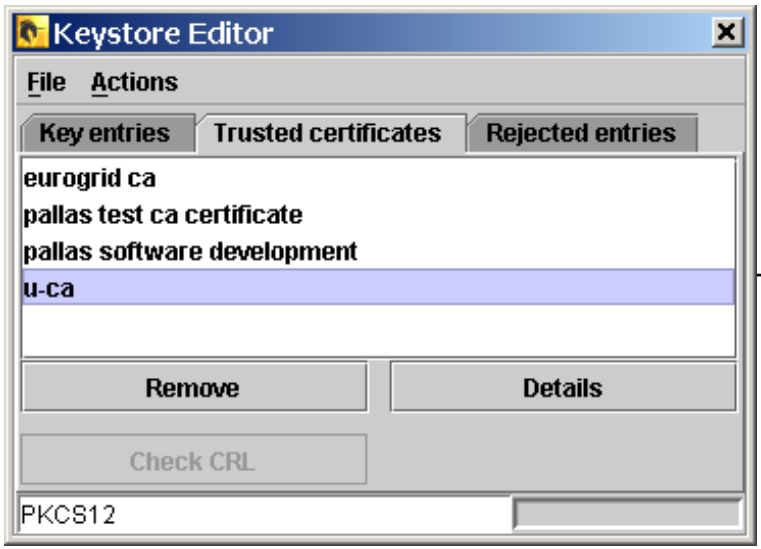
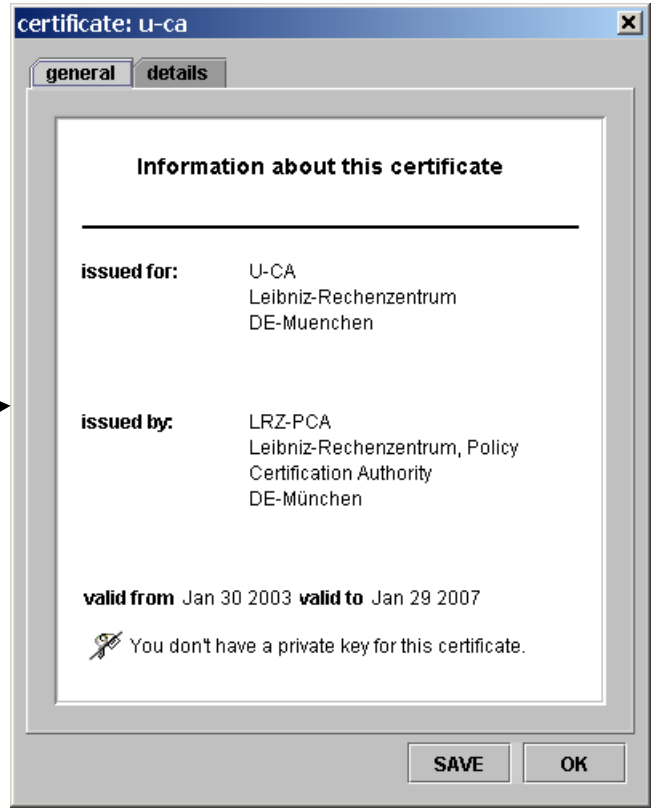
Authentication: Trusted entries



Trusted certificates:

Whom do I trust?



View details

about certificate

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Authentication: How does it work?

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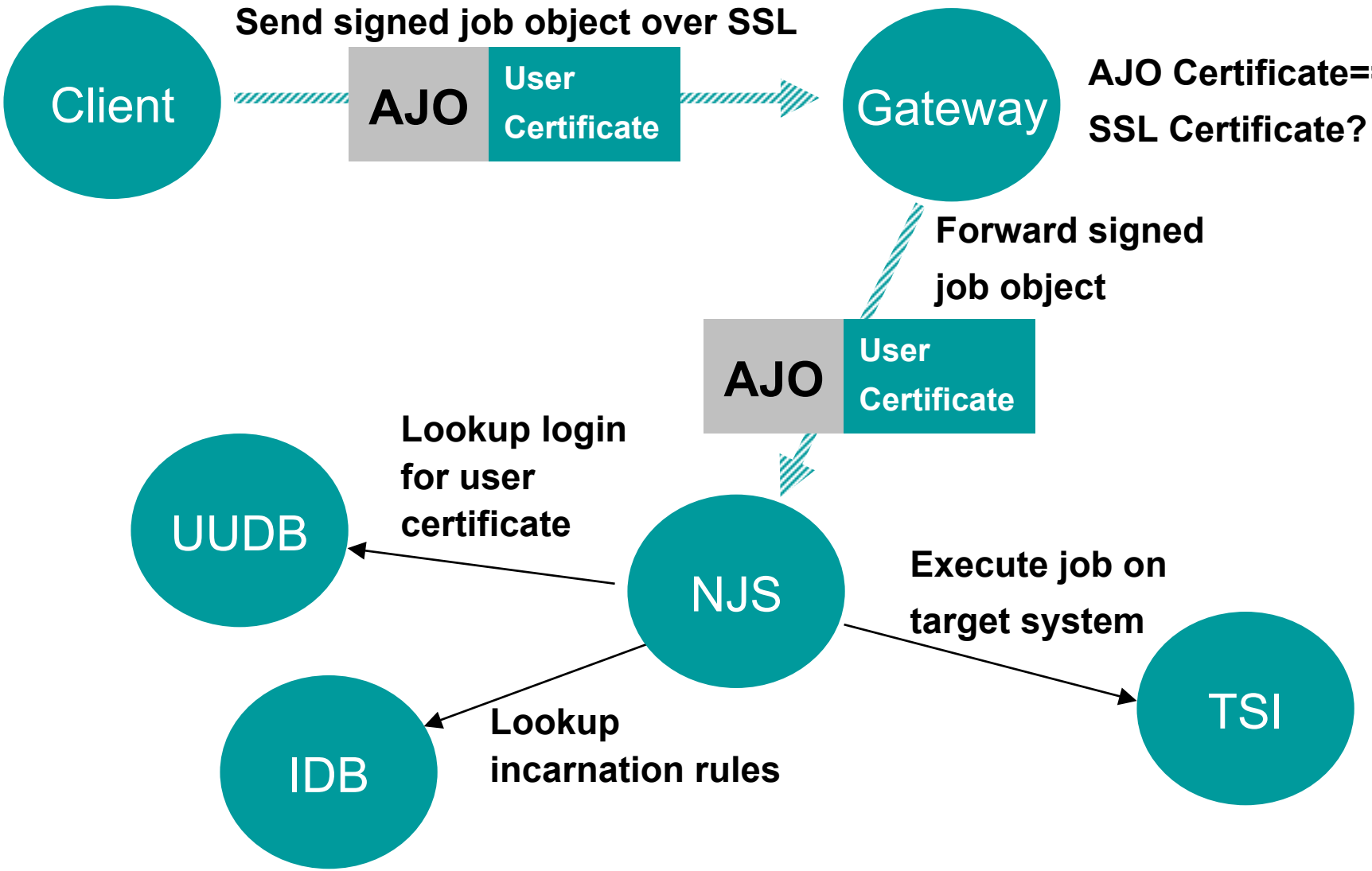

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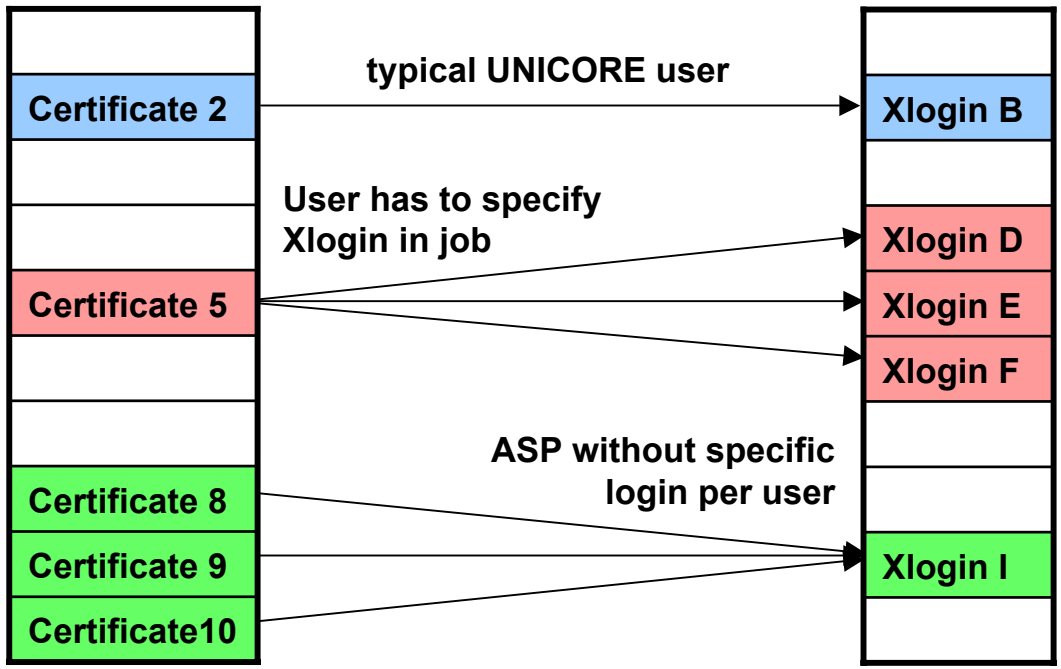
Certificate Mapping in UUDB

- Certificates are mapped in the UNICORE User Database (UUDB) to UNIX logins



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Live-Demo: Hello World Job

1. Execute a simple script on an arbitrary site of the Grid
2. Get back standard output and standard error

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Status Color Coding

successful

not successful

executing at NJS

running

killed

queued

never run

pending

held

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Running applications

- Scenario: User wants to render a complex image with the POV-Ray ray tracer, but only has an old laptop available
- UNICOREpro Client: User can access a Grid of powerful computers

Run POV-Ray from script task

Is POV-Ray available?

Which parameters are needed?

Where are modules installed?

POV-Ray plug-in task

Graphically set input parameters

Run job at any site that offers a POV-Ray resource

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Live-Demo: Running a POV-Ray Job

1. Build a POV-Ray job
2. Run job on Pallas Test Grid

Use Resource Editor to specify resource request for CPU time and memory

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Live-Demo: Running a job at multiple sites

1. Compile Java code at one site
2. Transfer class file to another site
3. Execute class file
4. Transfer the output from the second site to the local workstation

Use Command Task

First take a closer look at UNICORE file spaces...

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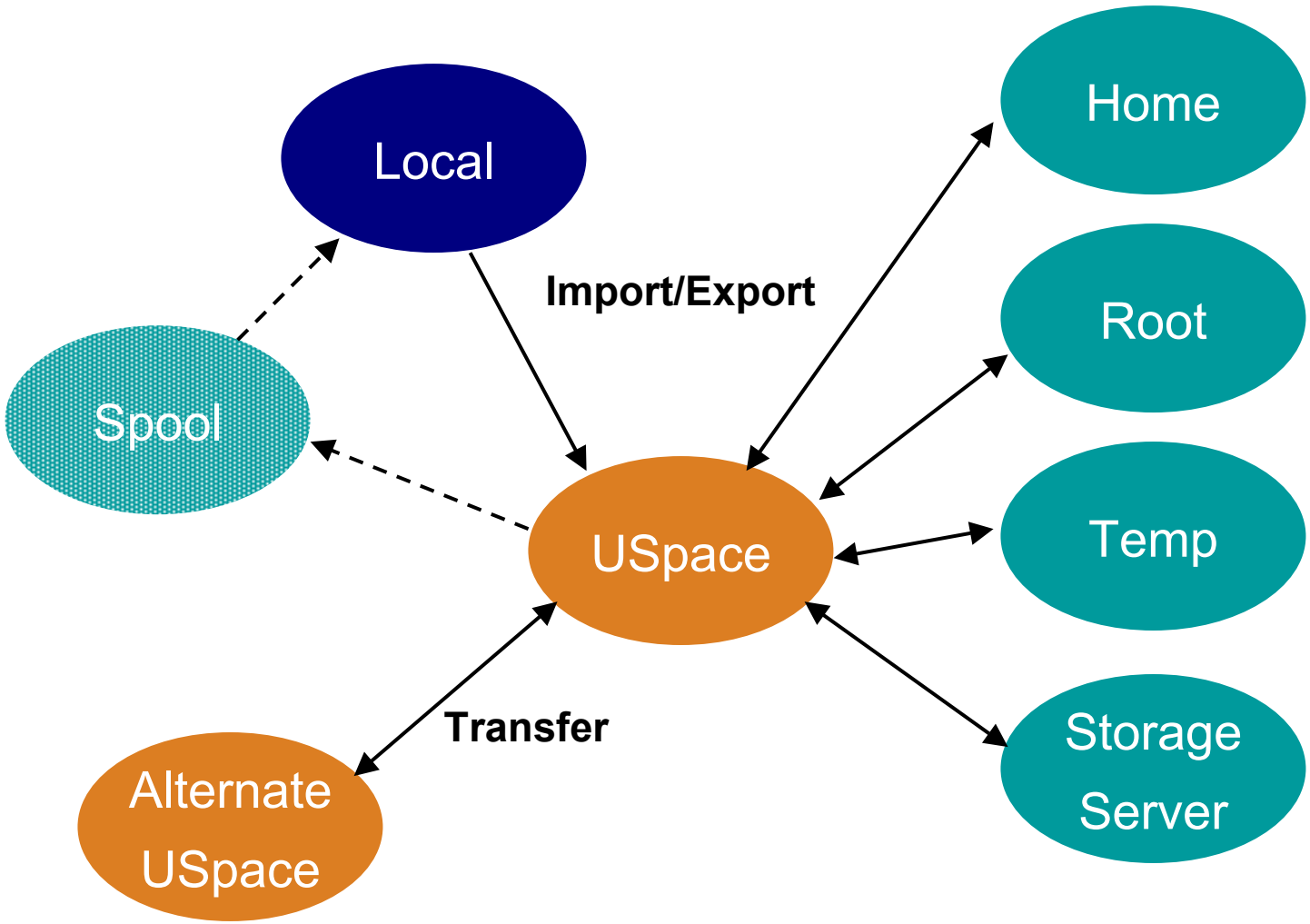
File Spaces



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Live-Demo: Looping

1. Build a series of files in a loop until a file with number 3 exists
2. Change loop condition and re-run job

Reconstruct original job from finished job at virtual site

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Live Demo: Branching

- Execute different branches if an application executes successful or not

New: Job execution continues although a task failed!

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Live-Demo: Holding and releasing jobs

1. Use an import to transfer a file from the home directory at the remote site to the job directory
2. Hold a job at a certain point in the workflow and release it manually

Select import file with remote file chooser

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Summary

- With the UNICOREpro Client you have all the basic functionality needed to run complex jobs on UNICORE Grids
- The Plugin interface adds:
  - Application support by introducing new task types
  - New services by adding controls to the client GUI

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