Practical information for the GEMLCA / P-GRADE hands-on

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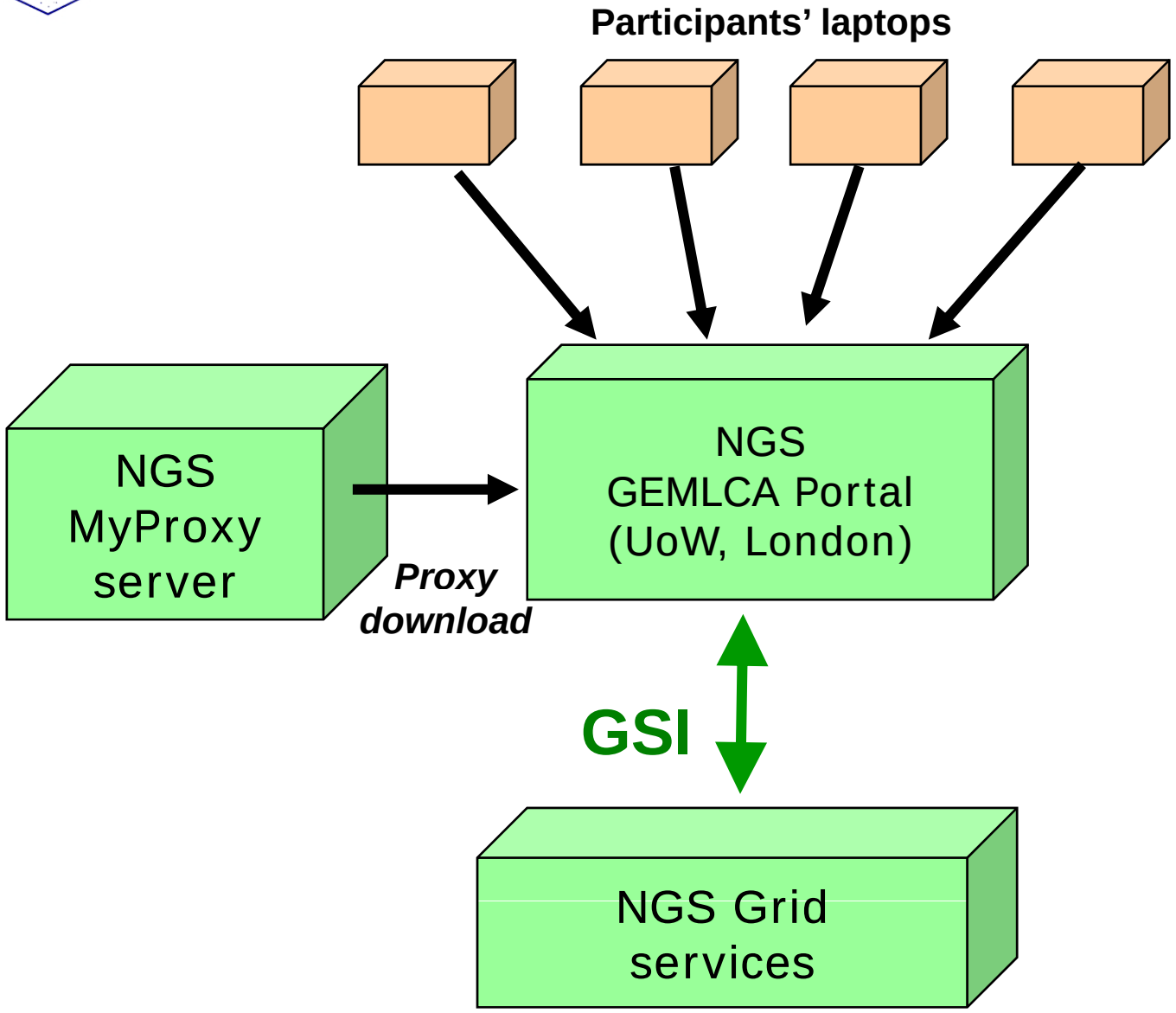
www.portal.p-grade.hu
www.cpc.wmin.ac.uk/gemlca

Introduction

- Aim is to learn the usage of the NGS GEMLCA P-GRADE Portal
- Understand the difference between job and service components in a workflow
- Go through the typical application development cycle
- Grid to be used: NGS (with and without the resource broker)

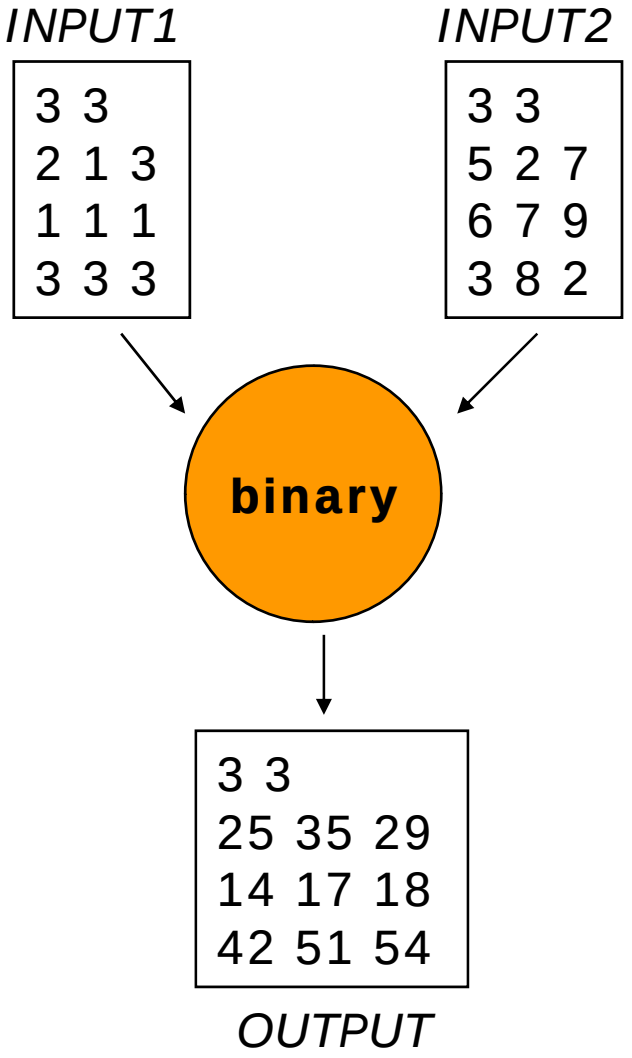
Infrastructure for the hands-on



Open the hands-on material

Matrix multiplication job

- C code
- Reads matrixes from INPUT1 and INPUT2 files
- Writes result matrix to OUTPUT file
- Command line parameters: M V
- Detailed description, executable and sample inputs **HERE**



http://portal.p-grade.hu/tutorials/induction/Matrix_operations_program_description.htm

Future steps and roadmap

Future steps

and

GEMLCA / P-GRADE development roadmap

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How to learn more on P-GRADE portal and GEMLCA?

- Take a look at
  - **P-GRADE portal: www.portal.p-grade.hu**
    (manuals, tutorials, service portals, installation procedure, etc.)
  - **GEMLCA: www.cpc.wmin.ac.uk/gemlca**
- Visit or request a training event! (event list also on homepage)
  - Lectures, demos, hands-on tutorials, application development support

- **Get an account for one of the production installations:**
  - **NGS portal – University of Westminster**
  - VOCE portal - SZTAKI
  - SEEGRID portal – SZTAKI
  - GILDA portal – SZTAKI

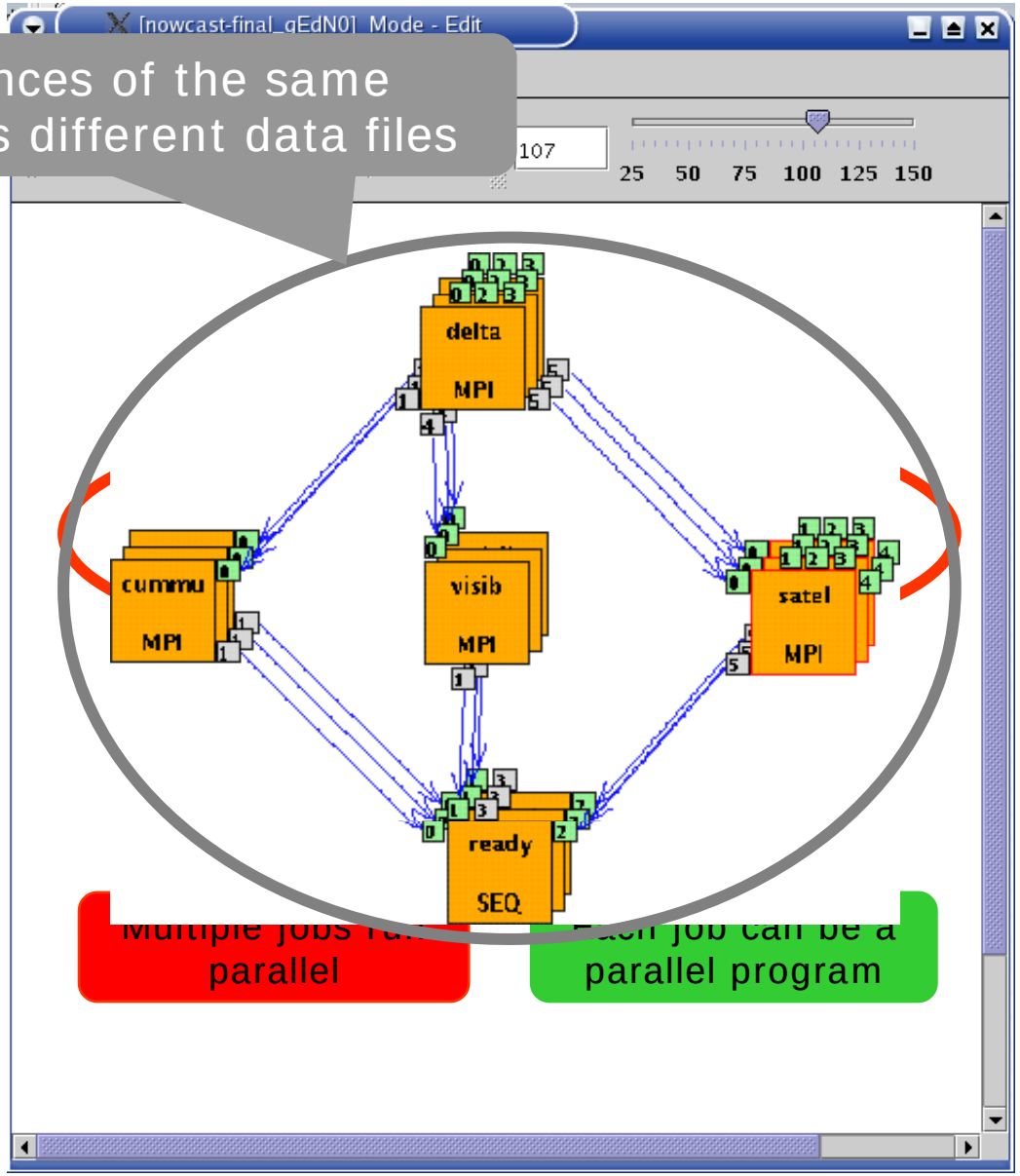
- **If you are the administrator of a Grid/VO then contact SZTAKI/Westminter to get your own Portal installation**

Development roadmap

- SRB support
  - SRB resources are integrated at workflow level
  - Input/output ports can represent SRB data sources
- Parameter study support
  - If the user has a workflow he can run it with many different parameters
  - Workflow = code to execute
  - Input files = parameters

Parameter study support: Introducing the third level of parallelism

Multiple instances of the same workflow process different data files



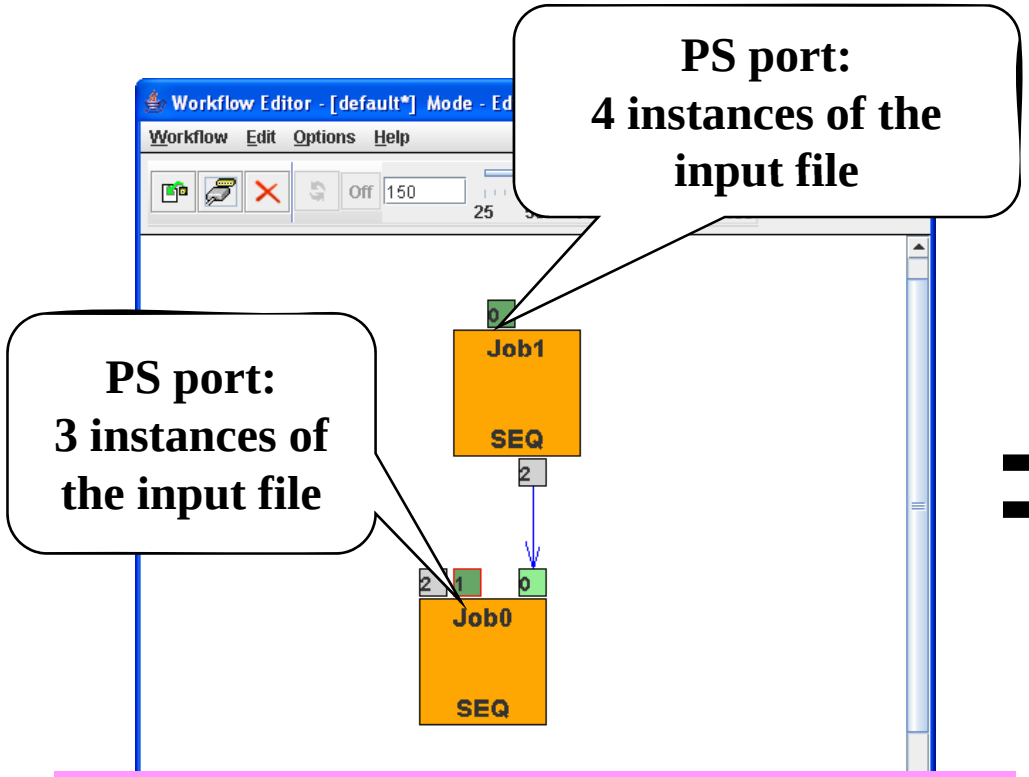
– **Parallel execution inside a workflow node (SIMD/MIMD/MISD)**

– **Parallel execution among workflow nodes (SIMD/MIMD/MISD)**

– **Parameter study execution of the workflow (SIMD)**

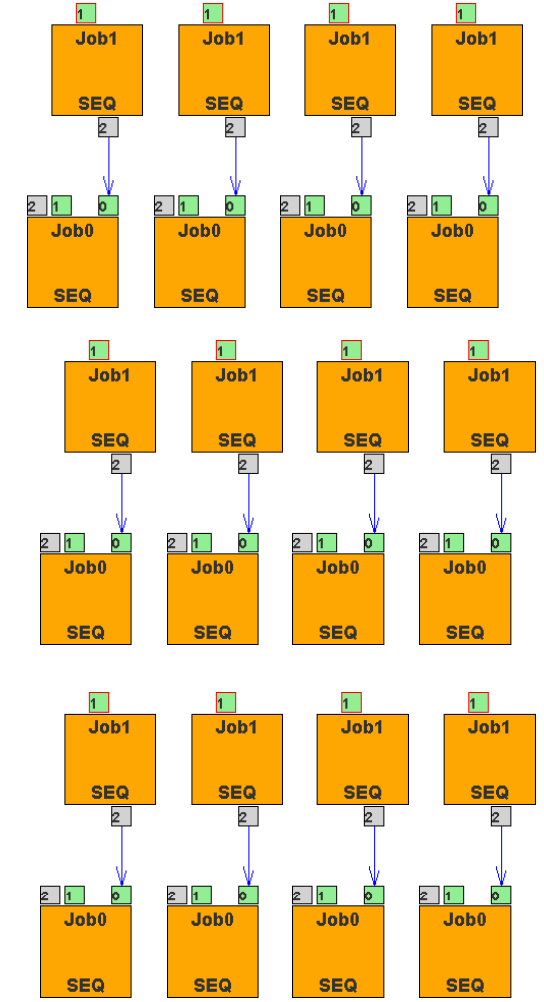
Parameter study workflow execution in P-GRADE portal 2.5

1 PS workflow execution



This provides the 3rd level of parallelism resulting a very large demand for Grid resources

4 x 3 normal workflow execution



Learn once, use everywhere
Develop once, execute anywhere

Thank you!

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