

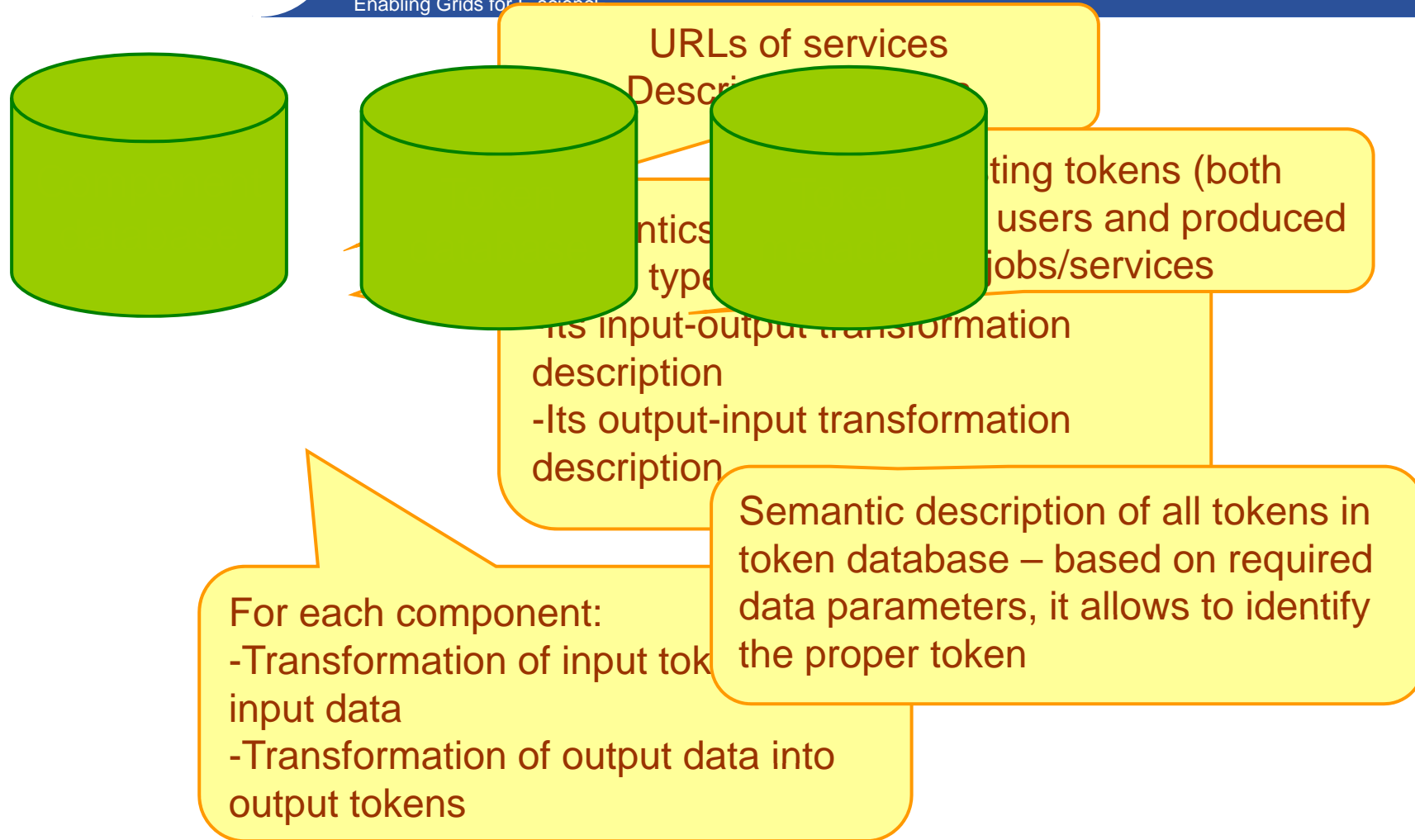
# Workflow management tool for Earth science applications

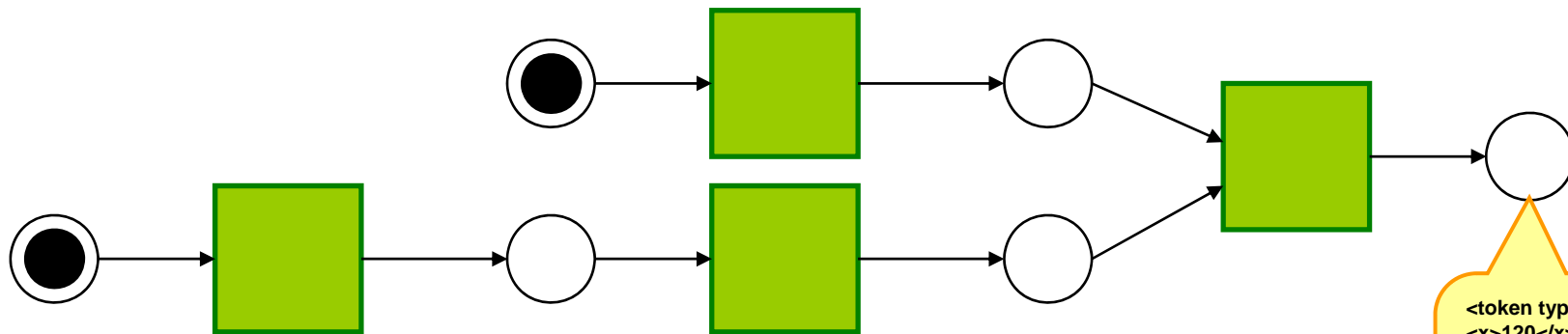
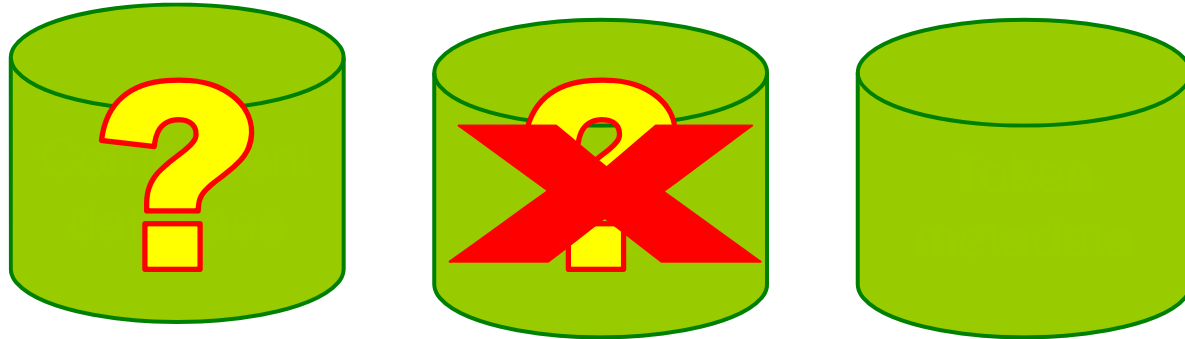
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- **Workflow management system from KwfGrid project**
  - Workflow representation based on Petri net
  - Dynamic workflow composition
  - Different level of abstractions
  - Strongly service oriented (every activity is a web service)
  - Knowledge management and personal assistant

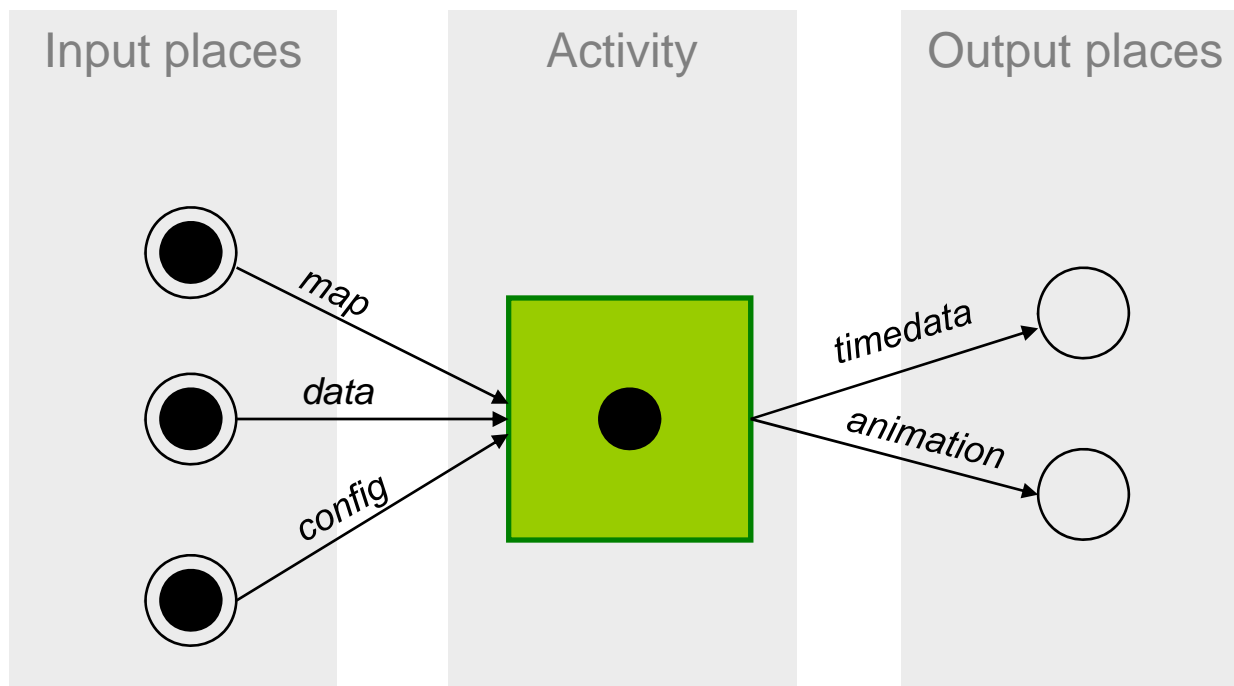




```

<token type="mm5out">
<x>120</x>
<y>250</y>
<start>2003-08-21</start>
</end>2003-08-22</end>
<width>300</width>
<height>150</height>
</token>
    
```

We have produced the required output token. (which represents the output data), the workflow has finished application may start



```

<timedata>
  <timeData>
    simul-out.txt
  </timeData>
</timedata>
-----
spread.avi
-----
<anim>
  <animation>
    spread.avi
  </animation>
</anim>
-----
1200000
-----
</startTime>
</inputStruct>
-----
12
-----
</density>
<startTime>
  1280982
</startTime>
</config>

```

1. We need input data
2. Input tokens are combined into input data for the service or grid job
3. This input data is used to call the service, or execute the grid job
4. The service/job returns output data
5. The output data is divided into tokens; these are annotated by metadata and stored into the database

- **Benefit:**
  - Advanced workflow management system
  - Dynamic workflow construction based on user's request
  - Personal assistant helps users to choose best options during workflow construction
- **Issues during porting to EGEE:**
  - KwfGrid is entirely service oriented: everything are web services (activities, metadata catalogs, ...)
  - System information are based on WSDL (URL, input/output data)
  - Knowledge management module is tailored to web service (semantics of WSDL, web service monitoring)

- **Actual status:**
  - Workflow engine is ported to EGEE
    - New type of activity for gLite
    - New service adaptor
    - Credential management
  - Users now can execute KwfGrid workflows on EGEE
- **Ongoing work**
  - GUI interface is being adapted to EGEE
    - Monitoring real gLite job status
    - Editing additional gLite options (JDL options)
- **Long-term**
  - Knowledge management module
  - Token/metadata catalogs

## Certificate management

### Retrieve certificate


Retrieve a certificate from a Myproxy server. The proxy certificate must have been uploaded to the Myproxy server before from other machine.

Host:	<input type="text" value="gaia.ui.savba.sk"/>
Port:	<input type="text" value="7512"/>
User name:	<input type="text" value="viet"/>
Password:	<input type="password" value="••••••••"/>
Lifetime in minutes:	<input type="text" value="60"/>










- Overview
- + New
- List
- Details
- Graph
- Configuration/Test
- Tutorial
- Certificate






## Workflow List

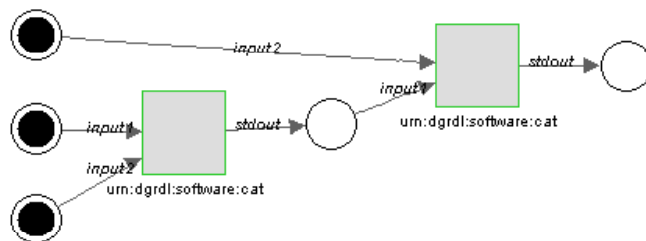
 Refresh List

Currently the following workflow IDs are handled by the Grid Workflow Execution Service or stored in the workflow database:

	Actions	User	Description	Status	Begin	End	Level
<input type="checkbox"/>		viet	Test workflow	✓ COMPLETED	Jan 29 22:05:28	Jan 29 22:05:32	MEMORY
<input type="checkbox"/>		viet	Test workflow	✓ COMPLETED	Jan 29 22:05:04	Jan 29 22:05:05	MEMORY
<input type="checkbox"/>		viet	Small concrete workflow that invokes two execut...	NEW INITIATED	Jan 29 21:48:58	--	MEMORY
<input type="checkbox"/>		viet	Small concrete workflow that invokes two execut...	NEW INITIATED	Sep 26 09:31:10	--	DATABASE
<input type="checkbox"/>		viet	Small concrete workflow that invokes two execut...	NEW INITIATED	Sep 24 16:10:52	--	DATABASE
<input type="checkbox"/>		viet	Small concrete workflow that invokes two execut...	NEW INITIATED	Sep 24 16:08:04	--	DATABASE
<input type="checkbox"/>		tomcat	Small concrete workflow that invokes two execut...	NEW INITIATED	Aug 31 08:26:11	--	DATABASE

### Actions on Selected Workflows

-  Start or Resume Selected Workflows
-  Suspend Selected Workflows
-  Abort Selected Workflows
-  Remove Selected Workflows from  Memory  Database  Filesystems
-  Store Checkpoints for Selected Workflows



- **Kwf-Grid workflow management tool has several advanced features:**
  - Advanced workflow management system
  - Dynamic workflow construction based on user's request
- **Porting Kwf-Grid to EGEE allows users to take advantages of the systems**