



omii europe
open middleware infrastructure institute

The Vine Toolkit

A Java framework for developing Grid applications

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Purpose

This talk provides a brief technical introduction to the Vine Toolkit.

vine:toolkit

open-source java grid application framework

Website coming soon!

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<http://www.omii-europe.org>



<http://www.beingrid.eu>

Agenda

- Introduction
- Motivations for Vine
- Design and implementation
 - Project structure
 - Core concepts
 - Security concepts
 - File management
 - Job management
- Deploying to GridSphere
- Next steps



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Introduction

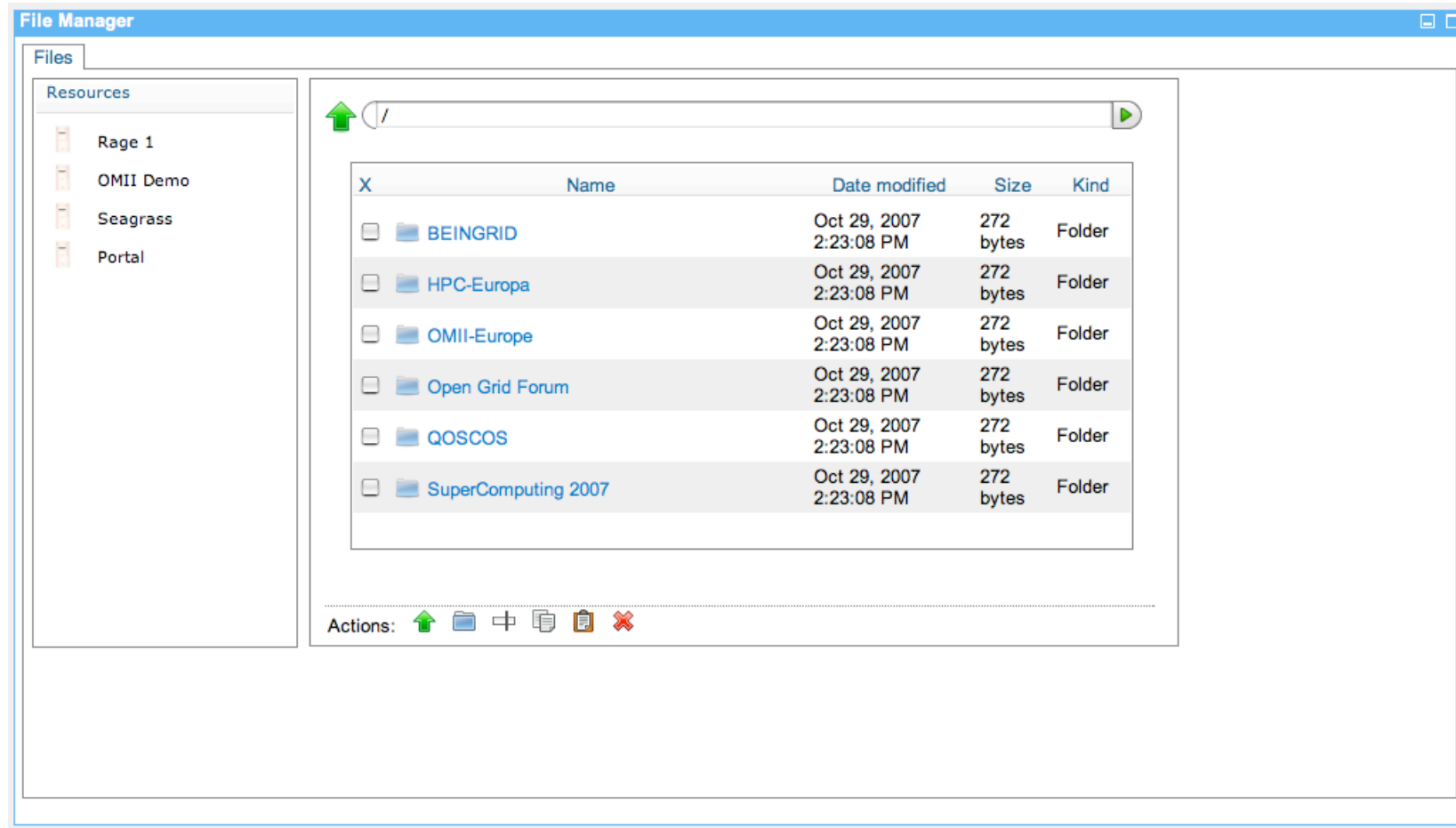
The Vine Toolkit

- Modular, extensible Java Grid application library.
- Can be embedded within a wide variety of applications.
- Targeted application environments include:
 - Standalone applications
 - Command-line applications
 - Desktop applications
 - Java Web Start applications
 - Web applications
 - Servlet-based applications
 - Portlet-based applications

Main Goals

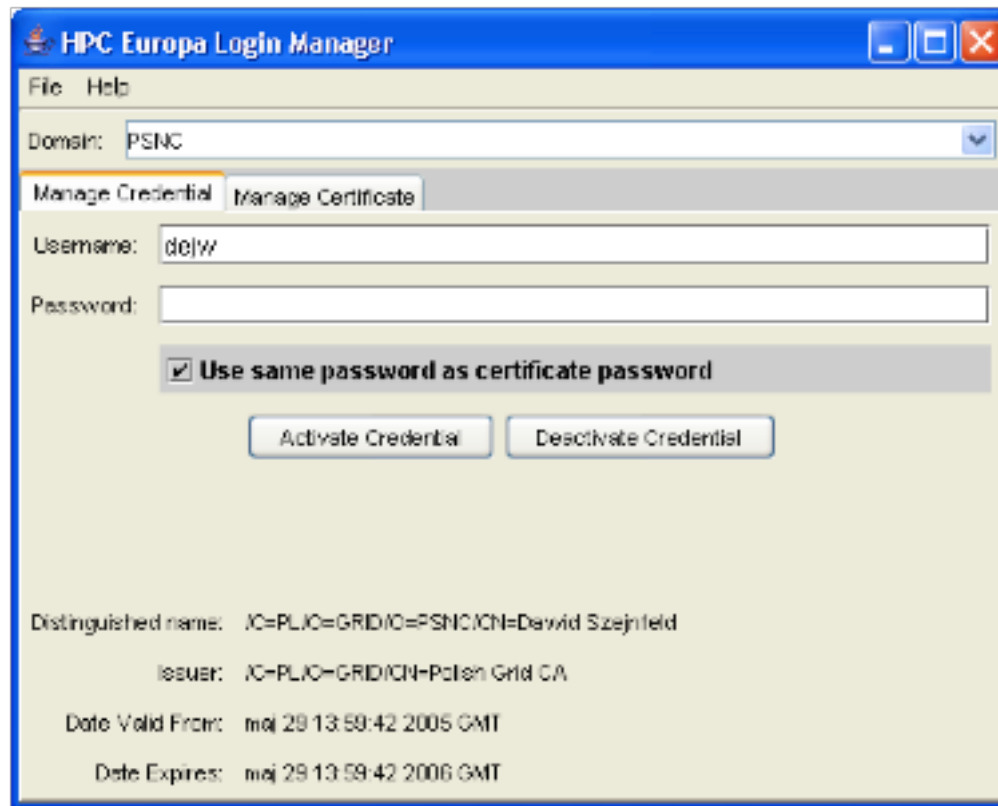
- To support today's most relevant Web and Grid platforms.
- To support today's most relevant Web and Grid standards.
- To get embedded with as many vendors, application providers and projects as possible!
- To provide training and tutorials for how to use the Grid, along with real-world example applications.

Example: File Manager Portlet



- JSR 168 Portlet distributed with Grid Vine
- Web interface for managing files on remote resources

Example: Credential Manager Application



- Builds upon Vine to allow users to “activate” credentials for a particular domain.
- Each domain can have its own collection of certificate authorities, certificate repositories (MyProxy), etc.



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Motivation

Projects that spawned our efforts

The Grid

- The biggest project of all, the Grid.
- In Europe, “grid” is not a bad word!
- Grid is the future, whether we call it Cyber Infrastructure or Web 3.0.
- Problem is still many middleware / standards to choose from in developing grid solutions.

Current Sponsors

- OMII-Europe (<http://www.omii-europe.org>)
- BEINGRID (<http://www.beingrid.eu>)
- Gridipedia (<http://www.gridipedia.eu>)

OMII-Europe

- Motto: “Interoperability through open-standards”
- Re-engineering most popular Grid middleware to support leading Open Grid Forum (OGF) and other standards relevant to Grid.
- Middleware
 - gLite 3 / EGEE, Globus Toolkit 4, UNICORE 6, CROWN
- Standards
 - JSDL, BES, SAML, RUS

BEINGRID

- Motto: “Let’s see if this Grid stuff really works in practice.”
- Largest EU funded project in terms of organizations (over 70!).
- Sponsors 18 different business experiments (BEs) applying Grid technology to different commercial ventures:
 - Online gaming, textile manufacturing, financial services...
- All based on middleware and platform technologies decided upon by BEs.
- Needs common components / tools for using Grid.



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Background

GridSphere Project

Evolution

- Vine evolved from GridSphere's Grid Portlets Project.
- Vine borrows many concepts from Grid Portlets and generalizes them for use in different environments.
- Goal is to develop a unified development tool for many application environments and many Grid infrastructures.

GridSphere

- Most popular open-source Grid portal framework.
- JSR-168 “Portlet 1.0 API” compliant container.
- Can be used to setup a website that hosts “portlet” applications and web content.
- Now at version 3 and still evolving...

GridSphere Portal Framework

The screenshot shows the GridSphere Portal Framework user profile management interface. At the top left is the logo and text "gridsphere portal framework". At the top right are links for "ログアウト" (Logout) and "ようこそ, Oliver Wehrens" (Welcome, Oliver Wehrens). Below the header is a navigation bar with "ようこそ" (Welcome) and "管理" (Management) buttons. Under "管理" are sub-links for "設定" (Settings) and "レイアウト" (Layout). The main content area is titled "プロフィール管理" (Profile Management) and displays a success message: "ユーザー情報更新に成功しました。" (User information updated successfully). Below this is a "設定変更 for" (Settings change for) section with the following details: "最後のログイン時間: 2006年5月3日 9時33分01秒 CEST" (Last login time: 2006年5月3日 9時33分01秒 CEST). The user information includes: "ユーザー名: wehrens" (Username: wehrens), "EMail: q@q.com" (Email: q@q.com), "フルネーム: Oliver Wehrens" (Full name: Oliver Wehrens), "組織: AEI" (Organization: AEI), and "Roles: SUPER, ADMIN, USER". There is a "言語:" (Language) dropdown menu set to "日本語" (Japanese) and a "タイムゾーン:" (Time zone) dropdown menu with options: Africa/Abidjan, Africa/Accra, Africa/Addis_Ababa, Africa/Algiers, Africa/Asmera, and Africa/Bamako. A "保存" (Save) button is located below the main settings section. Below the main settings are two additional sections: "パスワード更新" (Password update) with fields for "元パスワード入力:" (Original password input), "パスワード:" (Password), and "パスワード確認:" (Password confirmation), and "グループメンバー設定" (Group member settings) with a "グループ: グループ説明:" (Group: Group description) field and a "保存" (Save) button. The footer of the page shows the date "2006/05/03".

The Grid Portlets Project

- High-level API and model of the Grid.
- Portlets that provide basic Grid functionality.
- Distributed with support for GT2/GT4.
- Supports ability to “plugin” support for other Grid technologies in a variety of ways.
 - But difficult in practice
 - Vine makes this much easier

GridSphere's Grid Portlets

- Credential Manager Portlet
- File Browser Portlet
- Job Submission Portlet
- Resource Browser Portlet
- Resource Registry Portlet

Resource Registry Portlet..

The screenshot shows the 'Resource Registry Edit' portlet. It features a 'Save' and 'Cancel' button at the top left. The main area contains an XML editor with the following content:

```
<?xml version="1.0" encoding="UTF-8"?>
<grid-resources>
  <hardware-resource label="Portal"
    description="Hosts the GridSphere Portlet Container"
    hostname="localhost">
    <localhost-resource label="GridSphere File System"
      description="GridSphere User File System"/>
    <map-resource label="Map Resource"
      description="Serves maps for given hosts"/>
    <grms-event-listener label="GRMS Event Listener"
      port="8443"
      description="Listens for events generated by GRMS"
      servicepath="/gridportlets/services/notification_service"/>
  </hardware-resource>
</grid-resources>
```

On the right side, there is a 'File Info' panel with the following details:

- File Path:** /WEB-INF/Resources.xml
- Last Modified:** Dec 11, 2004 12:31:38 PM
- Mapping File:** /WEB-INF/mapping/resource-mapping.xml

File Browser Portlet...

The screenshot shows the 'File Browser Portlet' interface. It has two tabs: 'Physical Files' and 'Logical Files'. Below the tabs are two file browser windows, 'File Browser 1' and 'File Browser 2'.

File Browser 1: Shows a list of resources including Portal, Peyote, Helix, Venus, Skirit, FS0, NO, Rage1, Litchi, and HitCross. The current path is /mnt/shared/people/glab047. A list of files is shown with their IDs and sizes.

File Browser 2: Shows a list of resources including Portal, Peyote, Helix, Venus, Skirit, FS0, NO, Rage1, Litchi, and HitCross. The current path is /home/glab047. A list of files is shown with their IDs and sizes.

Both windows have buttons for 'Copy >>', 'Move >>', '<< Copy', and '<< Move'. At the bottom of each window are buttons for 'Make Dir', 'Rename', 'Delete', 'View', 'Upload', and 'Download'.



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Project Structure

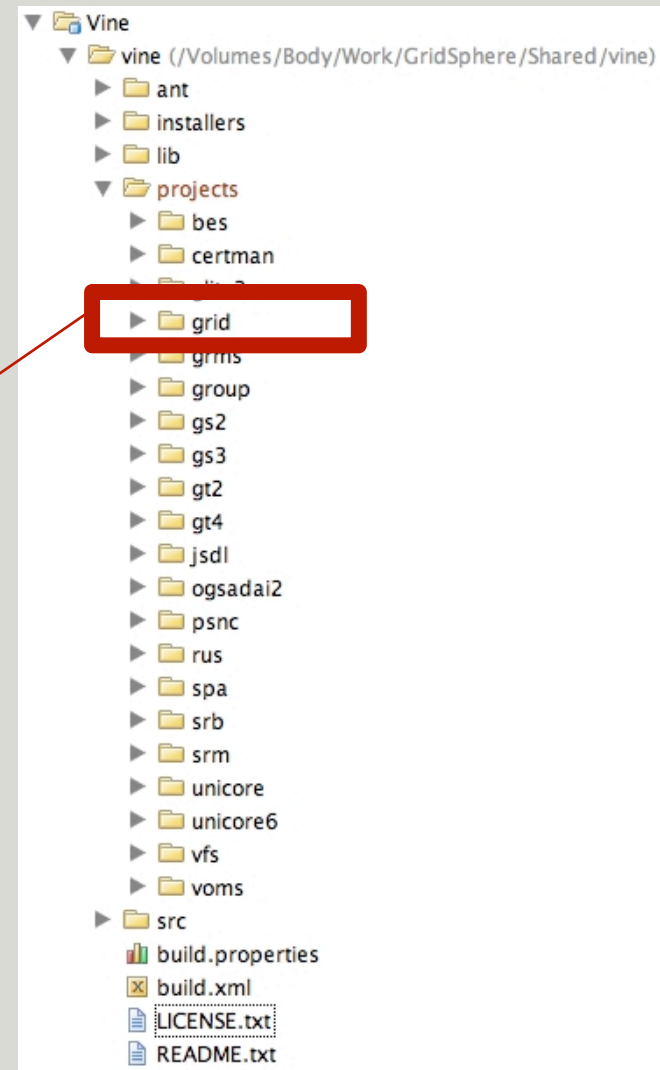
How source code is organized

The Vine Project

- Vine consists of a base project that defines a core API and model upon which sub-projects are based.
- Support for building and deploying to many different kinds of environments!
- Provides unified development model for them all!

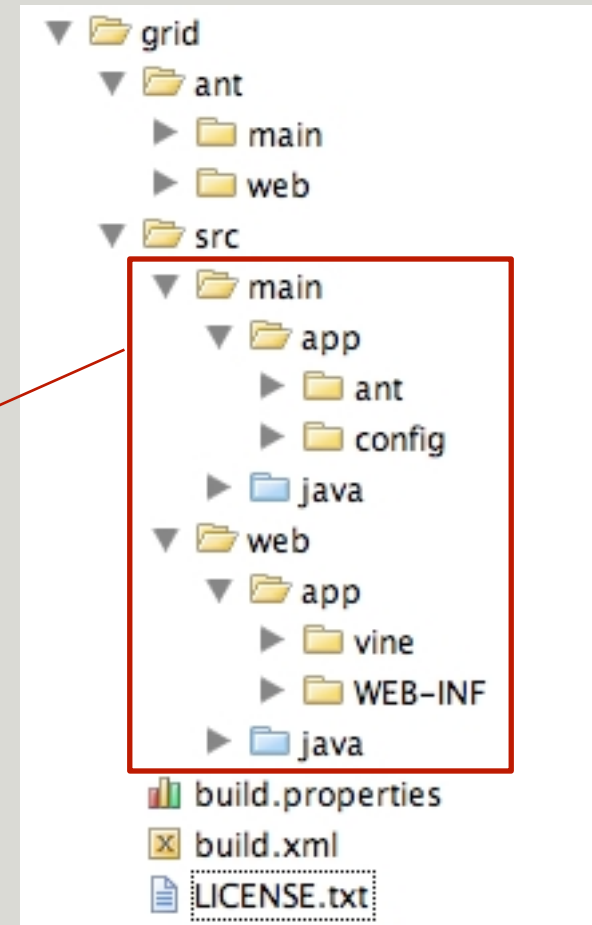
Vine Source

- Vine is organized into a hierarchy of projects.
- Each project addresses particular problem areas.
- Grid Vine, for example, defines a high-level, reusable API and model of the Grid.



Project Structure

- Each project contains build configuration and source trees.
- One or more source trees can be included.
- The Grid Vine contains a “main” source tree and a “web” source tree and support for deploying those source trees.



Some Vine Projects...

Grid Vine	Extends Vine to provide high-level API to Grid
BES Vine	Supports BES, provides job manager plugin to Grid Vine
gLite 3 Vine	Supports gLite3, provides plugins to Grid Vine
Globus Toolkit 4 Vine	Supports GT4, provides plugins to Grid Vine
UNICORE 6 Vine	Supports UNICORE6, provides plugins to Grid Vine
VOMS Vine	Supports VOMS, provides security plugins to Vine
RUS Vine	Extends Vine to support information gathering with RUS
OGSA-DAI 2.2 Vine	Extends Vine to support queries to OGSA-DAI 2.2



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Key Concepts

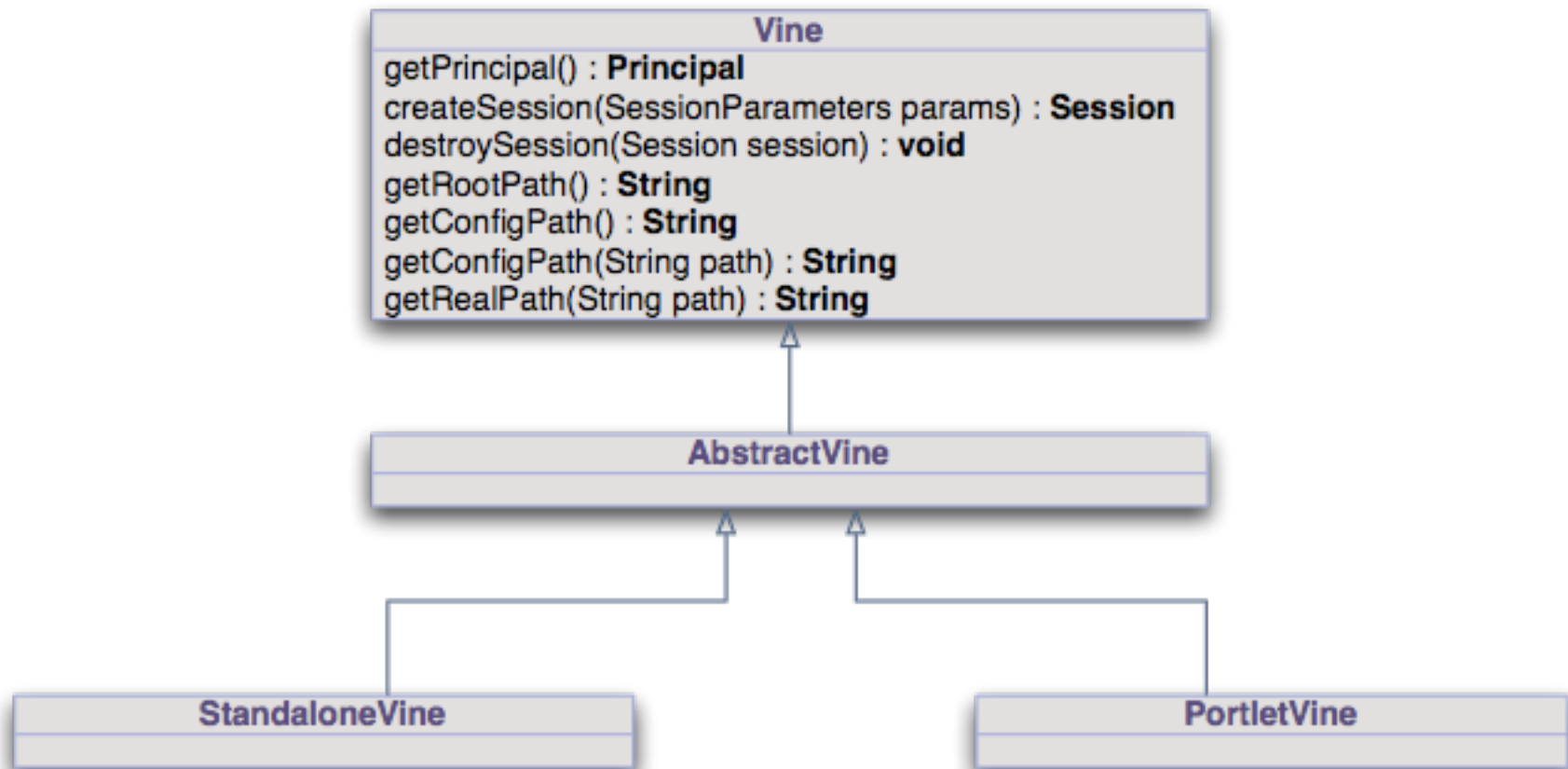
Core Vine

Key Concepts

Vine	Represents the application
Session	Represents session of activity for an agent or end-user
Service Context	A context within a session for creating services
Service	A reusable business logic component
Resource Manager	Service responsible for managing resources
Resource	Represents an entity or data record
Resource Registry	Used to configure Vine applications
Domain	Resources are organized into hierarchical “domains”
Resource Module	An interface or handle to a resource

Vine

- Vine represents the application environment.
- Lifetime is directly tied to this environment, be it a standalone application or a web application managed by a servlet container.



Getting an instance of Vine

- Two implementations distributed with Vine Toolkit.

Standalone Vine (command line, desktop, applets)

```
Vine vine = StandaloneVine.getInstance();
```

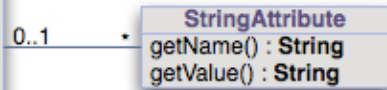
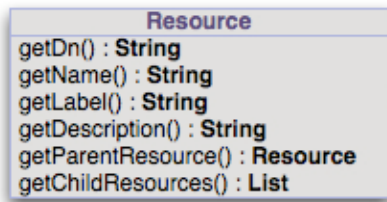
Web Vine (web or portlet applications)

```
Vine vine = WebVine.getInstance();
```

Resource

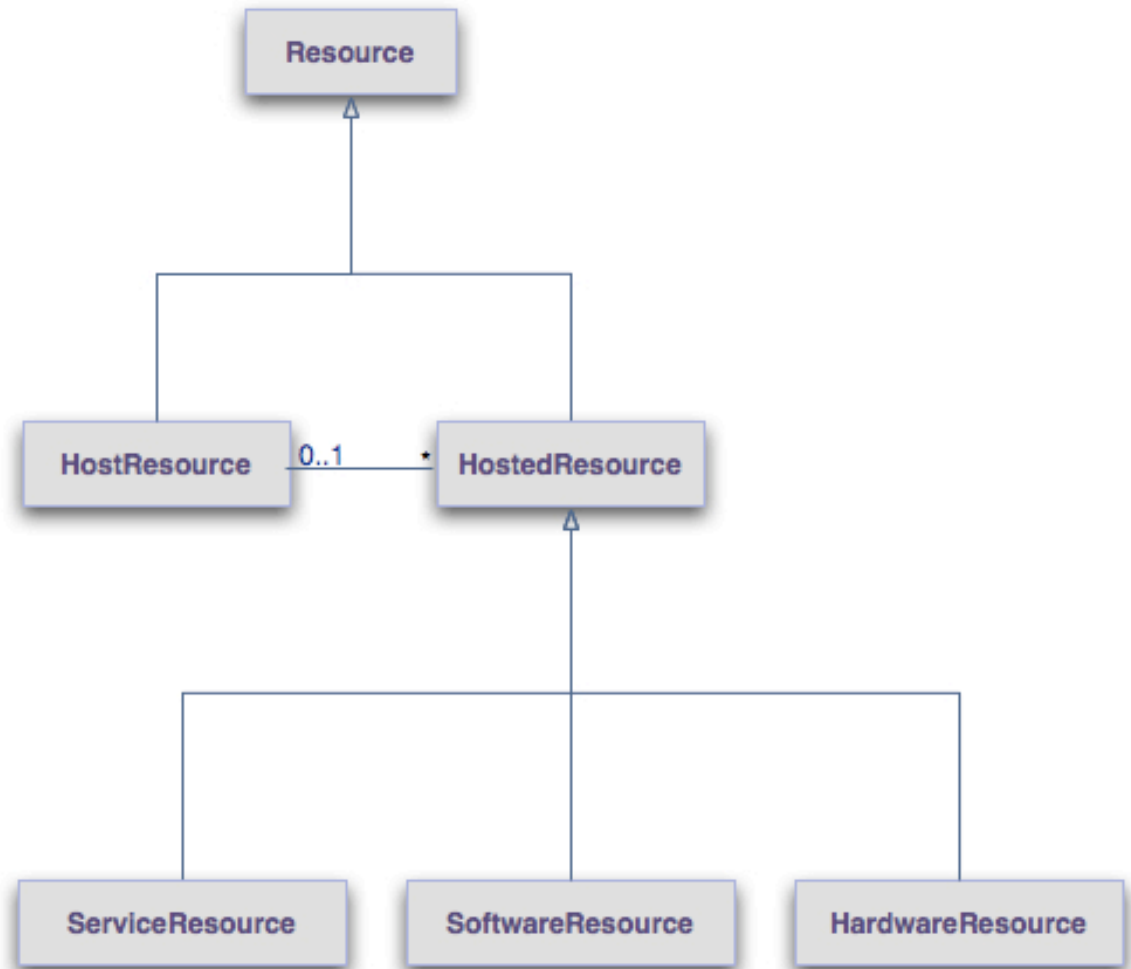
- Base concept upon which the Grid is modeled.
- A resource is anything that can be utilized, i.e. a computer, a web service, an executable, a person.
- Have unique identity within the scope of a Vine application.
- Contain attributes that describe or “parameterize” the resource for use within a Vine application.

Basic Idea...

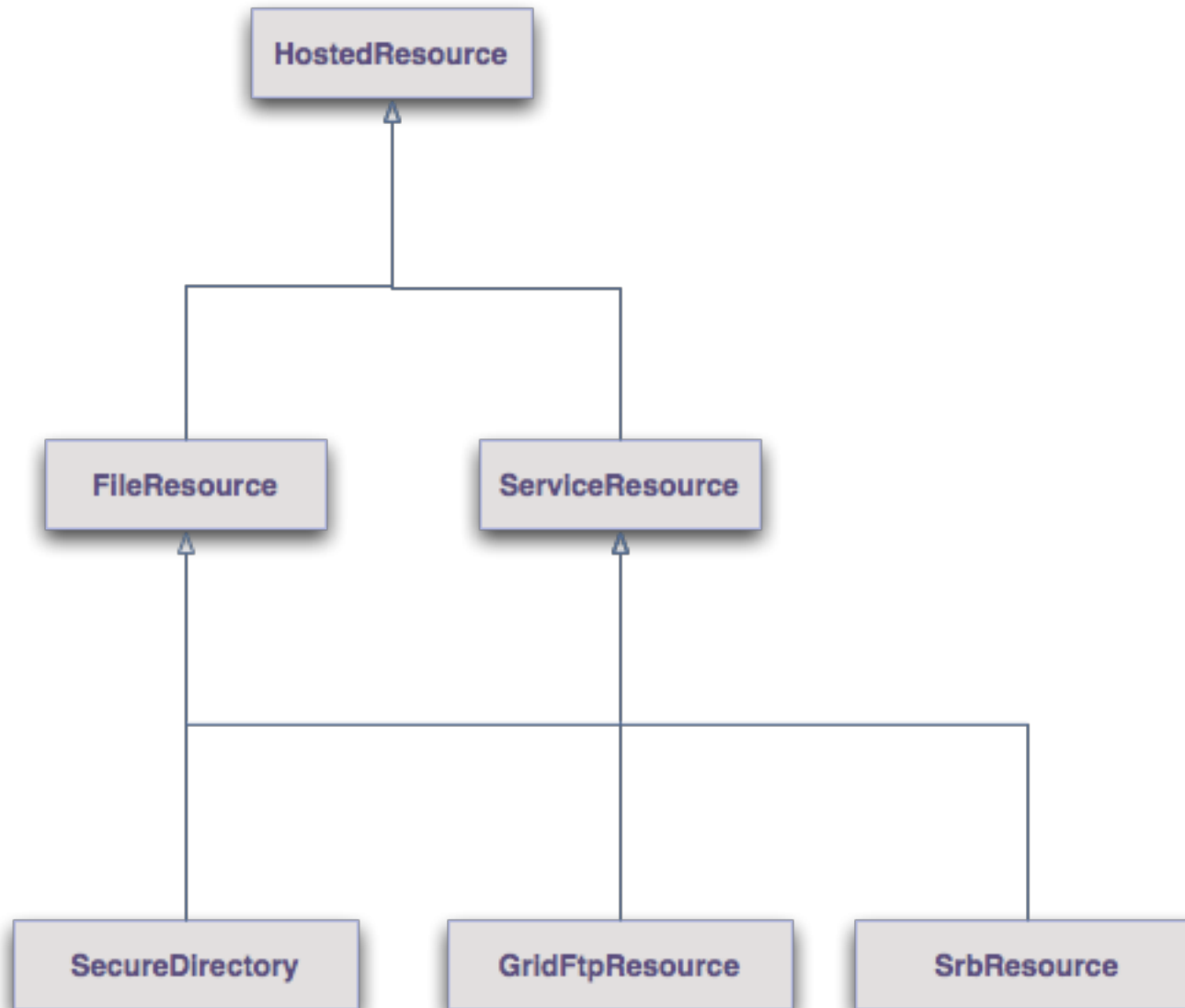


0..1

*



Example: File Resources



Resource Registry

- Resources are described in one or more XML files.
- This “Resource Registry” is used to configure which resources will be made available to a Vine application.
- The Resource Registry is loaded at application startup and can be altered / reloaded at runtime.

Example: Resource Registry Portlet

Resource Registry

Resource Registry View

Refresh

Edit

Last modified: Sep 11, 2007 10:46:27 AM

```
<domain name="omiieurope" label="OMII-Europe" description="OMII-Europe Evaluation Infrastructure">
```

```
<!-- Credential repository authentication -->
```

```
<authentication-module key="CredentialRepositoryAuthModule"/>
```

```
<!-- Demo GSS certificate authentication -->
```

```
<authentication-module key="GSSDemoCertAuthModule"/>
```

```
<!-- Portlet authentication -->
```

```
<authentication-module key="PortletAuthModule"/>
```

```
<!-- Portal -->
```

```
<host-resource name="portal"
  hostname="localhost"
  label="Portal"
  description="Portal">
```

```
<!-- Secure Directory -->
```

```
<secdir-resource label="Portal (Secure Directory)" description="PSNC Domain"/>
```

```
<!-- Account manager -->
```

```
<account-manager-resource name="GuestAccountManager"
  label="Guest Account"
  description="Guest Account Manager">
```

```
<!-- GSS demo certificate registration -->
```

```
<gss-demo-cert-registration-resource name="GssDemoCertRegistration"/>
```

```
<!-- GT4 registration -->
```

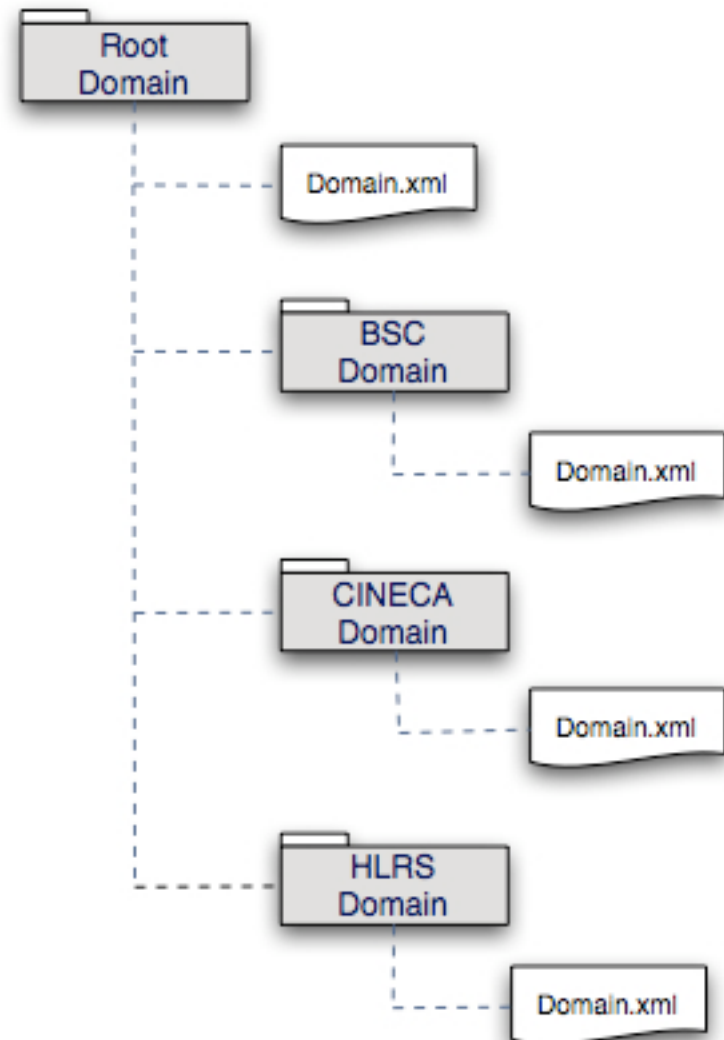
```
<gt4-registration-resource name="Gt4Registration">
```

Domain

- Resources are organized into a hierarchy of “domains”.
- Domains define a set or collection of resources and sub-domains.
- All Vine applications have a base or “root” domain and may or may not have sub-domains defined therein.
- Sub-domains may contain resource definitions and/or “domain rules” for including or excluding resources from their parent domain.

Domain configuration

- Domains are defined in a common directory, with sub-domains defined in sub-directories.
- Note that domains can still contain overlapping sets of resources.
- Makes it easy to add / remove domain definitions.



Distinguished Name

- All resources within a Vine application have a unique **distinguished name**, or **DN**.
- The DN of a particular resource is generated by including the names of its parent resources in an LDAP or directory like structure.
- For example, an SSH resource hosted by a computer on the OMII-Europe Evaluation Infrastructure might look like as follows:

Example DN

```
SshResource=22,HostResource=ETICSRedHatLinux7Host,Domain=omiieurope
```

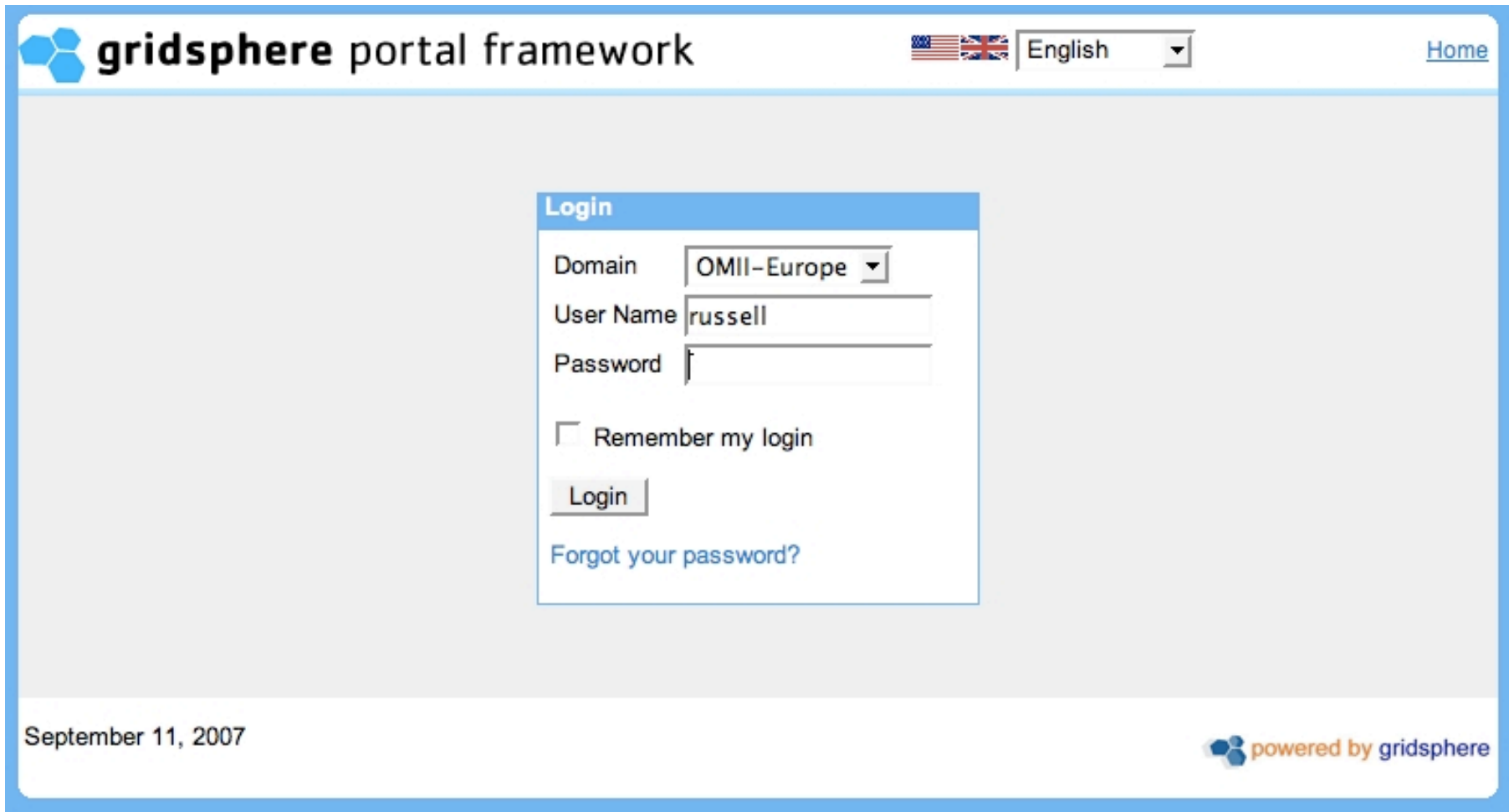
Domain Rules

- Vine provides an extensible mechanism for building sub-domains.
- We can use a **Hibernate Domain Rule** to build the “ETICS” sub-domain of the OMII-Europe Evaluation Infrastructure.
- Include only those resources from the our parent domain that have “ETICS” in their DN...

Example sub-domain definition

```
<domain name="etics"  
  label="ETICS"  
  description="Resources for use with the ETICS build system">  
  
  <hibernateDomainRule type="include" dnWithPattern="%ETICS%" />  
  
</domain>
```

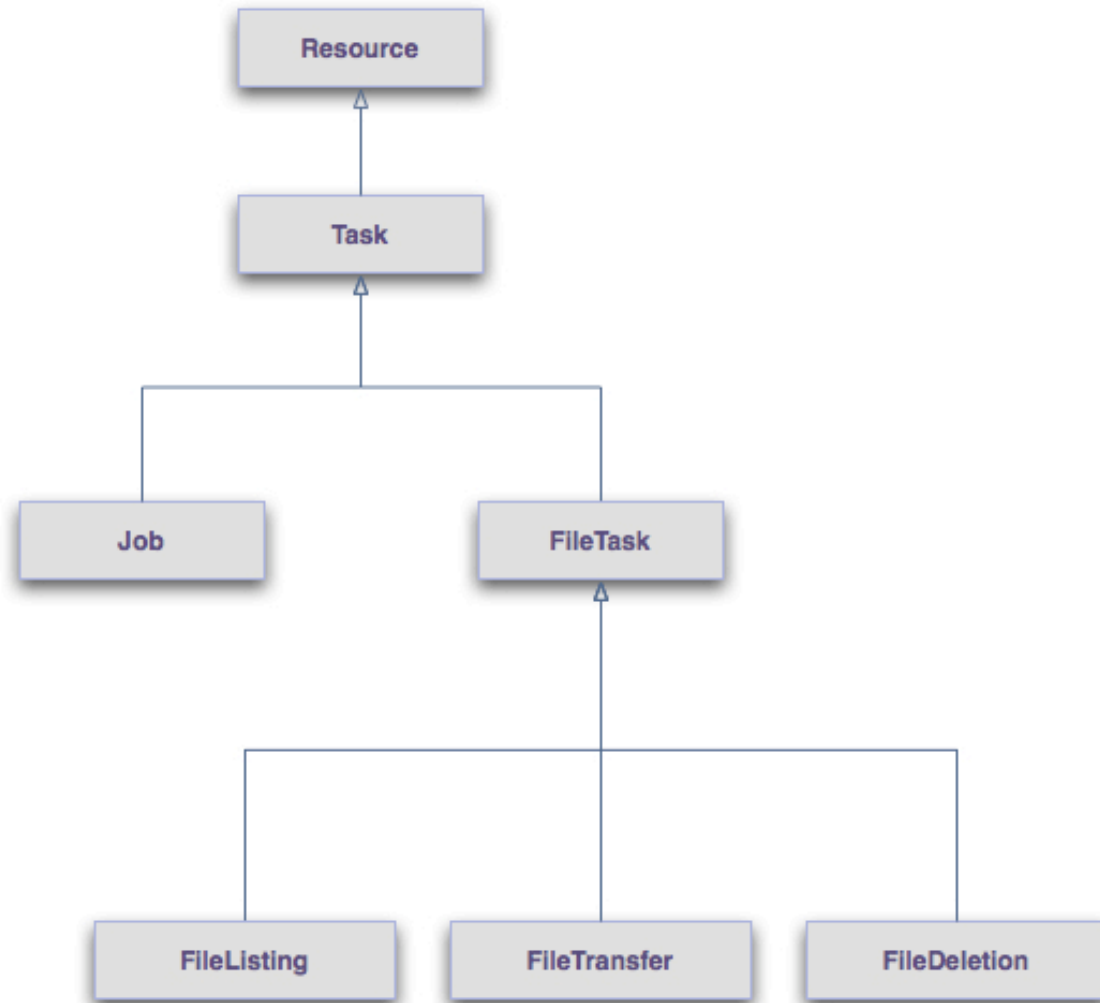
Example: Domain Login Portlet



The screenshot shows a web interface for a domain login portlet. At the top left, the text "gridsphere portal framework" is displayed next to a logo of three blue hexagons. To the right, there are flags for the United States and the United Kingdom, followed by a language dropdown menu set to "English". In the top right corner, there is a "Home" link. The main content area features a "Login" portlet with a blue header. Inside the portlet, there are three input fields: "Domain" with a dropdown menu showing "OMII-Europe", "User Name" with the text "russell", and "Password" which is empty. Below these fields is a checkbox labeled "Remember my login" which is unchecked. A "Login" button is positioned below the checkbox, and a link "Forgot your password?" is located at the bottom of the portlet. The footer of the page includes the date "September 11, 2007" on the left and the text "powered by gridsphere" with the logo on the right.

- Available in the Vine Toolkit
- Enables users to select a domain (VO) at login.
- Builds on Vine's flexible authentication architecture.

Example: Tasks are resources too



Task Concepts

Task Resource Manager	Service for finding task resources in resource registry.
Task Resource	Represents a resource for performing tasks
Task Manager	Provides interface for starting tasks with a task resource
Task Spec	An interface for specifying a task
Task	Represents a task that has been started
Task Handle	A handle for monitoring a task
Task Status	Represents the status of a task

Vine Philosophy

- Functionality is added in layers.
- Functionality is introduced by defining new types of resources or building upon existing resources.
- Resources are organized into domains.
- Applications run in one or more domains.



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Security Concepts

Core Vine

Security In Vine

- There are many levels for security concern in a given application.
- Vine provides several entry points for managing security concerns.
- Vine provides support for seamless integration with
- Here we discuss the most relevant when using Vine to develop a typical web application.

Security Overview

Account Management

Vine provides built-in user account management mechanisms.

Registration Modules

Vine provides means for implementing actions to take when accounts are requested, created and deleted.

Authentication Modules

Vine offers a single sign-on architecture.

Security Contexts

Vine provides reusable components for handling various security concepts.

Account Management

- Vine has its own user account management tools that can be used standalone or integrated with GridSphere and other portal hosting platforms.

The screenshot displays the 'Account Manager' web application interface. It features two main windows. The larger window, titled 'Account Manager', has tabs for 'Account Requests' and 'Accounts'. The 'Accounts' tab is active, showing an 'Account Request View' for a 'Guest Account' with status 'Accepted'. The account details are as follows:

Account Type	Guest Account
Status	Accepted
Username	john DOE
Email Address	john DOE@omii-europe.org
First Name	John
Last Name	Doe

Below the details is a table listing account requests:

X	Id	Label	Description	Type	Status
<input type="checkbox"/>	1192627636589		GssDemoCertRegistrationResource		Accepted
<input type="checkbox"/>	1192627636637		Gt4RegistrationResource		AccountRequestStatus.new
<input type="checkbox"/>	1192627636677		Unicore6RegistrationResource		AccountRequestStatus.new

The smaller window on the left, also titled 'Account Manager', shows the 'Submit Account Request' form. It includes fields for Account Type (set to 'Guest Account'), Username (john DOE), First Name (John), Last Name (Doe), Email Address (john DOE@omii-europe.org), Confirm Email (john DOE@omii-europe.org), Password, and Confirm Password. There are 'Submit' and 'Cancel' buttons at the top of the form.

Account Management Concepts

Account	Represents user membership with a Vine application
Account Request	A request for membership with a Vine application
Account Manager	Manages user accounts and account requests
Account Resource	Configures an account manager
Registration Module	Manages user membership with a third party entity
Registration Resource	Configures a registration module
Registration	User membership with a third party entity
Registration Request	A request for membership with a third party entity

Automated Registration With Middleware!

Module	Description
x509 GSS Certificate Registration Module	Generates or imports x509 GSS certificate / private key pair for end-user OR imports x509 GSS proxy retrieval information from configured credential repository.
VOMS Registration Module	Registers end-user and their registered x509 GSS certificate with configured VOMS (group auto-add not supported yet).
Globus Toolkit 4 Registration Module	Creates new account on configured target GT4 resource and adds entries for end-user and GSS certificate DN to target gridmap entries.
UNICORE6 Registration Module	Generates new keystore for end-user, creates new account on configured target UNICORE6 resource and registers end-user with target UUDB.

Example Configuration

```
<host name="portal" label="OMII-Europe Gateway" hostname="gateway.omii-europe.org">

  <!-- Tomcat running on gateway -->
  <tomcat httpPort="8080" httpsPort="8443"/>

    <!-- Gridsphere portal application -->
    <gridsphere/>

    <!-- Vine as a portlet application -->
    <vine appType="webapp" webAppType="portletapp">

      <!-- Creates user accounts for two weeks time lifetime -->
      <accountManager
        name="guestAccountManager"
        label="Guest Account Manager"
        accountLifetimeInWeeks="2">

        <!-- Generates GSS certificates for guest accounts -->
        <gssUserCertificateRegistrationResource
          caCertificateFile="/etc/grid-security/gatewayCaCert.pem"
          caKeyFile="/etc/grid-security/gatewayCaKey.pem"/>

        <!-- Generates guest accounts on gridsphere -->
        <gridsphereRegistrationResource/>

      </accountManager>

    </vineWebapp

  </tomcat>

</host>
```




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File Management

Grid Vine

File Management Concepts

File Resource Manager	Service for finding file resources in resource registry
File Resource	Represents a resource for accessing files
File Manager	Provides interface for accessing files on a file resource
File Location	Specifies location of a file or file item (i.e. directory)
File Set	Specifies a set of files or file items
File Handle	Utility class for accessing a file or file item

File Manager Implementations

Project	File Manager	Description
GT2	GridFTP File Manager	File management with GridFTP using JavaCoG 1.2
GT4	GridFTP+RFT File Manager	File management with GridFTP with file transfers performed with RFT
SRB	SRB File Manager	File management with SRB using Jargon API
SRM	SRM File Manager	File management with SRM

Example: Copying a set of files

Copying a set of files with a File Manager

```
// 1. Create instance of file resource manager
FileResourceManager fileResourceManager =
    (FileResourceManager) serviceContext.createService("FileResourceManager");

// 2. Create instance of file manager for host
FileManager fileManager = fileResourceManager.createFileManager(" omiidemo.man.poznan.pl");

// 3. Specify location of source file
FileLocation srcLocation = new FileLocation("${HOME}/myfile");

// 4. Specify where to copy the file
FileLocation dstLocation = new FileLocation("file://desthost/${HOME}");

// 5. Initiate a copy task
TaskHandle copy = fileManager.copy(srcLocation, dstLocation);

// 6. Wait for task to complete
TaskStatus taskStatus = copy.waitFor();

// 7. Check if task failed...
if (taskStatus.equals(TaskStatus.FAILED)) {

    System.err.println(copy.getTaskStatusMessage());
}
```



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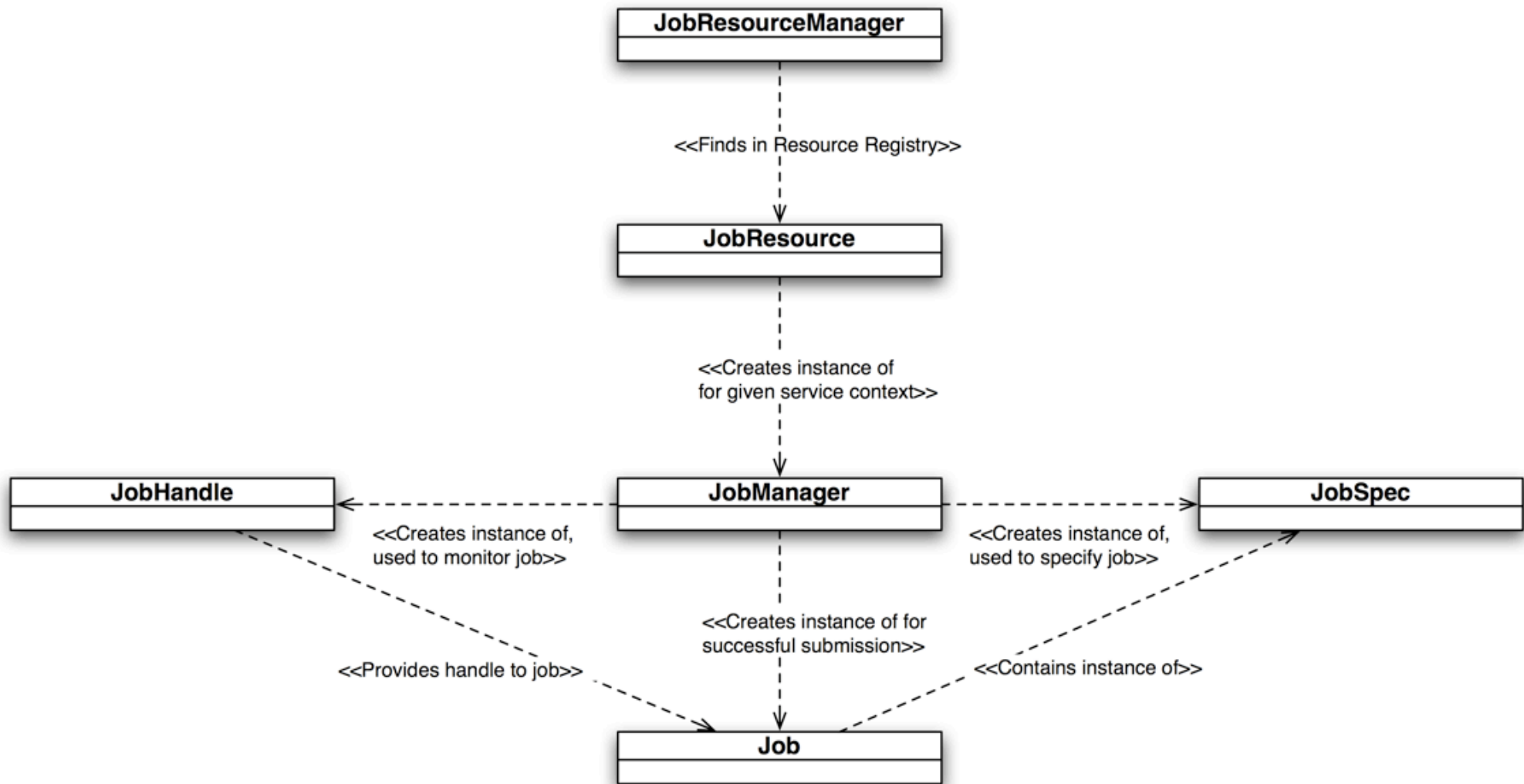
Job Management

Grid Vine

Job Management Concepts

Job Resource Manager	Service for finding job resources in resource registry.
Job Resource	Represents a resource for submitting jobs
Job Manager	Provides interface for submitting jobs to a job resource
Job Spec	An interface for specifying a job
Job	Represents a job that has been submitted
Job Handle	A handle for monitoring a job

Job Package: Main interfaces



JSDL

- JSDL is a spec that has evolved through the OGF community.
- Vine job submission API and user interfaces support its use and abstract users from its complexity.

```
<?xml version="1.0" encoding="UTF-8"?>
<JobDefinition xmlns="http://schemas.ggf.org/jsdl/2005/10/jsdl">
  <JobDescription>
    <JobIdentification>
      <Description>Execution of a NAS MultiZone class A</
Description>
      <JobProject>BSC_Test</JobProject>
    </JobIdentification>
    <Application>
      <ns1:POSIXApplication xmlns:ns1="http://
schemas.ggf.org/jsdl/2005/06/jsdl-
posix">
        <ns1:Executable
filesystemName="__user1_uni_upc_ac_irodero_enanos_benchmarks_">E
xecNas</ns1:Executable>
        <ns1:Argument>bt-mz.A</ns1:Argument>
        <ns1:Argument>2</ns1:Argument>
        <ns1:Argument>4</ns1:Argument>
        <ns1:Output>BT.A.OUT</ns1:Output>
        <ns1:Error>BT.A.ERR</ns1:Error>
        <ns1:Environment name="OMP_SCHEDULE">static</
ns1:Environment>
        <ns1:Environment name="THREAD_BOUND">1</
ns1:Environment>
      </ns1:POSIXApplication>
    </Application>
    <Resources>
      <CandidateHosts>
        <HostName>kadesh8.cepba.upc.edu</HostName>
      </CandidateHosts>
      <FileSystem
name="__user1_uni_upc_ac_irodero_enanos_benchmarks_">
        <MountPoint>/user1/uni/upc/ac/irodero/enanos/
benchmarks</MountPoint>
      </FileSystem>
    </Resources>
    <DataStaging>
      <FileName>BT.A.ERR</FileName>
      <CreationFlag>append</CreationFlag>
      <DeleteOnTermination>>false</DeleteOnTermination>
      <Target>
        <URI>gsiftp://pcmas.ac.upc.es/home/irodero/
tests/BT.A.ERR</URI>
      </Target>
    </DataStaging>
  </JobDescription>
</JobDefinition>
```


Simpler interface

- The Job Manager Portlet will simplify job submission for end-users to some extent.
- Of course, custom interfaces tailored to specific applications will always be preferred by end-users.

The screenshot displays a web interface for job submission. At the top, there are four tabs: 'App', 'Data', 'Requirements', and 'JSDL'. The 'Requirements' tab is currently selected. Below the tabs, the form is organized into two main sections: 'Job Information' and 'Application'. Each section contains several input fields for user-defined parameters.

Section	Field Name	Field Type
Job Information	Name	Text Input
	Project	Text Input
	Description	Text Input
Application	Name	Text Input
	Version	Text Input
	User	Text Input
	Group	Text Input
	Executable	Text Input
	Arguments	Text Input
	Standard input	Text Input
	Standard output	Text Input
	Standard error	Text Input
	Distributed application type	Dropdown Menu (MVASICH2 (MPI-2))
	Process count per node	Text Input
	Process count	Text Input
Environment variables	Text Input	

Job Manager Implementations

Project	Job Manager	Description
Grid	Dummy Job Manager	Useful for testing job manager behavior
BES	BES Job Manager	Supports job submission to BES
gLite 3	WM Proxy Job Manager	Job submission to gLite 3 WM Proxy
GT4	WS-GRAM Job Manager	Job submission to GT4 WS-GRAM
UNICORE6	UNICORE 6 Job Manager	Job submission to UNICORE 6 Gateway

Example: Submitting a job

Submitting “/bin/lis” with a Job Manager

```
// 1. Create instance of job resource manager
JobResourceManager jobResourceManager =
    (JobResourceManager) serviceContext.createService("JobResourceManager");

// 2. Create instance of job manager for host
JobManager jobManager = jobResourceManager.createJobManager("omiidemo.man.poznan.pl");

// 3. Create a new job specification
JobSpec jobSpec = jobManager.createJobSpec();

// 4. Specify path to executable
jobSpec.setExecutableLocation( new FileLocation("/bin/lis") );

// 5. Submit job
JobHandle job = jobManager.submitJob(jobSpec);

// 6. Wait for job to complete
TaskStatus jobStatus = job.waitFor();

// 7. If the job completed, print output...
if (jobStatus.equals(TaskStatus.COMPLETED)) {

    // 8. Get handle to job stdout
    FileHandle output = new FileHandle( jobSpec.getStdoutLocation() );

    // 9. Print file contents
    System.out.println( output.readContents(serviceContext) );
}
```



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Deploying to GridSphere

Notes

Deploying Vine To GridSphere

- Vine can be configured to deploy to a servlet container as one or more GridSphere portlet applications.
 - Vine is managed through its portlet applications.
 - Vine's base interfaces and classes are deployed to the shared library of the servlet container.
 - Vine's API is accessible by other GridSphere portlet applications to support custom Grid application development.

Putting It All Together

- Portal developers will use GridSphere to setup and host a portal for end-users.
- Support for Grid is offered with the Vine Toolkit which deploys as a well integrated application to GridSphere.
- Support for custom portlet user interfaces is available in Vine and our supporting projects.
- However, we recommend using more well-known projects, such as the Google Web Toolkit for UI development.

Integrating with GridPortlets

- Both Vine and GridPortlets can be deployed to the same web application server.
- Portlets can be mixed and matched as needed.
- The main integration point is concerned with how to activate user credentials for both GridPortlets and Vine.
- Documentation about how to add support for this to your projects will be indicated to the BE portal mail list after the BEINGRID Athens meeting.



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Next steps

Alpha releases

Next Steps

- Some of the information you saw in this presentation may not be entirely in sync with our code repository now.
- Vine 1.0 Alpha 1 scheduled during SC07.
- Vine 1.0 Alpha 2 scheduled for December 7, 2007.
- Vine is available for preview now at:
 - <http://gforge.man.poznan.pl/project/vine/>
- Documentation is forthcoming!

Globus Incubator!

- GridSphere Project will be restructured for January 2008
 - GridSphere Portal Framework will be flagship product
 - GridPortlets 2.0 will be a distribution of the Vine 1.0 toolkit
 - Different GridSphere + GridPortlets distributions will be offered
 - GridSphere + GridPortlets + GT4
 - GridSphere + GridPortlets + gLite3
 - GridSphere + GridPortlets + UNICORE
 - and more...
 - GT4 distribution will become Globus Incubator

Support for Web 2.0!

- PSNC has its own Web UI Toolkit:
 - “Sportlets Toolkit” used to develop all Vine UI.
 - Java Swing like API, similar to Echo 2.
 - True integration with portlet containers.
 - Integrated support for scripting languages
 - Will provide support for integrating with select non-Java envs.
- We will develop base classes / tools for deploying and building web UI with other frameworks, including:
 - Google Web Toolkit 1.4
 - Adobe Flex 2.0 / Flex 3.0!

Java SAGA binding!

- Target for mid-2008
- Vine will be used to implement Java SAGA API / bindings.
- Vine API similar (but more robust) than SAGA.
- To be done in a “SAGA” Vine.
- This is very exciting, developers will be able to choose whether to program to Vine’s API or SAGA API or both depending on needs of applications.

Credits

- Vine is being developed at the Poznan Supercomputing and Networking Center (<http://www.poznan.pl>).
- Vine evolved from the GridSphere Grid Portlets Project and the Vine Project collaborates closely with the core GridSphere Team.
- Vine would not be possible without the many, many projects that support GridSphere and Grid in general!
 - Globus, UNICORE, gLite, GridLab, HPC-Europa, InteliGrid, OMII-Europe, BEINGRID, TeraGrid, APAC, N*GRID...