

Avanade Grid achievements and EGEE collaboration benefits

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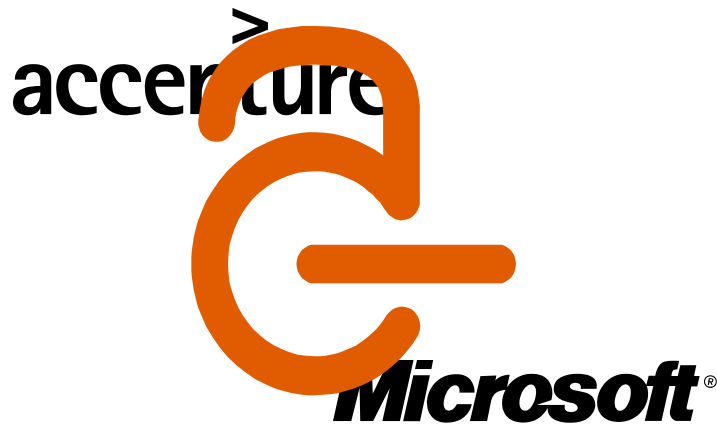
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Budapest, 01.10.2007

Agenda

- » **Short Avanade introduction**
- » **Avanade's current Grid offering**
 - » Accomplishments
 - » Evolution towards gLite middleware
- » **Mutual 'win-win' EGEE and Avanade collaboration:**
 - » Added-Value for EGEE

Avanade's beginning



In 2000 Accenture and Microsoft came together to create Avanade.

This joint venture is designed to meet the growing demand for Microsoft-based services to enterprises worldwide.

Seven years of growth and global expansion delivering value in 22 countries



More than

- » **6,600 professionals**
- » **2,800 in India, Philippines**
- » **\$483m revenue in FY06**
- » **2,600 customer projects**

A diverse, global customer base

- » *Forbes* Global 2000
- » *Fortune* Global 1000
- » All industries
- » Government agencies

EMI Music



AstraZeneca 
life inspiring ideas



LOCHARD

TESCO



Australian Government
Department of Employment and
Workplace Relations



CREDIT SUISSE 

Chicago
Federal Home Loan Bank

NAVITAIRE®

Technology that liberates

HITACHI
Inspire the Next

Avanade's current Grid offering

Introduction, accomplishments and evolution



Avanade Grid Architecture

What's in the box

- » **Delivers an Object Oriented framework that eases the development of tasks that can be run by a distributed architecture (Windows/.Net, Linux and Sun Solaris/Java)**
- » **Leverages Microsoft .Net security strength (i.e. Code Access Security, WS-Security, PKI, etc.)**
- » **Offers a set of APIs for scheduling, controlling and correlating tasks**
- » **Includes tools for monitoring and administering the Grid infrastructure (Web and Windows based)**

Financial Services

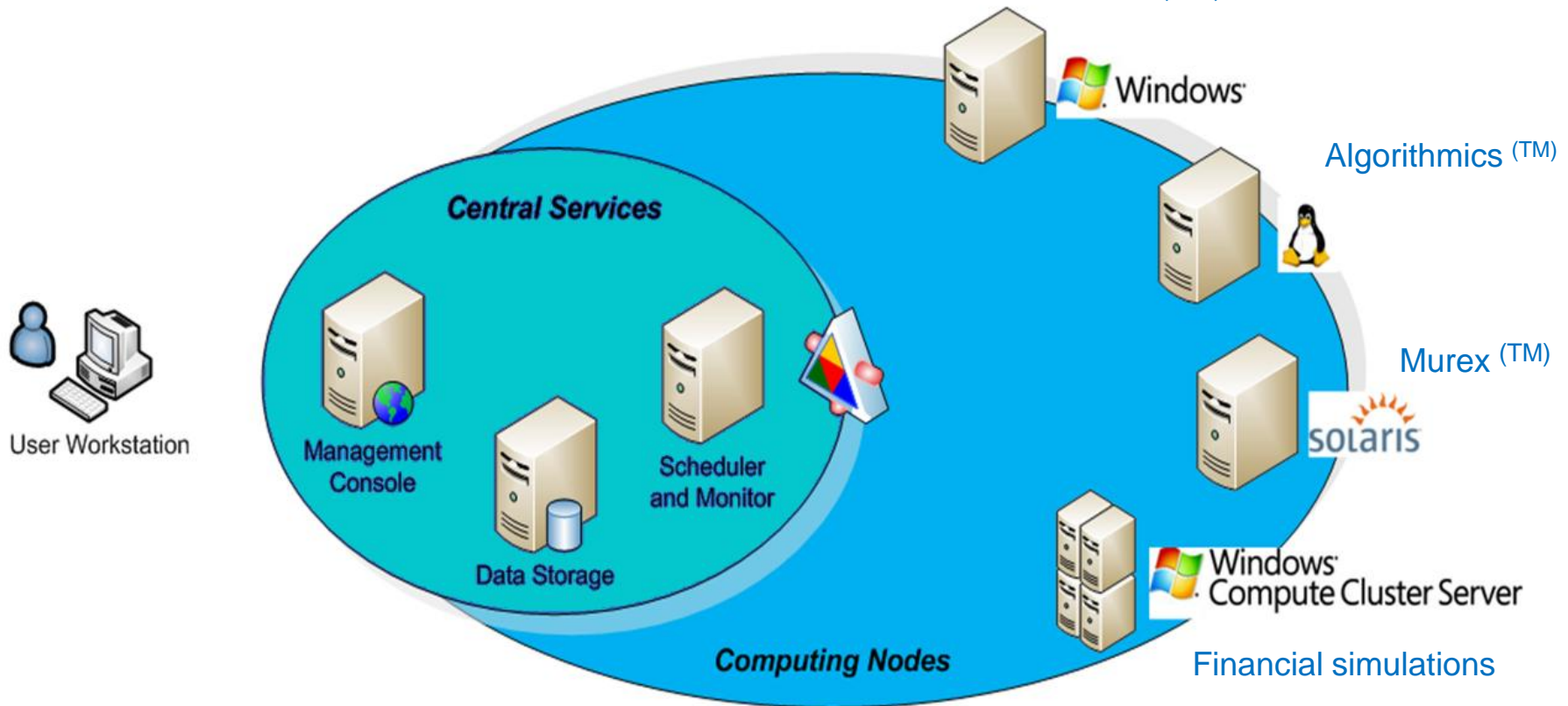
» **Consorzio Monte dei Paschi di Siena**

- » Includes various financial institutions, and has significant market shares in all the sectors in which it operates. MPS Bank is the flagship of the MPS Group, leading the domestic market in terms of market share.
- » It was one of the first institutions in the world to implement a SOA architecture and to provide web services to their customers.
- » Runs a Grid based on AGA counting more than 200 nodes, mixed between Windows (about 130 nodes) and Linux (about 70 nodes), counting over 600 CPUs
- » Executes more than 7.000 unique jobs each day, including mission-critical jobs: Basel II Compliancy, Risk Management Assessment

Avanade Grid Architecture

System topology at Monte dei Paschi di Siena

Clickstream analysis,
Legacy batches
Financial simulations,
Massive Printing
ETL, BI, etc...



Avanade Grid Architecture

Screenshot of the monitoring at Monte dei Paschi di Siena

The screenshot shows the AGA .NET Monitor interface in a browser window. The page title is "AGA .NET Monitor" and the URL is "http://agacentral.gruppo.mps.local/agamonitor/asp/default.aspx". The interface includes a navigation menu with links for "Task Queue", "Archived Task Queue", "Node List", "Client List", "Task Type List", "Package List", "Machine Class List", "Physical Resources", and "User List".

Below the navigation menu, there are several filters and controls:

- Enqueueing date:** From: 22/08/2007 00, To: 22/08/2007 24.
- Filter:** Request Name, Job ID, Machine Class (Algo).
- Display Status:** Accepted, Assigned, Completed, Dequeued, Downloading Package.
- Hide Status:** (Empty)

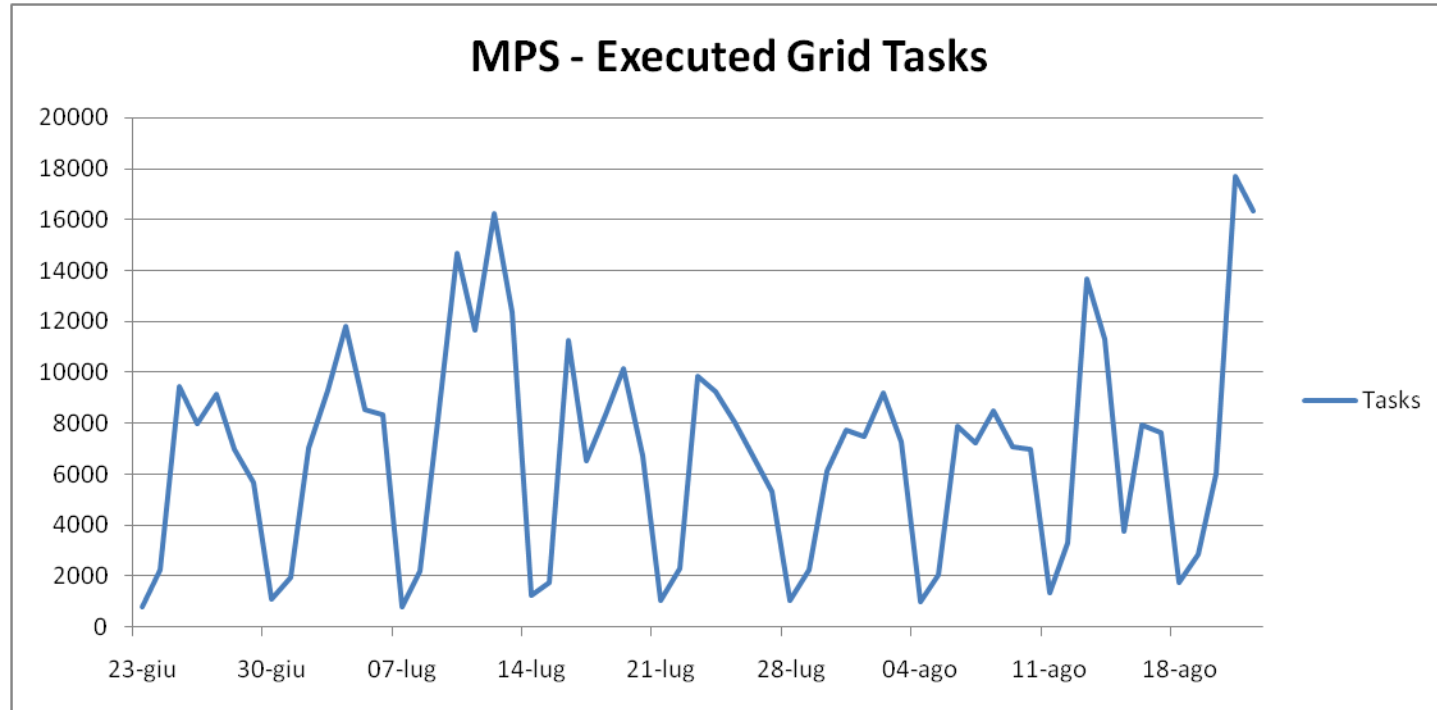
A table of tasks is displayed below the filters. The table has columns for TaskRequestName, Job ID, Status, Priority, Assigned Node, Queued Since, and Task Type. Red boxes highlight specific task names and statuses, with arrows pointing to them from external labels:

- Windows:** Points to the "TaskRequestName" column for the first two rows (PW0597_03140.1 and PW0591_03140.1).
- Linux:** Points to the "TaskRequestName" column for the row Geco_SE000000010140.1.
- Reg. Compl.:** Points to the "Task Type" column for the first two rows (PwMetriasInt).
- Printing:** Points to the "Task Type" column for the row GecoMTExecutor.
- Risk Manag.:** Points to the "Task Type" column for the row DDDoc1Gen.
- Reporting:** Points to the "Task Type" column for the row AlgoCube45.

TaskRequestName	Job ID	Status	Priority	Assigned Node	Queued Since	Task Type
PW0597_03140.1.	3958569	Executing	2	SE000000010811	22/08/2007 17.40.21	PwMetriasInt
PW0591_03140.1.	3958568	Executing	2	SE000000010811	22/08/2007 17.40.21	PwMetriasInt
Geco_SE000000010140.1.			2	se103005850952	22/08/2007 17.38.53	GecoMTExecutor
DD00001_03400.1.			2	SE000000010811	22/08/2007 17.38.31	DDDoc1Gen
DD00001_03400.1.	3958332	Executing	2	SE000000010813	22/08/2007 17.31.04	DDDoc1Gen
VaRAil.202	3958058	Executing	3	lx000000011315	22/08/2007 17.25.43	AlgoCube45
VaRAil.204	3958056	Executing	3	lx000000011313	22/08/2007 17.25.32	AlgoCube45
VaRAil.205	3958054	Executing	3	lx000000011324	22/08/2007 17.25.25	AlgoCube45
VaRAil.206	3958052	Executing	3	lx000000011316	22/08/2007 17.25.16	AlgoCube45
VaRAil.207	3958051	Executing	3	lx000000011314	22/08/2007 17.25.11	AlgoCube45
DD00001_03400.1.	3958036	Completed	2	SE000000010812	22/08/2007 17.24.19	DDDoc1Gen
DD00001_03400.1.	3958032	Executing	2	SE000000010812	22/08/2007 17.24.16	DDDoc1Gen
GMAISIRE0001.GMY2701D	3957587	WaitingToBeAssigned	2		22/08/2007 17.01.52	GMestrTask

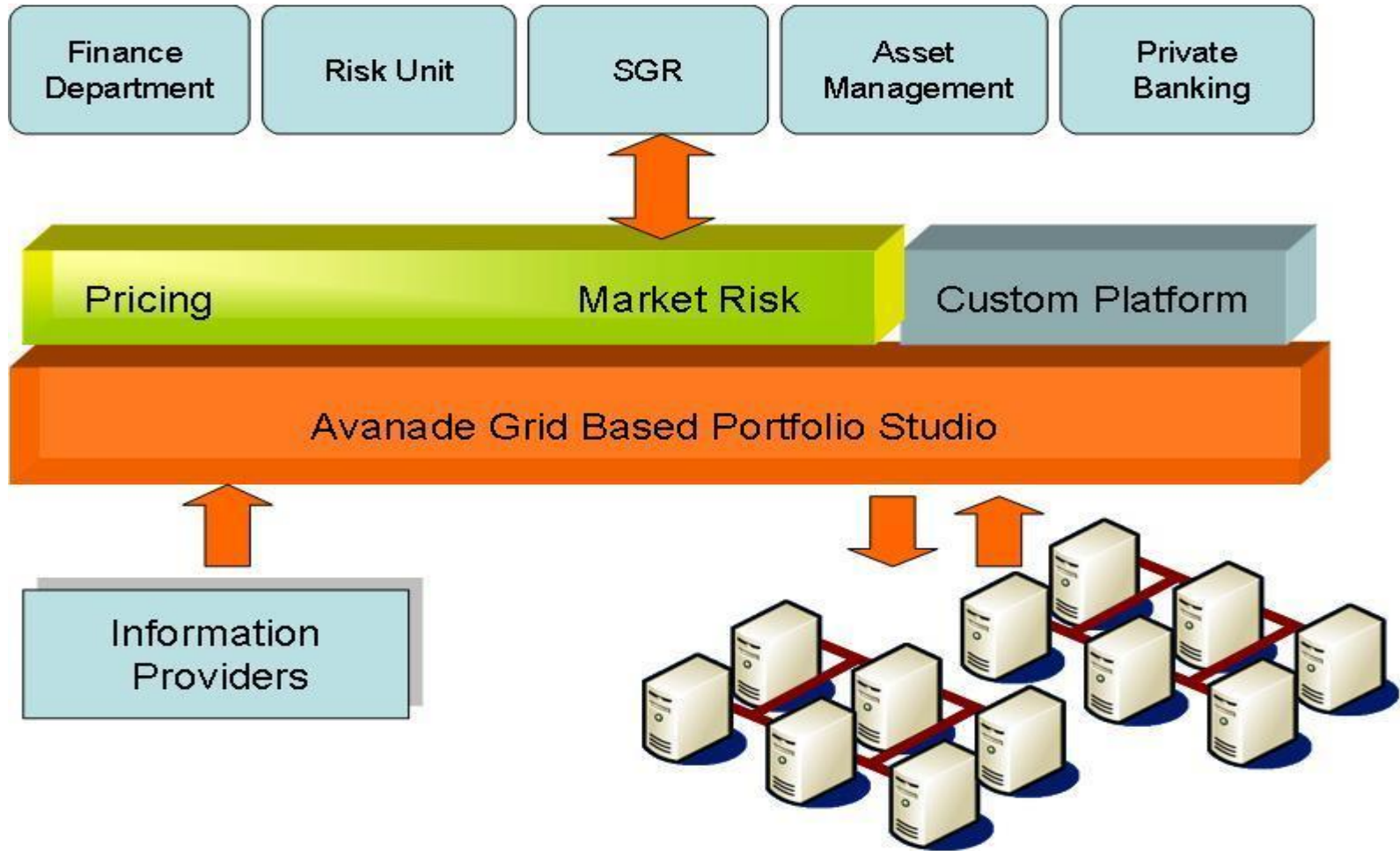
Avanade Grid Architecture

Executed Task (2 months window) at Monte dei Paschi di Siena



Avanade Portfolio Studio

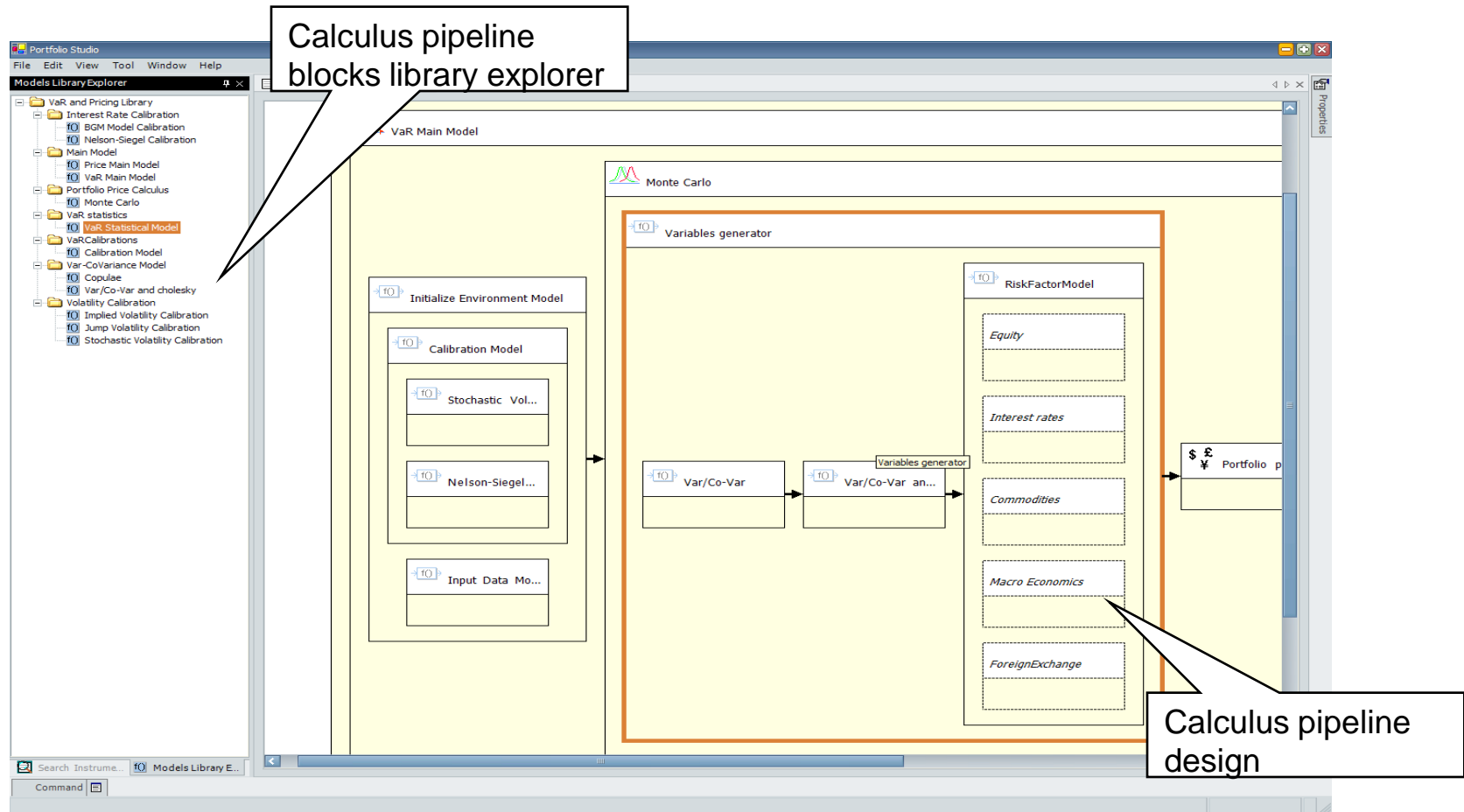
Grid extensible financial simulation platform



Avanade Portfolio Studio

Set calculus pipeline

- Set a calculus pipeline in order to calculate portfolio VaR or Price at current time or other.



» **Within organization boundaries**

- » Enable coordination of separated local grids for international and multi-site companies through gLite standards
- » Enable interoperability between grids based on different technologies (Linux, Windows, CCS)
- » Enable usage of “best-fit” grid architecture based on application requirements, leveraging gLite scheduler component

» **Cross organization boundaries**

- » Extends the SaaS (Software as a Service) approach to computing power
- » Enable cooperation between companies, by the usage of a common standard, provided by gLite middleware

EGEE and Avanade collaboration

Mutual 'win-win' and EGEE benefits



AGA and gLite middleware

Space for collaboration

- » **AGA is currently a custom internal Grid**
- » **AGA fulfills computational needs of most organizations, but not all**
- » **Avanade's next challenge is to enable interoperability with major standards**
- » **gLite standards are on the right way to facing interoperability challenges**
- » **gLite currently lacks .Net support, so all organizations that invested in .Net and Windows technologies are not currently evaluating it**

EGEE and Avanade collaboration

Avanade Key Objectives

- » **Enable AGA as a supported Computing Element on gLite**
- » **Enable AGA scheduler to receive Job execution requests using gLite standard APIs**
- » **Enable AGA scheduler to request executions on gLite Computing Elements**
- » **Maintain current AGA specific features**

EGEE and Avanade collaboration

Benefits summary for EGEE

» **Windows Platform Support**

- » Computing Elements based on AGA are, mainly, Windows machines

» **Full .Net support**

- » AGA defines elements not found in other Grid implementations (i.e. Code Access Security, PKI, ...)

» **Enterprise Case Study**

- » gLite APIs will be adopted by any Avanade customer that adopts AGA, as production level and mission critical infrastructure