

EGR-RG Session

13th September '06
Enterprise Requirements Research Group
GGF18(=OGF18)

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Agenda @ Large



- Summary of Activities of EGR-RG
- Discussion on Enterprise Grid Case Studies
- Future Steps

Activities of EGR-RG

13th September '06
Toshiyuki Nakata (NEC Corp.)

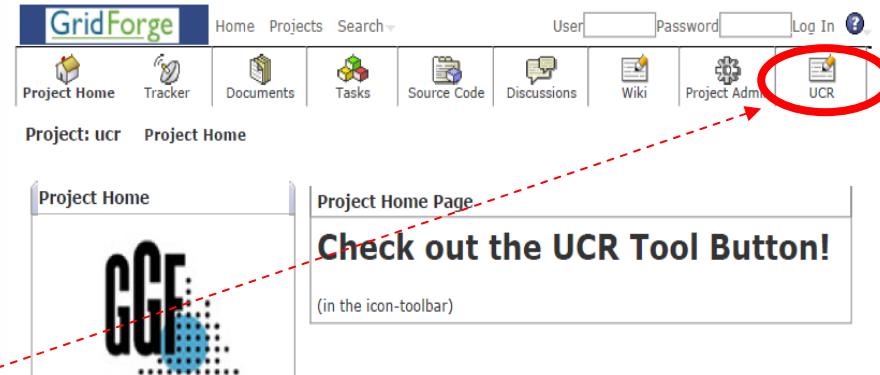
Introduction of EGR-RG



- <http://forge.gridforum.org/projects/egr-rg/>
- **Group Email:** egr-rg@ogf.org
- Enterprise Grids Requirements RG (EGR-RG)
- **Group Purpose** The purpose of this group is to identify key technical requirements and common approaches to enterprise grid computing.
- **Group Abstract** The purpose of this research group is to identify key technical requirements, scenarios and common approaches to enterprise grid computing.
The work of this research group should include both an examination of technical requirements and an exploration of common use cases for enterprise (on-demand, utility, automated, etc.) grid systems.
The technical scope of this RG includes,
Promoting technologies that
 - provide services which dynamically meet the requirements of applications and the priorities of the business.
 - drive efficient utilization of IT resources namely (optimal resource allocation, dynamic resource allocation)
 - deliver automation/reduce system management.
 - The Grid technologies to be addressed apply to all resources required for computation, which may be geographically local and/or distributed.

Soliciting Usecases

- Usecases as well as the Usecase Template can be found in the OGF's Usecase Repository (UCR for short)
Thanks to Andre Merzky
- How to get there.
 - Choose URL
<http://forge.ggf.org/sf/projects/ucr>
 - And Click on the UCR button
 - Go to the bottom of the shown page
 - No. 29. is the EGR-RG Usecase Template.
 - No. 26 is the OGSA Use Case Collection
 - Nos 27, 28, 30 are the collected Usecases so far (All from Business Grid Computing Project)



<http://forge.ggf.org/sf/projects/ucr>

26	OGSA Use Case Collection	uc	Architecture	OGSA-WG	OGSA
27	Disaster Recovery System	uc	Industry Applications	EGR-RG	Disaster Recovery, Business Grid Middleware
28	Multiple In-house System	uc	Industry Applications	EGR-RG	Data Center, Server Consolidation, Total Cost of Ownership (TCO), Business Grid Middleware, In-house System
29	Enterprise Grid Requirements – Research Group Use Case	tmpl	Industry Applications	EGR-RG	Enterprise Grid Requirements Usecase Scenario
30	Wide Area Load Balancing System	uc	Industry Applications	EGR-RG	Data Centers' Cooperation, Globally Distributed Application System

EGR-RG Usecase Template



- **1 Use Case Title**
 - **1.0 Author**
 - **1.1 Abstract/Summary**
 - Provide a brief description of the use case. Address the salient aspects of the use case
 - **1.2 Keywords**
 - List the keywords for this use case so that they may be used in a search
 - **1.3 Category**
 - Define taxonomy to categorize this use case
 - Scope:** Business process, tool, domain application, infrastructure
 - Organization Type:** Company, university, national lab,
 - Deployment type:** Intra-organization, Extra organization, Inter-Organization, Internet
 - Production status:** Experimental, Production
 - Existing implementation:** Implementation available, expected implementation
 - Target perspective

- **1.4 Perspective**

- Describe the perspective brought to the use case

- **1.4.1 Individual**

IT person, IT manager, End user, Developer, Architect, Researcher (new grid technologies)

(How about)Infrastructure Manager and Application Manager ? (TN)

- **1.4.2 Organization**

Adopter, Seller (software, hardware), Solution provider, Consulting, Research and/or Development

- **1.4.3 Industry vertical or segment**

Specify the type of market or focus. Some examples can be pharmaceutical, financial, CAD, gaming, home entertainment, content distribution, etc. Try to use recognized terms for the segment that this use case applies to.

- **App type: CAD, risk analytics, etc.**

- **1.4.4 Expectations**

This is an explicit statement on the tone of the use case.

The use case will be written with the expectation in mind but this section explicitly states the expectations.

- » Expectation of new usage, i.e. this is what I will be able to do that am not feasibly able to do today
- » Change in usage from current usage to different/new usage, i.e. this is how I do it today and this this how I expect to do it differently/better.

The use case is a pattern that applies in many scenarios and has many aspects that need to be standardized.

- **1.5 Motivations & Goals**

- **1.5.1 Problems**

Discuss what the known problems with the particular use case are. This will lead to discussion where Grid is expected to help. Examples of problems could be: Cost, significant manual overhead, there are no acceptable solutions, impedes time to market etc.

- **1.5.2 Benefits or Value**

Explain the possible or available benefits of the use case. For example will this reduce the TCO in the datacenter, increase user productivity, improve compliance to legal obligations, decrease the turnaround time etc.

- **1.6 Scenarios**

- Organize the use case into scenarios. Each scenario should clearly identify the

Actors

All resources and resource types that come into play. Are resource distributed (global vs local), dedicated vs shared, real vs virtual etc

- » Discuss the resources and their types (if your definition of resources is broad then specify that). Mention/describe the resources used. Highlight the primary resources (e.g. data and network in a data oriented use case)

Capabilities and services

Interactions

Flow of control (if any)

Pre-requisites

Infrastructure assumptions

Non functional aspects: security considerations, performance expectation, scalability required

- **1.8 Standards**
 - Explain how standards can help. What are the specific areas where standardization will be useful? Are there any known standards that are available or in development that can apply in specific scenarios? Have any of the current standards been applied? Where did they help and where were they lacking?
- **1.9 Miscellaneous**
 - Any additional comments or information that is not captured in the other sections.
- **1.10 Reference**
 - Provide Web links or bibliographic references for more information on the use case or aspects of the use case.

Examples of Use Cases



- Examples of Use Cases (discussed in GGF14)
- http://forge.gridforum.org/sf/docman/do/listDocuments/projects.egr-rg/docman.root.meeting_materials.meeting_materials_ggf14
 - GridASP
 - Multiple In-house System
 - Wide Area Load Balancing System
 - Disaster Recovery System
 - NextGrid

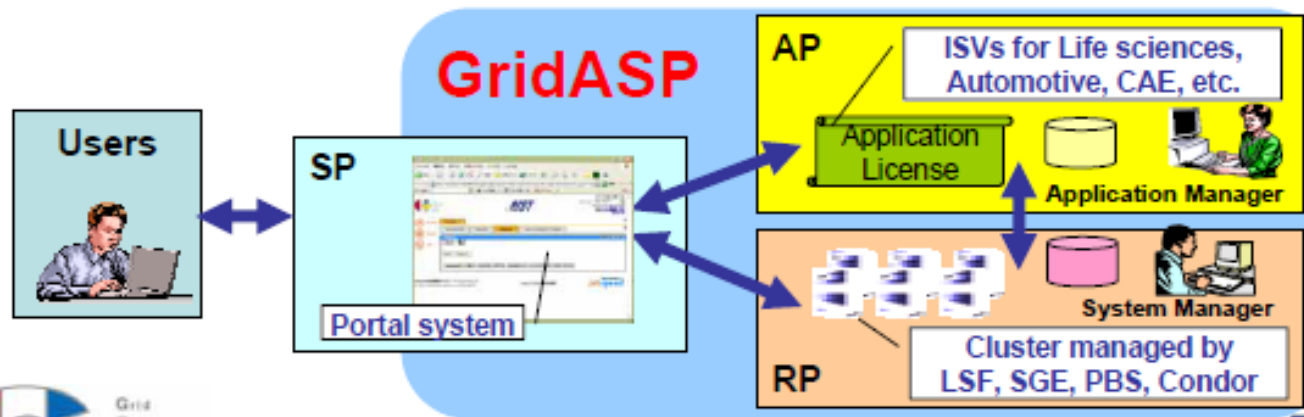
GridASP Satoshi Itoh AIST

1.2 Abstract/Summary



3

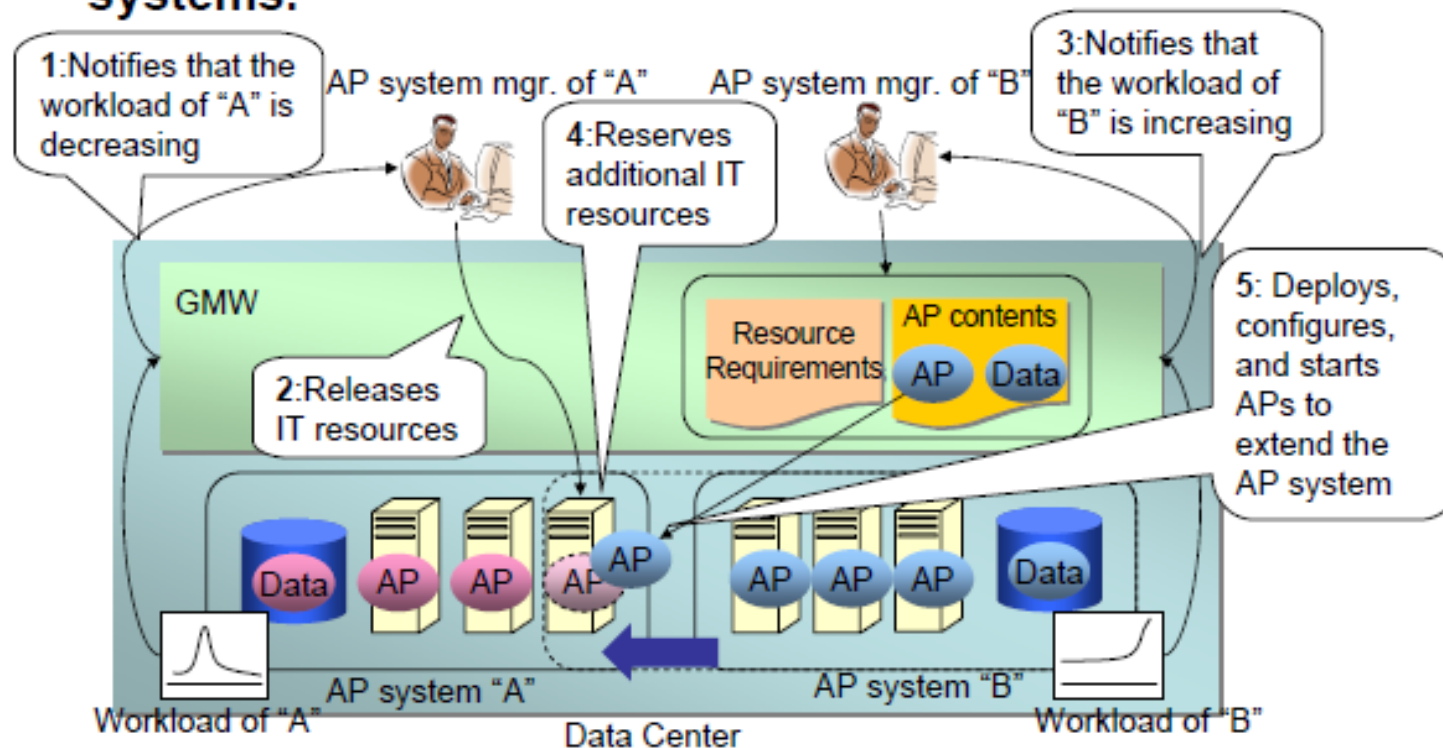
- The GridASP is a utility computing framework for technical computing in the enterprise.
- The concept of the GridASP is to separate the function of ASP (Application Service Provider) into three independent providers.
 - ▶ resource provider (RP)
 - ▶ The Application provider (AP)
 - ▶ The service provider (SP)



Multiple In-house System (Miyakawa et al)

Scenario 1-2: Sharing IT resources

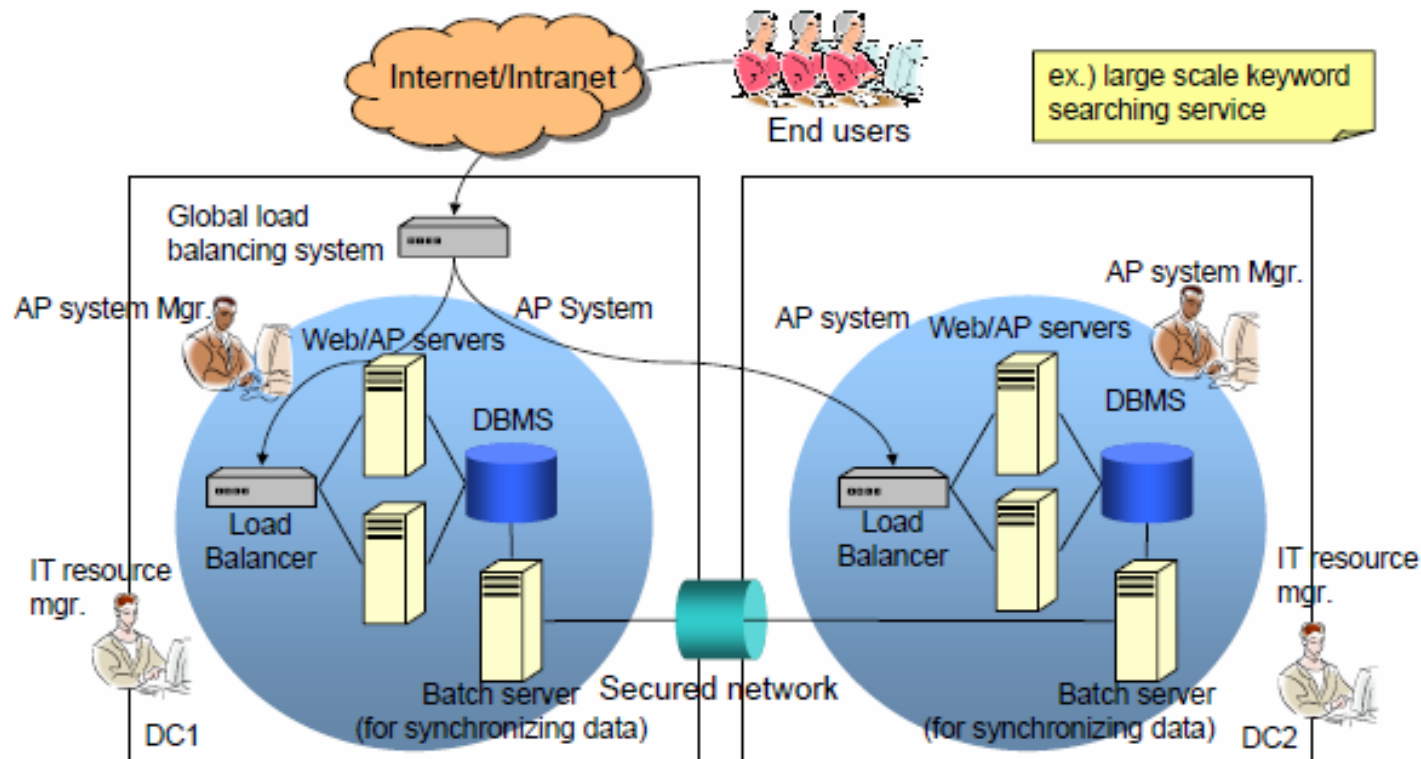
Allocating IT resources reduced from other application systems.



Wide Area Load Balancing System (Miyakawa et al)

What is a wide area load balancing system?

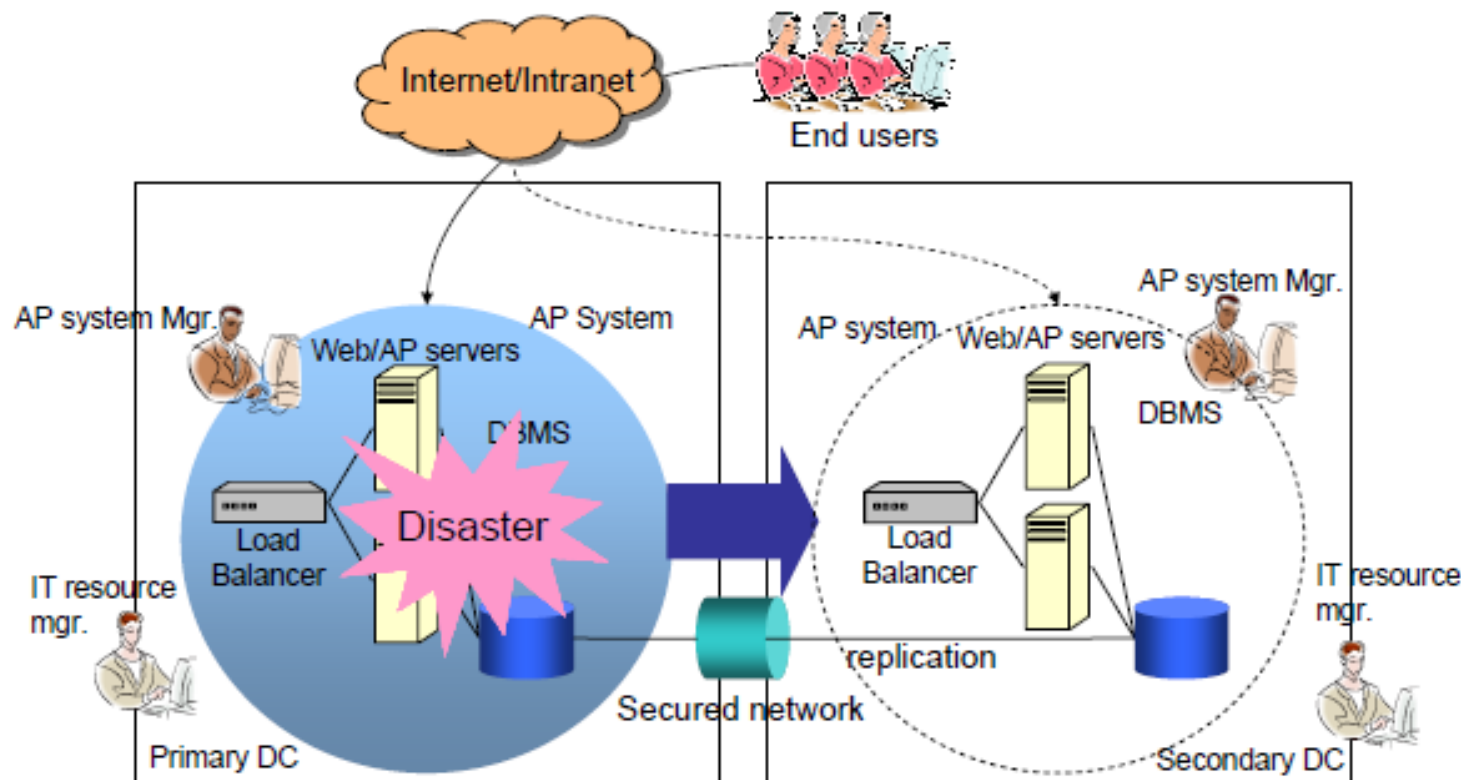
A large scale web site service among several DCs



Disaster Recovery System (Miyakawa-et al)

Disaster Recovery System

Web three-tier applications are recovered in another DC.

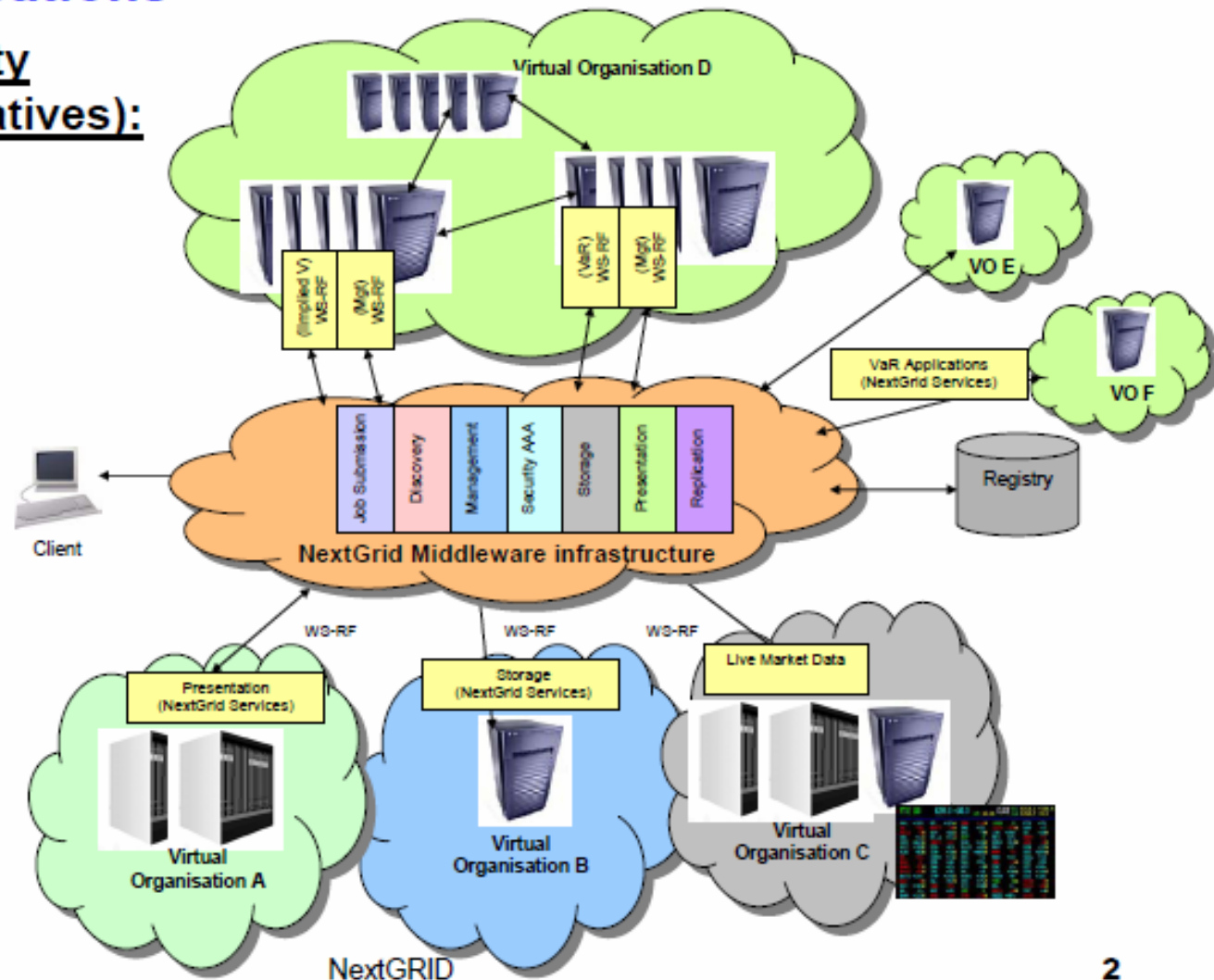


NextGrid (G. Lonsdale)(PPT only)

Financial Applications

a) Implied Volatility (QUB, First Derivatives):

Implementation
uses the data base
language kdb+ and
the OpenRiskGrid
environment based
on the Globus
Toolkit (version 3)



Decided to find out on the Web.



- Whose home page to look for?
 - Enterprises in the following. Due to time constraints, only Platinum and Gold Organization Members

Platinum Organization Members

- National Institute of Advanced Industrial Science and Technology, Japan (AIST)
- Hewlett-Packard
- IBM
- Intel
- Microsoft Research
- Silicon Graphics, Inc.
- Sun Microsystems

http://www.gridforum.org/Members/ggf_members_members.php

Gold Organization Members

- Computer Associates
- DataSynapse
- EMC
- Fujitsu
- Grid Consortium Japan
- Hitachi Data Systems
- KISTI
- US National Archives and Records Administration (NARA)
- National Computational Science Alliance (NCSA)
- Nortel Networks
- Oracle
- Platform Computing
- Shell Exploration
- Sybase

www.ogf.org

Problems.

- Copyrights: How can one make a summary without fringing on each company's copyright?
 - For the time being, just include the URL and let the people find out. Probably some more info. Eg. No. of pages can be added.. = > Get Permission
- Most of the papers are either introductory material, or just describe the results and not the technologies which created the results.

Abstract Candidates



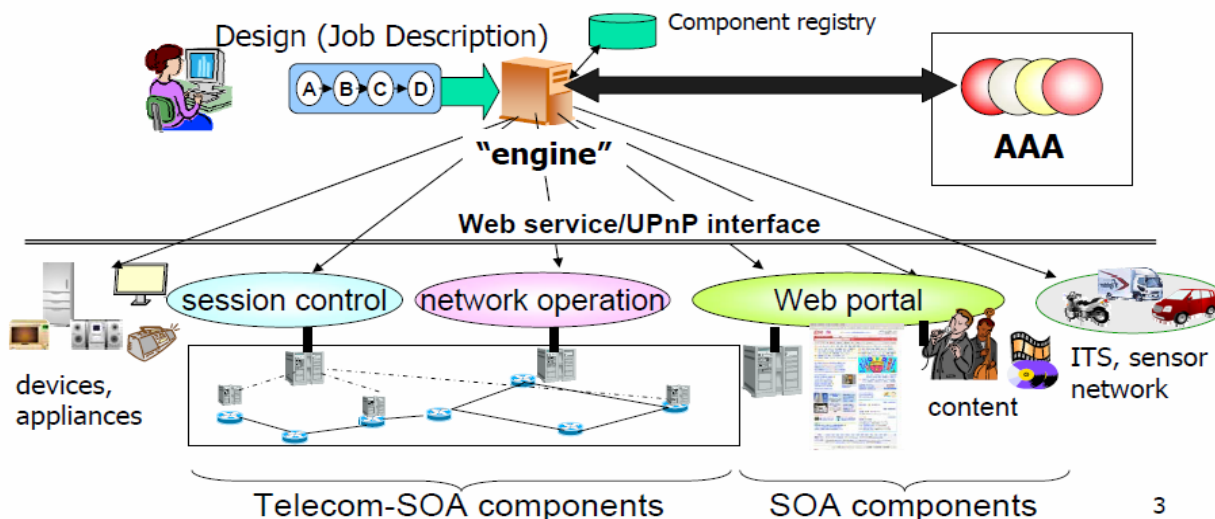
- Source: <http:>
- Date: March 200X
- Adopter: AAA Corporation (Healthcare)
- System: YY System, ZZZ servers
- Users: Employee
- Application: data analysis
- Benefit: drastically lowered the total cost of ownership and dramatically increased productivity
- *Model: eg HPC*
- *Updated information: (Name of the Contact Person)*
- *No. of Applications, No. of sites: Size of the Grid*
- *Webpod (Semantics?)*
- *Simple Questionnaire.*
- *What are the semantic annotations*

In GGF17

- We had people from Takemoto-san (NTT) describing their Ubiquitous SOA (They are now creating a Usecase based on the Template)

Overview of Ubiquitous SOA

- Our ubiquitous service integration platform provides composition capabilities using appliances, sensors, telecom-SOA components as well as ordinary SOA components.
- Network operation functions, session control functions, and ordinary Web page functions are provided directly or through Web-service conversion wrappers.
- Application service providers, and even ordinary people, can provide application services by integrating components in the network.



http://forge.gridforum.org/sf/docman/do/downloadDocument/projects.egr-rg/docman.root.meeting_materials.meeting_materials_ggf17/doc13655

In GGF17 (2)

- Described some of the Web material we found.
- Still it is far better to have the people describe their experiences so..
- Satoshi Itoh did a tremendous amount of work soliciting speakers and arranging the usecase study session today. (Many thanks Satoshi!!)

Discussion on Enterprise Grid Case Studies

13th September '06

Hosted by Enterprise Requirements Research Group

GGF18(= OGF18)

Satoshi Itoh (AIST)

Discussion Aims:



- To have a discussion on what technology currently exists and what are the real users' needs for Enterprise Grid Solutions
- Have several “Producers” and “Consumers” of Grid describe their experiences in providing/using Enterprise Grid.
- Expand the discussion done here to identify key technical requirements, scenarios and common approaches to enterprise grid computing.
- Advertise the existence of the EGR-RG (Enterprise Grid Requirements Research Group) ☺

Speakers:



- Session 1
 - “US Navy's Fleet Numerical Meteorology and Oceanography Center”, Nick Werstiuk, (Platform Computing)
 - “Building a Campus Grid: Concepts & Technologies”, Mary Fran Yafchak (SURA: Southeastern Universities Research Association)
- Break 120 minutes
- Session 2:
 - “Grid for Financial Services”, Larry Ryan, (Hewlett-Packard)
 - “Requirement Analysis of Grid Scenarios”, Mathias Dalheimer (Fraunhofer Institut fuer Techno- und Wirtschaftsmathematik: ITWM)
 - Introduction to the next step of EGR-RG, Ravi Subramaniam (Intel)

Thanks



- To All the Speakers
- Special Thanks to Satoshi Itoh (AIST) for all the organization
- Please Join Us!!
 - **Email list:** egr-rg@ogf.org
 - **Web page:**
<http://forge.gridforum.org/projects/egr-rg/>

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