Global Grid Forum

Leading the pervasive adoption of grid computing
for research and industry

Introduction to Enterprise Grids Requirements Research Group (EGR-RG) and it's objectives + Discussion on the UseCase Repository

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Session Name, Community Activity: Grid Requirements, Roadmaps and Usecases

6th Oct., 2005 (GGF15 in Boston)

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Introduction of EGR-RG

Web page:

http://forge.ggf.org/projects/egr-rg

Goals

This research group will begin with a survey of intended deployment scenarios and other use cases. It will also Survey current Enterprise Grid end-users, developers and administrators in order to obtain requirements and use-cases; also, survey current Enterprise end-users, developers and administrators who would be candidates for Enterprise Grid but may not be using Grid nor may be knowledgeable about Grid technology. Common requirements will be identified and prioritized. All documents are intended to be informational.

The purpose of this research group is to identify key technical requirements, scenarios and common approaches to enterprise grid computing.

EGR-RG Usecase Template

- **1 Use Case Title**
  - **1.0 Author**
  - ***1.1Abstract/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 bought 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.

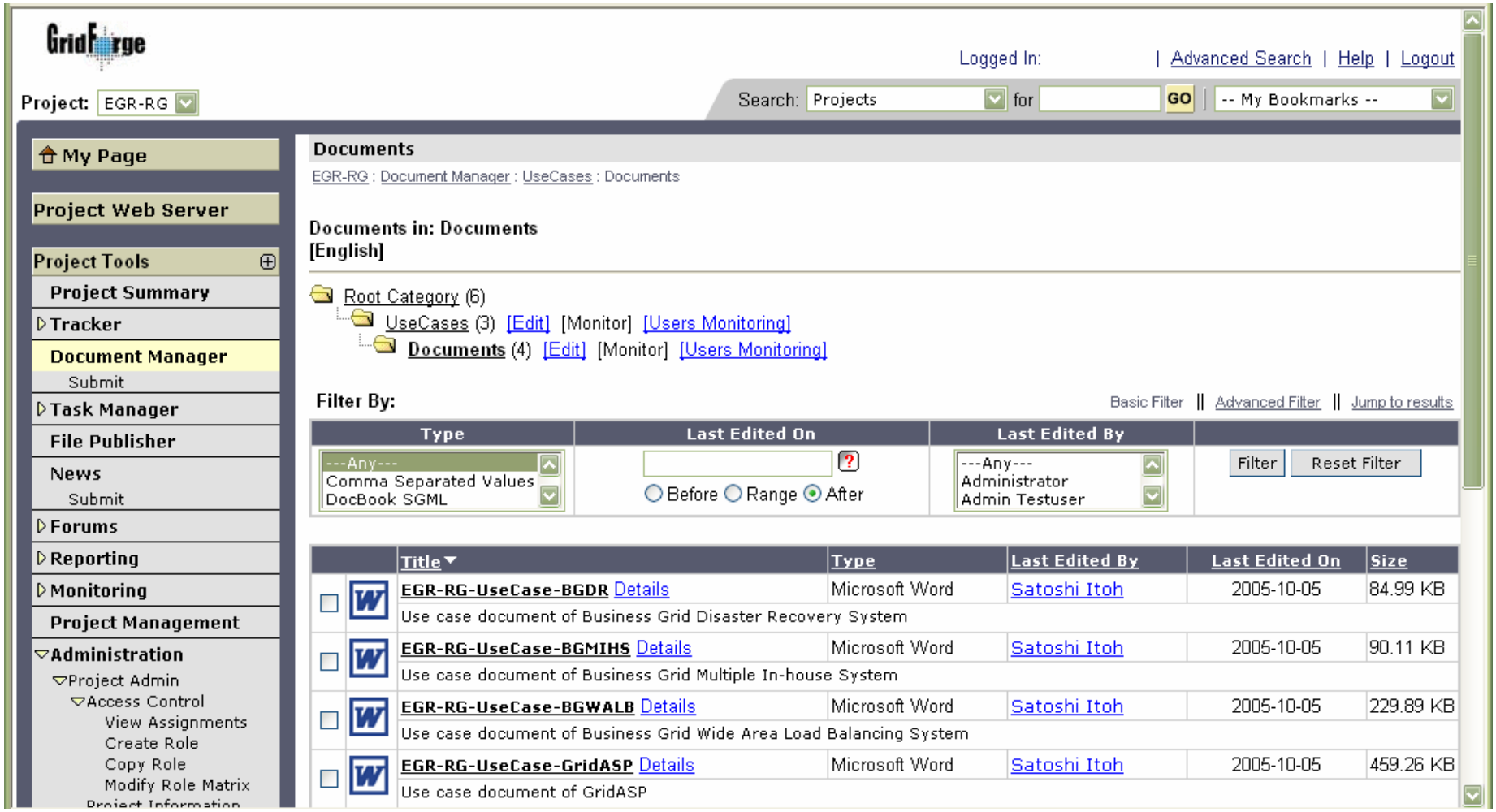
1.5 Motivations & Goals

- **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.

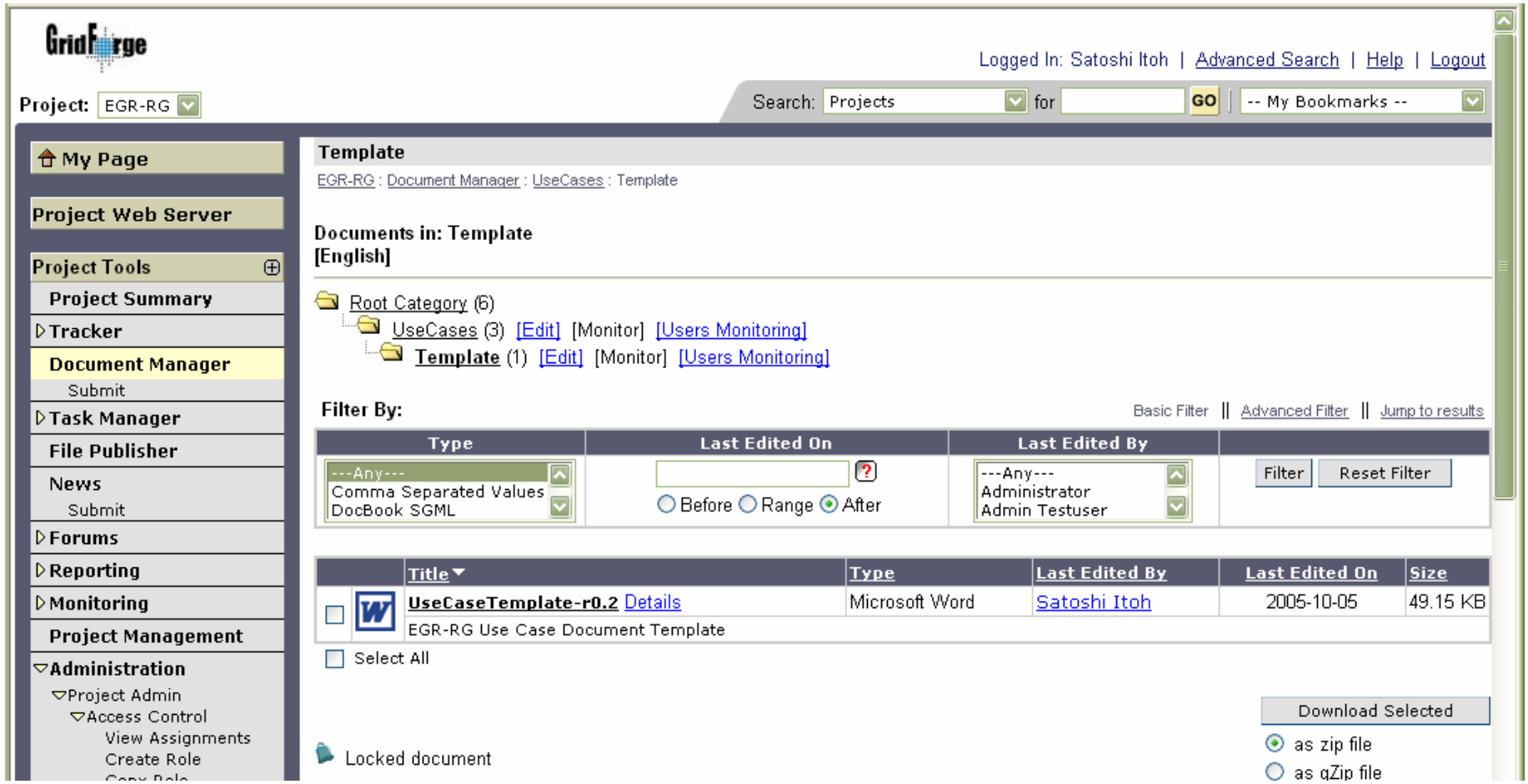
- ***1.6 Scenarios***
  - Organize the use case into scenarios. Each scenario should clearly identify the
    - ***Actors***
    - ***All resources and resource types that come into play. Are resource distributed (global vs local), dedicated vs shared, real vs virtual etc***
      - Discuss the resources 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 he 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.

Usecase on GridForge



Usecase Template



Template -> https://forge.gridforum.org/projects/egr-rg/document/UseCaseTemplate-r0.2/en/1

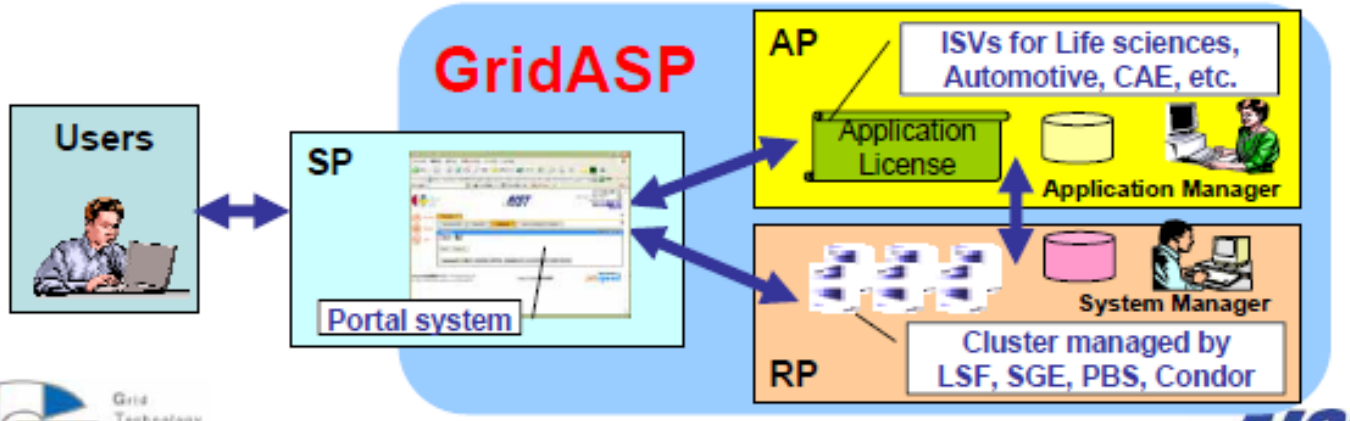
Examples of Use Cases

- Examples of Use Cases
  - GridASP
  - Multiple In-house System
  - Wide Area Load Balancing System
  - Disaster Recovery System
  - NextGrid

GridASP Authors Satoshi Itoh (AIST)(Japan)

1.2 Abstract/Summary

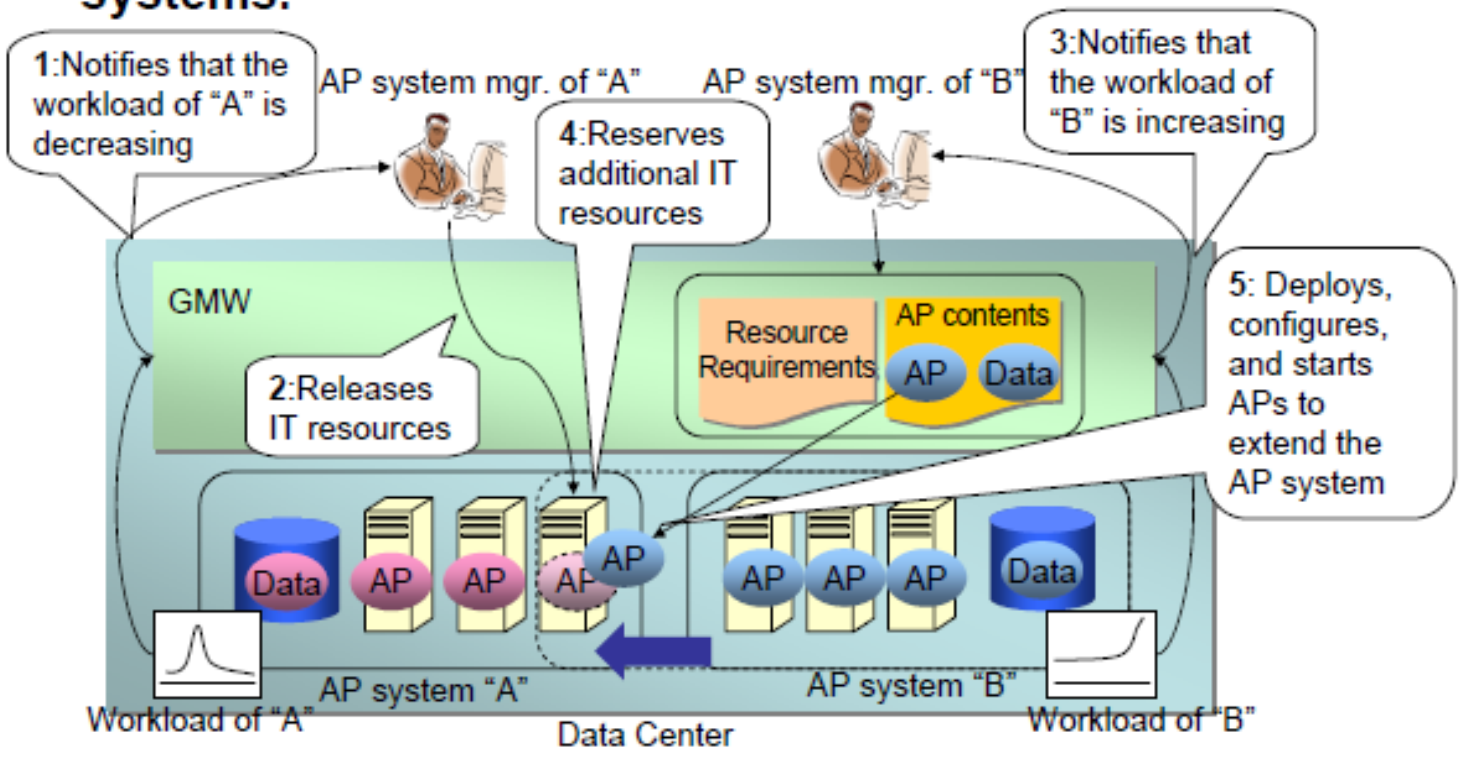
- The GridASP is a utility computing framework for technical computing in the enterprise.
- The concept of the GridASP is to separate the function of ASP (Application Service Provider) into three independent providers.
  - resource provider (RP)
  - The Application provider (AP)
  - The service provider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



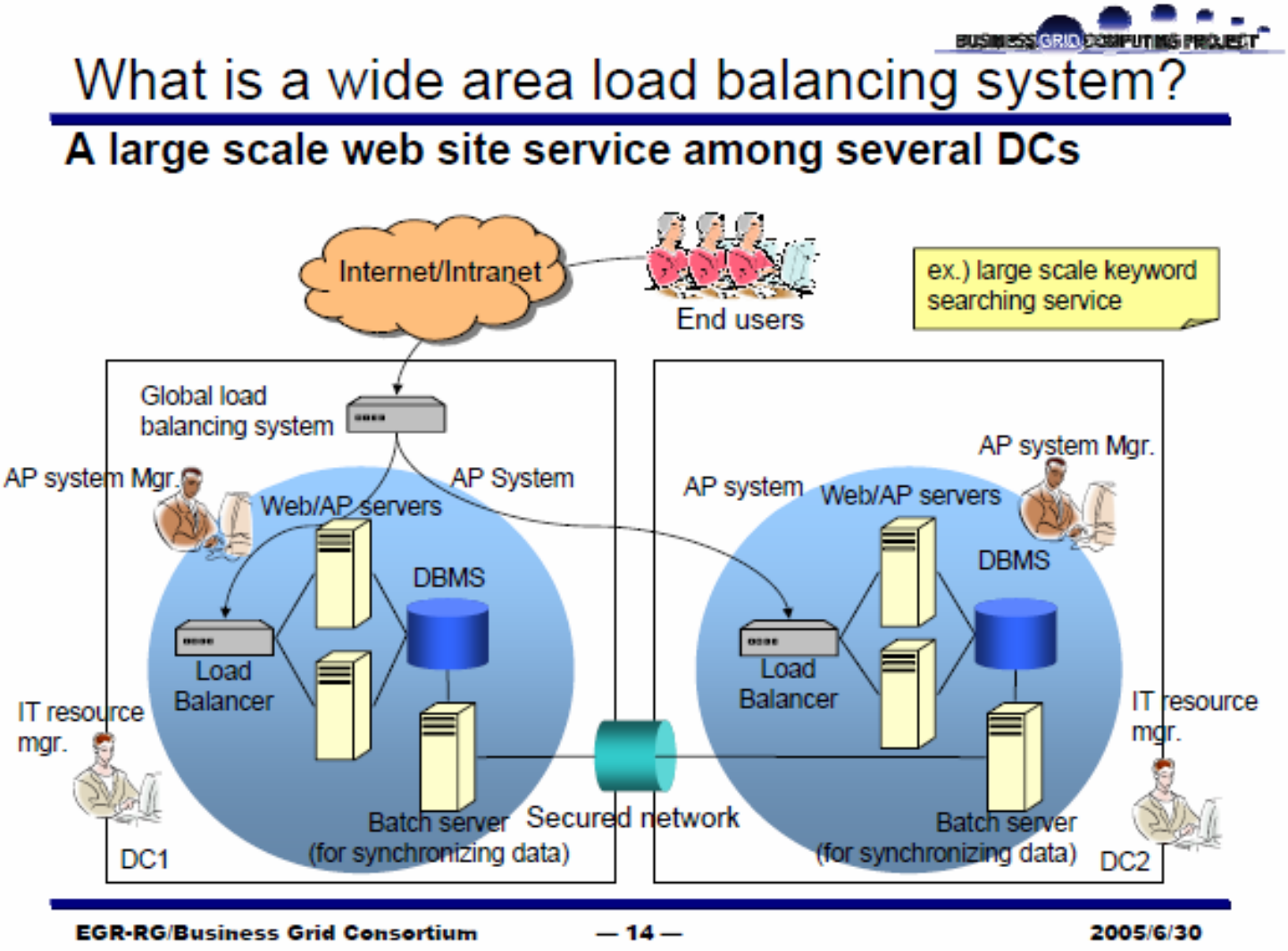
Multiple In-house System (Miyakawa et. Al)

Scenario 1-2: Sharing IT resources

Allocating IT resources reduced from other application systems.



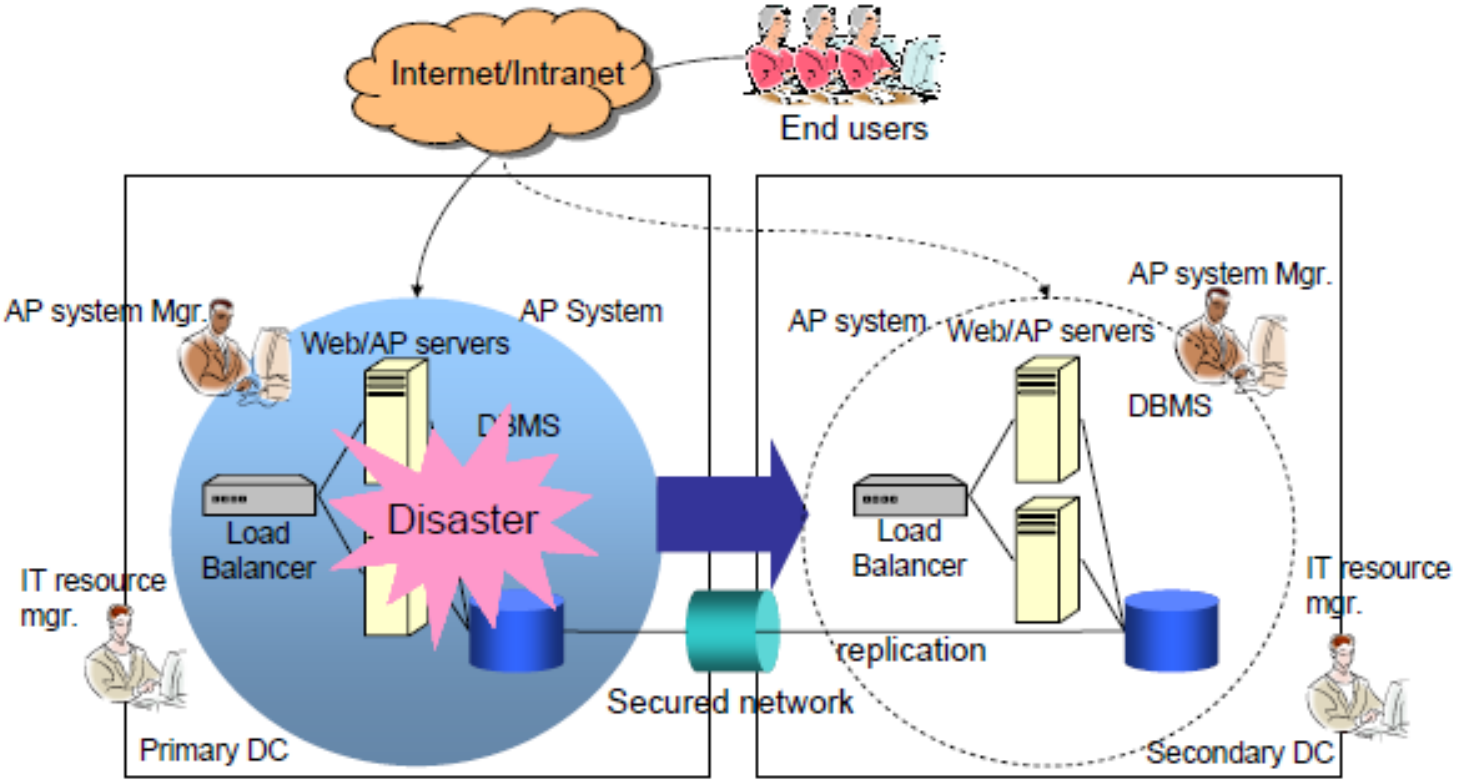
Wide Area Load Balancing System (Miyakawa et al)



Disaster Recovery System (Miyakawa-et al)

Disaster Recovery System

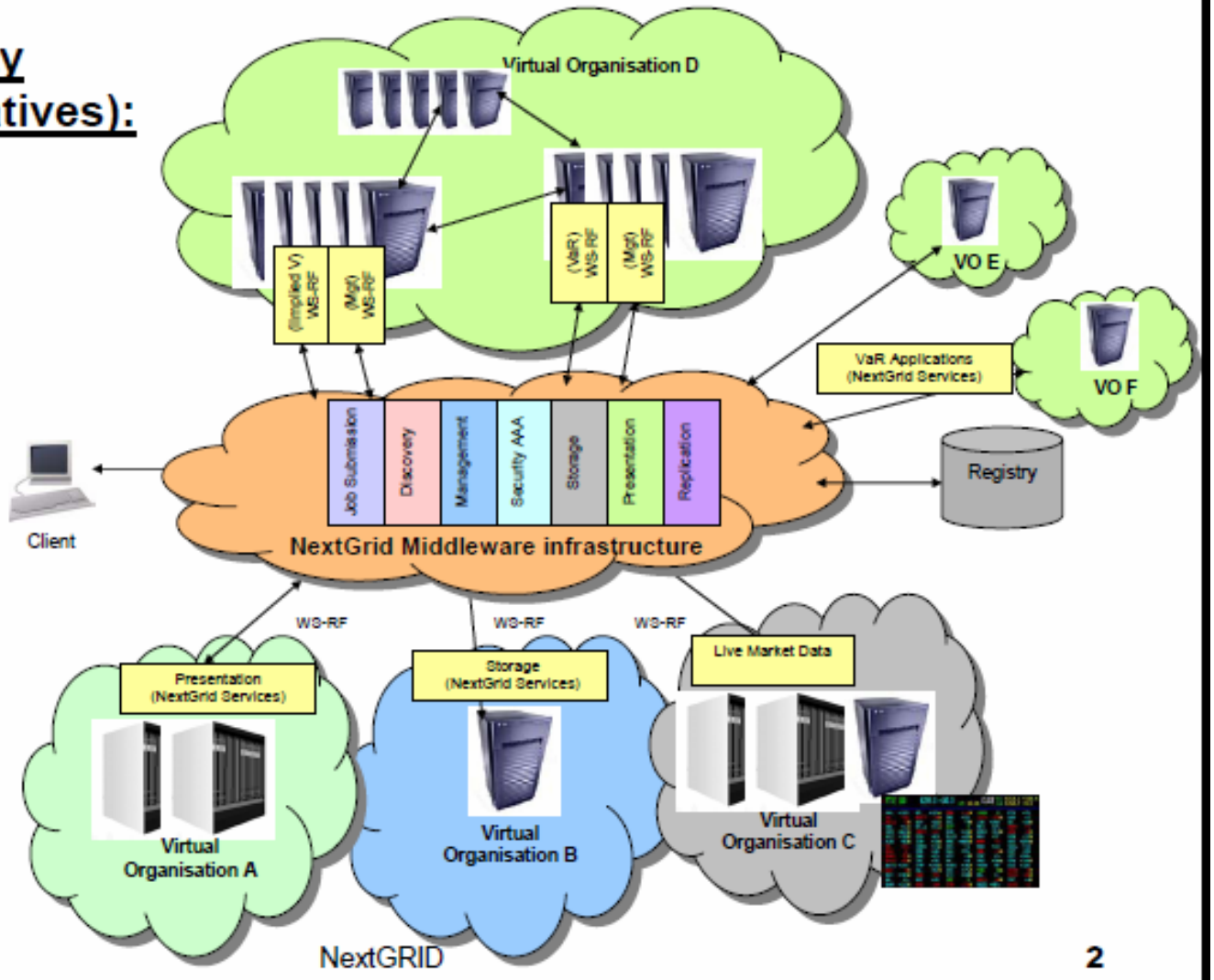
Web three-tier applications are recovered in another DC.



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)

And then….

- Asked for more Use Cases but have not receive any.
  - We need more critical mass.
  - One candidate is the Use Case Repository by Andre.
  - Another is, asking people in the Gridworld demo booth to try to provide us with some usecases..

Things discussed Yesterday

- Rules for uploading to the Use Case Repository?
  - Making it too strict would dissuade the potential submitters.
  - On the other hand we would need some consistency brought by the template.
    - Usecase vs. Scenario=>Discussion on tomorrow's workshop?
    - Keyword vs. Topic
  - Who is going to upload? Individual submitters? Or just the co-chairs + secretary=>Operation Officer(S. Itoh)
  - Who can request for deletion ? Operation Officer (S. Itoh) for EGR-RG
- GGF Copyright:
  - should it be included in all the use cases or would a Copyright placed in the page be sufficient? =>Matter for tomorrow's discussion

Things to discuss (2)

- Possibility of exploiting other WG/RG's Use Cases ?
  - User's requirements are really missing.
- Possibility for exploiting Usecases on the Web?
  - External Usecases=>Link as a compromise? => Upto the Steering Group
- Hierarchy for the Usecases Necessary if many usecases come up
- Versioning

Last but not the least….

- **Please join us!!**
  - **https://forge.gridforum.org/projects/egr-rg**
- **Please bring us your UseCases!!**
- **Thank you!!**

Action Items

- Try to collect URL's of published Usecases
  - EGA, Various Vendors. (Also pointers to Copyright Notices IPR)=>Please send info to co-chairs, secretary of EGR-RG in **https://forge.gridforum.org/projects/egr-rg**
  - Or to someone else?
  - How to contact the users?
  - Use Web Search Engines
- Try to categorize the URL's
  - High-Level, Low-level
  - Actors etc.
  - Production Level, Problem Statement
  - Intended Audience..