

# Utilizing Grid in the Next Generation Data Center

Next Generation Data Center Conference

San Francisco  
August 2007

## Narrow

*Grids as application-specific deployments*



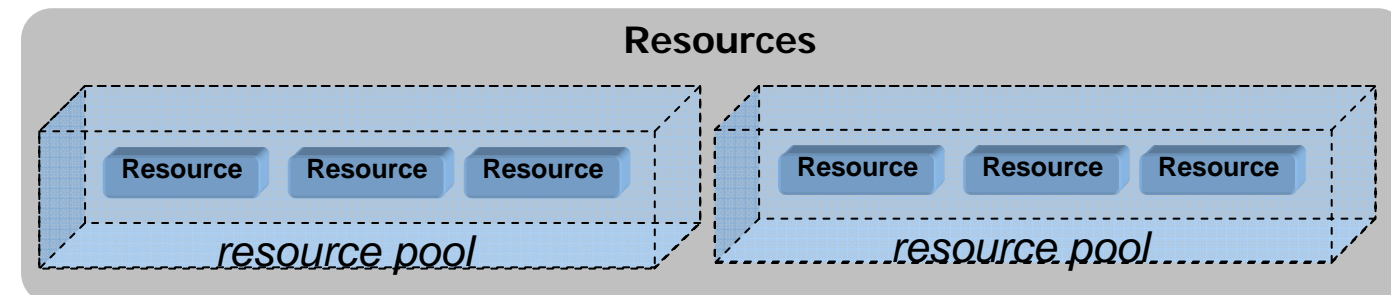
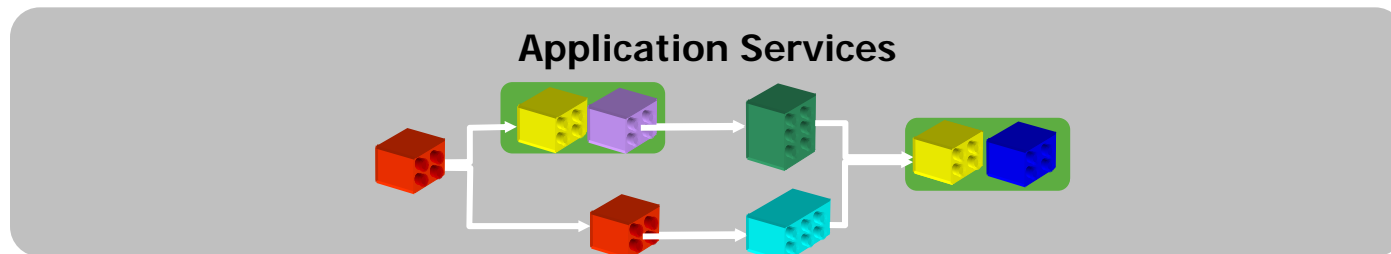
## Broad

*Grids as application-agnostic infrastructure*

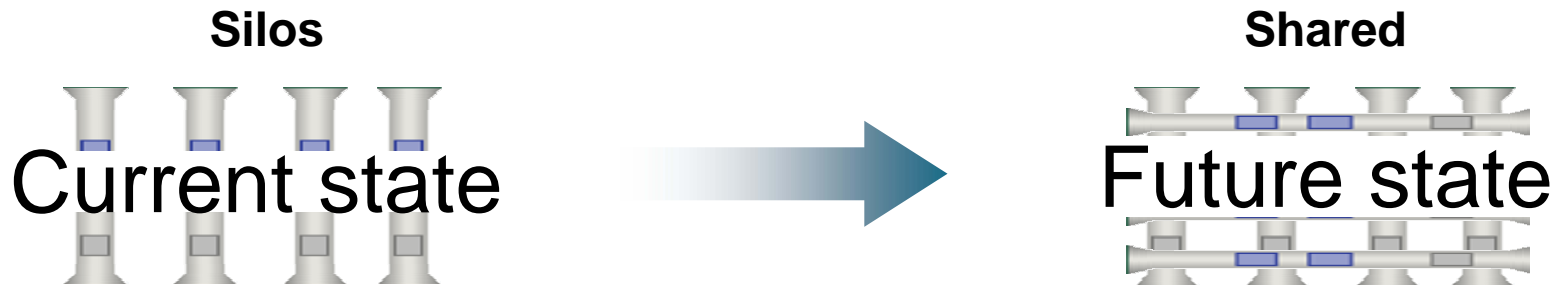


# The “broad” interpretation of Grid is realized through ...

... a horizontal layer of integration software that aggregates a network of resources into a system on which to run applications services



# Grids and Next Generation Data Centers



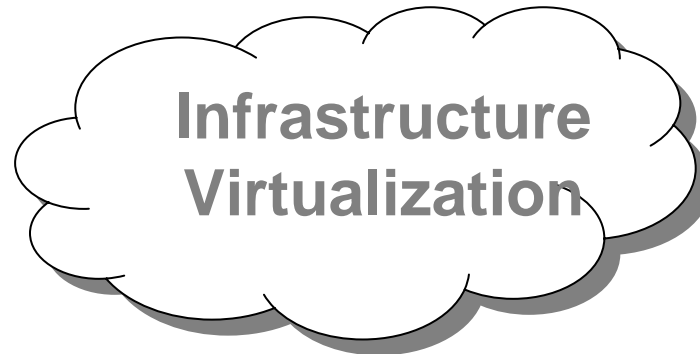
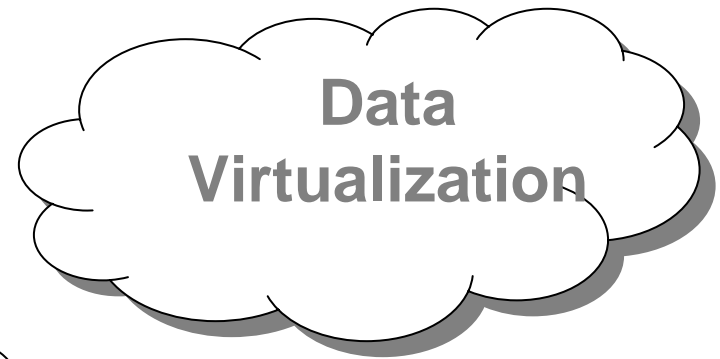
- **Break the static links** between applications, data and the underlying infrastructure
- **Manage resources and relationships** based on workload, automated processes, and policies
- **Move toward enterprise-wide shared services** that support multiple lines-of-business & partners

# Break the static links ...

*Match applications to  
available resources*

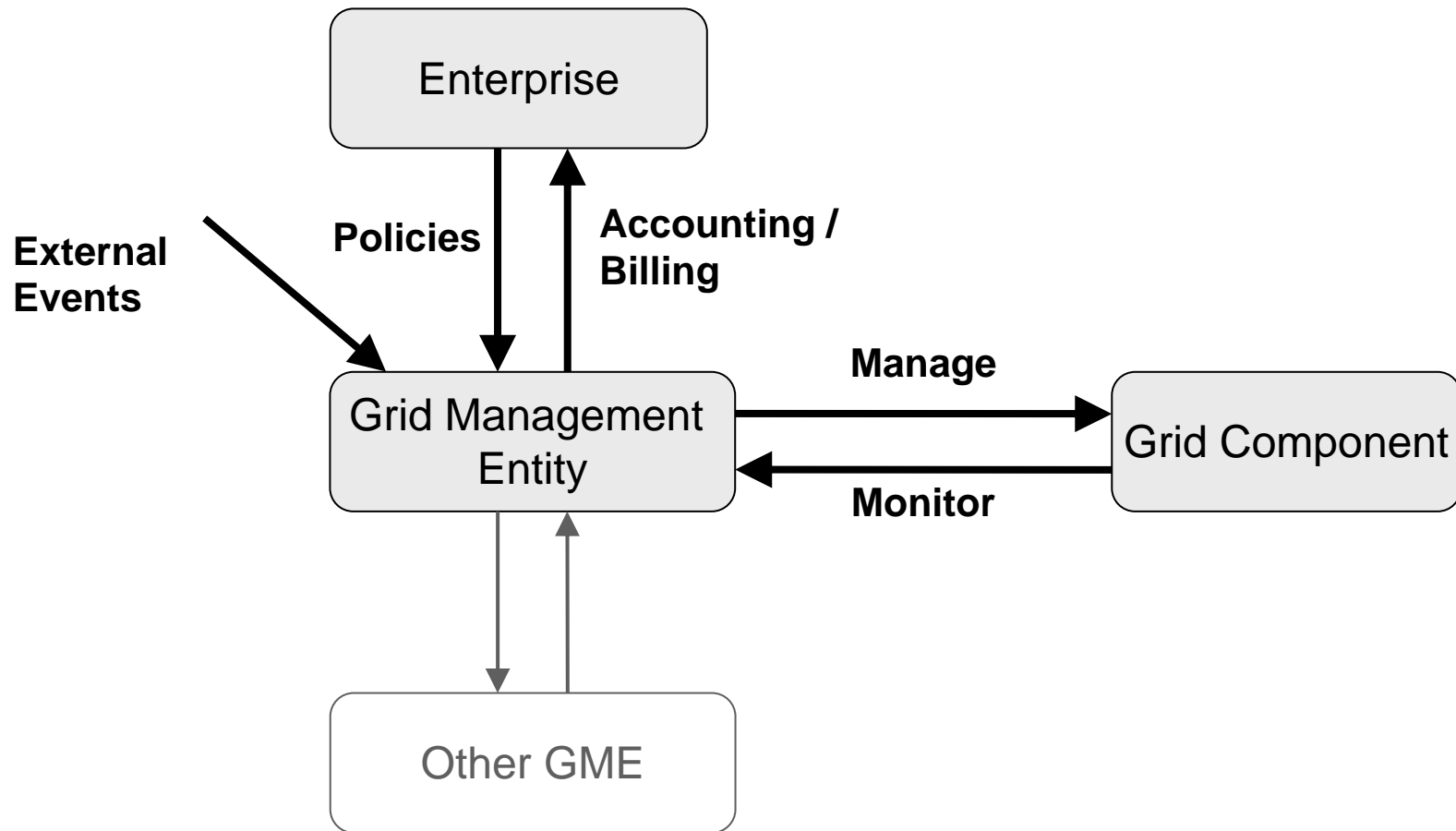


*Access data at any  
location, in any format*



*Pool, share and  
aggregated resources*

# Manage resources and relationships ...



# Move toward enterprise – wide shared services ...



- Level 5** Multiple applications on linked grids, with more extensive resource sharing, looking at broad enterprise applications
- Level 4** Multiple applications on basic linked grids, with limited resource sharing and centralized control
- Level 3** Multiple applications on silo'd grids, operated by lines-of-business
- Level 2** Single application run in single line-of-business
- Level 1** Trials/Proof of concept

Source: 451 Group, January 2007

Grid Computing - The State of the Market

[www.ogf.org](http://www.ogf.org)

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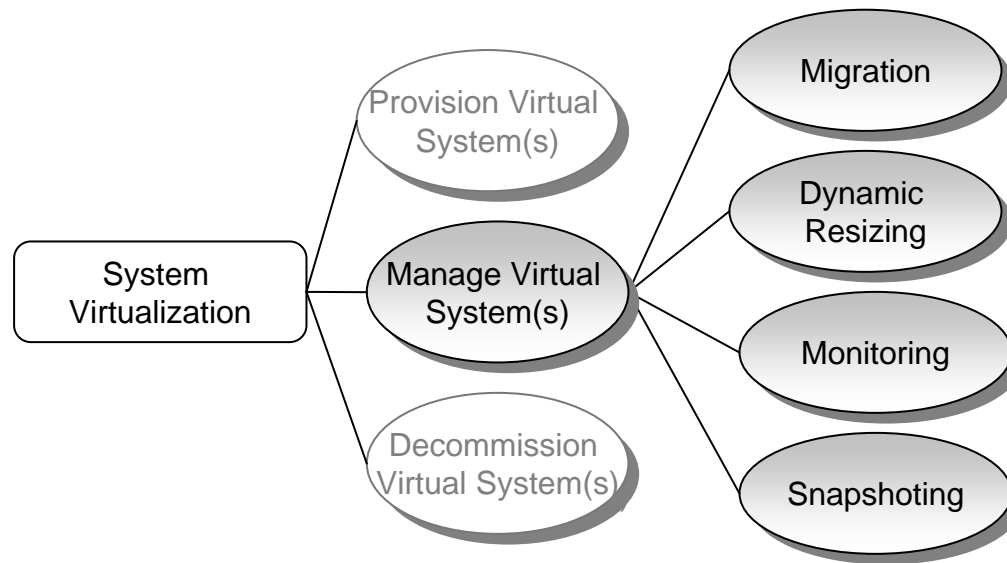
## OGF Reference Model

- Describe the services and resources that comprise a data center grid environment
  - Common language, glossary, taxonomy, ontology and formal model to describe Grids, what they are, how they are composed, managed etc.–
  - Basis for architecture, interface design/specification
  - Foundation for defining integrated management services

## Information Models

- Facilitate interoperability between Grid infrastructures via common information models and reference implementations
- Collaborate with DTMF to insure Grid requirements comprehended in CIM

## Grids & Server Virtualization



- Identifying the synergies between Grid and server virtualization - documenting the specific use cases and virtualization integration profiles for grid infrastructure.

For more information ....



## **Grid – Distributed Computing at Scale**

**An overview of Grid and  
the Open Grid Forum**



## **Utilizing Grid in the Next Generation Data Center**

[www.ogf.org](http://www.ogf.org)

## Grid : An integrated infrastructure for NGDCs

- Integrated architecture for application, data and infrastructure abstraction and management
- Matching and sharing application workloads (batch, services, transactional) with infrastructure based on policy, demand and load
- Supporting multiple applications on shared and service oriented infrastructure for greater utilization
- Integrating and federating diverse, large scale data resources including static and streaming data
- Managing the dynamics of change as the infrastructure grows, shrinks and changes
- Solving problems limited only by the resources you and your collaborators can connect together as a system and manage

# Thank You!



**Open Forum** for grid  
innovation and outreach

**Open Standards** for grid  
software interoperability

**OGF welcomes your questions and further engagement:**

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