



# Grid Technology: Where Next?

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# The Grid Vision

## *Recap*

- Key enabler for utility computing
  - Access to unlimited resources on demand
  - Quality of service levels
- Enabler for virtual organisations
  - Intra- & inter-Enterprise
  - Global collaborative working & resource sharing
- IT totally responsive to business needs & priorities
  - Virtual computer
  - Dynamic, configurable infrastructure
  - Dynamic application assembly

# Grid Characterisation

## *Scientific*

- Decentralised management
- Open source software
- Low qualities of service
- Non-mission critical operations
- Primarily file based
  - Millions
  - Write once, read many
- Background processing
  - Pipelines
  - Computationally intensive applications
  - Long running transactions

## *Commercial*

- Centralised management
- Industrial strength software
- Highest qualities of service
- Mission critical operations
- Databases & files
  - Read and Update
  - Enforced data integrity
- Interactive processing
  - Interactive workflows
  - Transactionally intensive applications
  - Short running transactions

*Grid technology needs to address both needs*

# Grid Evolution

## *Short term*      *1 – 2 years*

- Enterprise Grids established in commercial organisation
- Grid and Web Services standards resolved
- Stable open source middleware and industrial strength offerings
- Emergence of applications based on SOA

## *Medium term*      *5 year timeframe*

- Provisioning and self management embedded in infrastructure resources
- Trust and accounting models supporting inter-organisation sharing
- Workflow engines supporting dynamic application assembly
- Information and knowledge provisioning through applications

## *Longer term*

- New types of business models based on service provisioning
- Enterprises can choose to use infrastructure and business service on demand
- First step to utility computing

10<sup>g</sup>

# Grid Computing with Oracle 10g

- Virtualization and Provisioning now
  - Applications
  - Information
  - Servers
  - Storage
- Standardize on low-cost modular hardware components
  - Scale out incrementally



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