

10g

# Enabling the Grid The Power of 10

ORACLE

管理コスト削減の切り札！  
エンタープライズ・グリッドの魅力

## アジェンダ

- Enabling the Grid - The Power of 10
- Grid Controlデモンストレーション
- Grid @ ORACLE と標準化

日本オラクル株式会社  
マーケティング本部  
システム製品マーケティング  
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## ITシステムの現状と問題点

- リソースシェアの分断化
- 各システム毎のシステム管理
  - ハードウェア、ソフトウェア



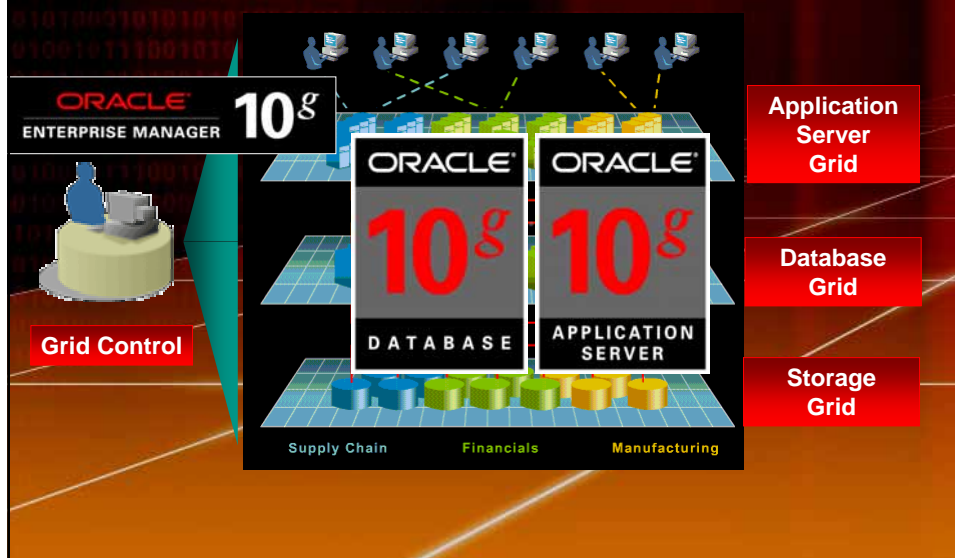
## IT業界以外では リソースの使用率は重要な問題



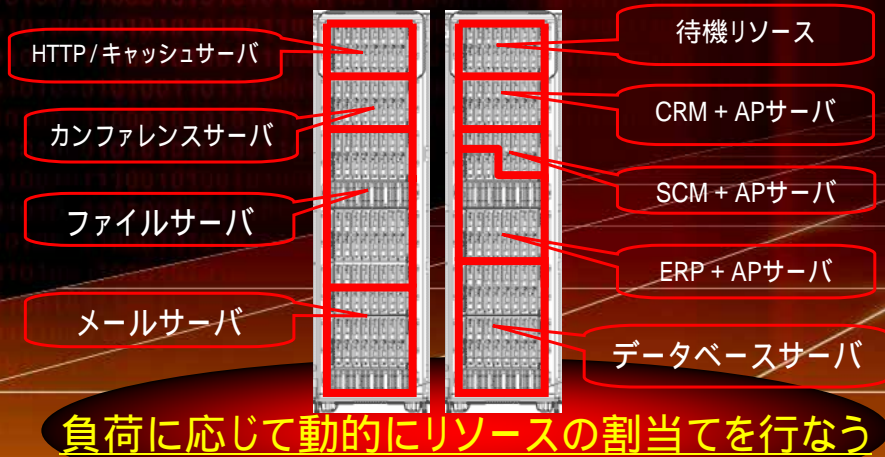
## Grid Computingの定義

大量の小規模サーバを統合し、  
あたかも1台の巨大なサーバの  
役割をさせること

## 10<sup>g</sup>がもたらす全階層グリッド対応



## Oracle 10<sup>g</sup>による次世代システム像



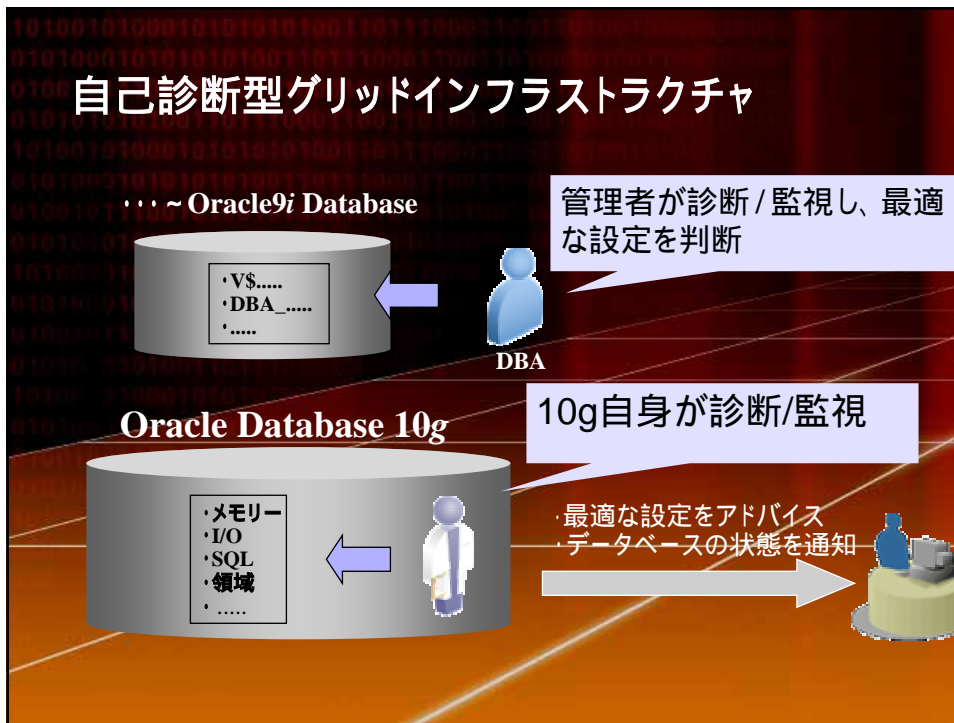
管理性に関するビジョンとゴール

# オートマチック

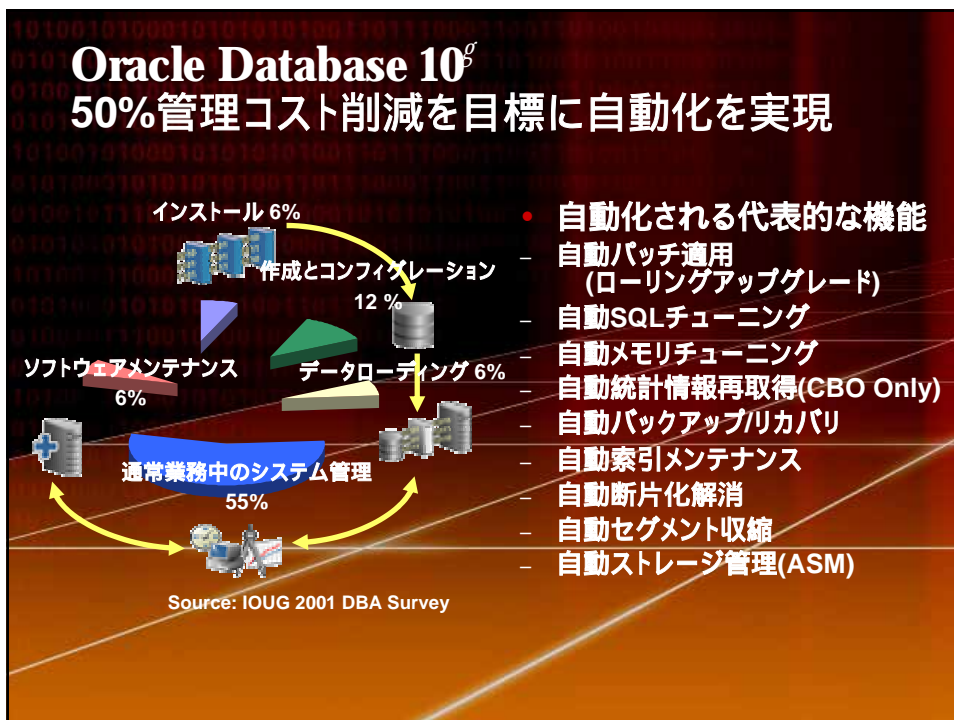
# 1/2 Cost



## 自己診断型グリッドインフラストラクチャ

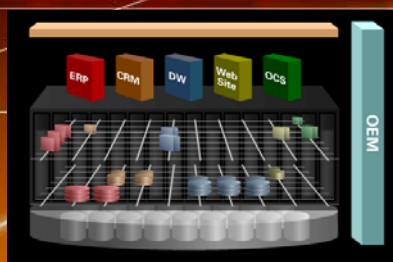


## Oracle Database 10<sup>g</sup> 50%管理コスト削減を目標に自動化を実現



## グリッド管理 Oracle Enterprise Manager 10<sup>g</sup>

- グリッド管理に対応
- HTTP経由で情報と管理機能を提供
- 管理者はウェブブラウザから、いつでも・どこでもシステムを管理可能
- PDA対応
- 全てのオラクル製品を管理
- プラグイン方式の採用
  - フレームワークとの連携
  - コンポーネントの追加



# Demonstration

## アジェンダ

- Enabling the Grid - The Power of 10
- Grid Controlデモンストレーション
- Grid @ ORACLE と標準化

## Oracle 10<sup>g</sup>のビジョン

Complete, integrated grid infrastructure







## グリッド@オラクルと標準化

日本オラクル株式会社  
コアテクノロジー本部  
アーキテクトグループ 担当ディレクター  
鈴木俊宏

ORACLE

### 質問

- グリッド・コンピューティングの世界では新しいグリッド・コンピューティング専用のアプリケーションが必要である。

か × か？

## 質問

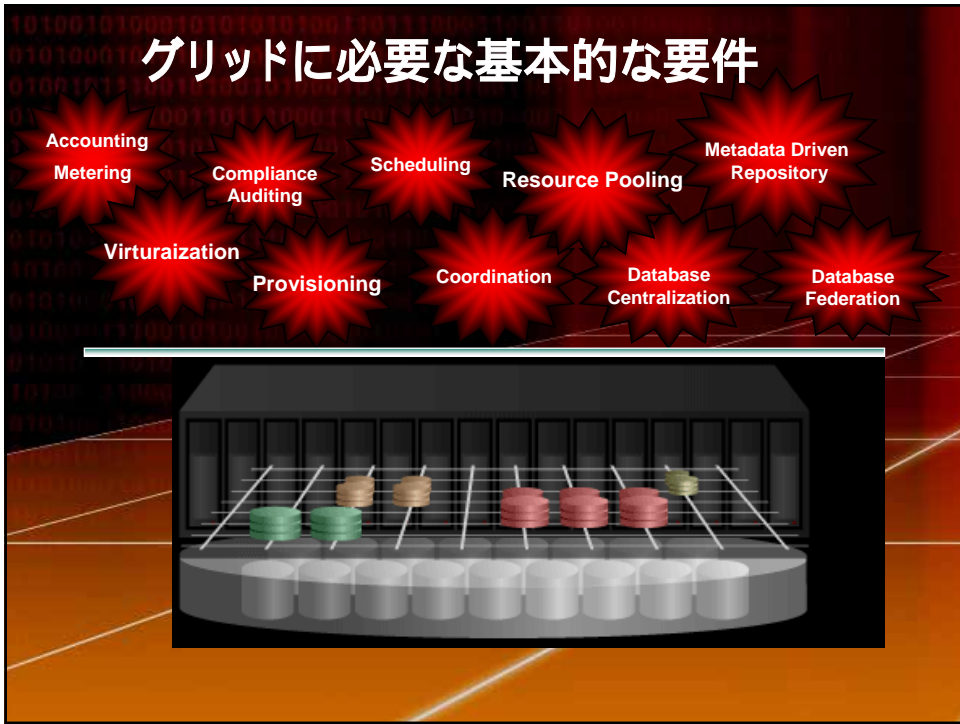
- グリッド・コンピューティングを支えるのはソフトウェアの技術である。

か × か？

## 質問

- グリッド・コンピューティングはハードウェア(ストレージ、サーバー、ネットワーク)には無関係な技術である。

か × か？



## グリッドの適用領域

Application

GGF ( ? )

Web Services

Application Server

Database

Server

Storage

Network

?

## 質問

- 商用の世界でも、グリッド・コンピューティングは全世界を電力網で包むようなグローバルなグリッドの到来が近い。

か × か ?

## 質問

- グリッド・コンピューティングは初めから“疎結合の世界”が前提である。

か × か？

## グリッドの考え方の違い

- 一般的な考え方
  - グリッドは初めから“疎結合の世界”が前提である。
    - グリッドの基本は所詮バッチシステム
- オラクル
  - グリッドは緊密関係“Unstoppable”が前提となる。
  - その上に立って“疎結合の世界”を視野に入れる。

## 商用グリッドに求められるもの

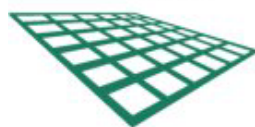
- 「技術の適材適所」がグリッド利用のヒント
  - 技術の進化と上手に付き合う
- エンタープライズグリッド ↔ グローバルグリッド

## 質問

- グリッド・コンピューティングは良くわからない。

か × か？

Enterprise  
Grid Alliance



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

## オラクルの標準化団体に対する主張

- オープン
  - 興味がある者、影響力がある者、利害関係のある者に対して全てオープンであること
- 公平な土俵
  - 参加者は決定に対して平等であること(例:一社一票)
- 討議結果の自由な利用
  - 合意されたことは可能な限り幅広いコミュニティによって適用されること(例えば:ロイヤリティフリー)



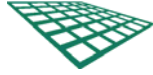
## オラクルの標準化団体に対する主張

- 正当なプロセス
  - 明確で理解しやすい意思決定プロセスであること
- 透明性
  - 意思決定を含んだ討論の場の活動は関係者にとって可視的であること



ORACLE®

Enterprise  
Grid Alliance



## Enterprise **Grid** Alliance Public Launch: 20 April 2004

### Agenda

- Enterprise Grid Alliance – What is EGA?
- EGA Scope and Objectives
- Participation / Membership
- EGA Technical Strategy and Approach
- Initial Working Groups
- Next Steps

Enterprise  
Grid Alliance



## What is the Alliance?

- Consortium of leading vendors and customers focused on developing *Enterprise Grid* solutions
- Incorporated as 501 ( c ) ( 6 ) non-profit corporation
  - Organized for mutual benefit of participants
- Open, independent and vendor-neutral
  - Anyone can join by executing relevant agreements and paying dues - no admission barriers
  - Participation tiers allow for inclusion and for entities to elect engagement sized to business model /technology relevance
  - No one controls, each organizational participant gets one vote
- Simple bylaws and rules
  - Results offered to technical community Royalty Free



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## EGA Technical Scope: Grid computing =

- In Enterprises
  - Public or private sector
- Within and between Enterprise data centers
  - Not desktop grids
- Using proven and standard Enterprise components
  - Networks, application servers, databases, server computers, storage, and management frameworks
- Within and between Enterprise legal entities
  - Trusted and secure
  - Not dynamically defined virtual organizations
- For Enterprise applications
  - Commercial (ERP,CRM, BI) and Technical (portfolio simulation)
  - Not scientific computing or academic research grids



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## Alliance Objectives

- Encourage and accelerate movement to an open grid environment through interoperability solutions
  - Specifications
    - *Endorse and support existing specifications*
    - *Assemble and profile component specifications*
    - *Define new specifications where needed*
  - Mechanisms for testing interoperability among enterprise grid software and hardware components
  - Interoperability demonstrations
  - Documentation of best practices
- Provide practical, achievable near term benefits
- Resolve issues with/inhibitors of adoption of enterprise grid computing
- Grow the grid computing market



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## Participation Levels

- Sponsor Member
  - Eligible for Board of Director seat
  - Eligible to participate in and chair Committees
  - Votes to approve Alliance output
- Contributor
  - Participates in and chairs Working Groups
  - Eligible to vote in Working Groups
- Associate
  - Participate in Working Groups
  - Attend annual meetings and events



## Founding Participants

- Board of Directors
  - EMC, Fujitsu Siemens Computers, HP, Intel, NEC, Network Appliance, Oracle, Sun
- Sponsor Members
  - AMD, Ascential Software, Optena, Paremus
- Contributors
  - Cassatt, Novell
- Associate
  - Citrix, Enigmatec, Force 10 Networks, TopSpin, Data Synapse



## Technical Strategy

- Attack the problem in phases
  - Begin new phases every 12-18 months
- For each phase
  - Determine availability of existing technologies and standards
  - Develop proofs of concept, demos and Profile solutions
  - Communicate requirements to relevant industry organizations
  - Develop specifications and reference models where needed
- Three phases
  - 1: Core capability: commercial applications within single enterprise
  - 2: Include and extend: technical applications across multiple enterprises
  - 3: Unify and complete: computing as a utility emerging
- Near-term deliverables that demonstrably contribute to rapid adoption of grid technologies within the enterprise



## Phase 1: Core Capability

- **Core Commercial Enterprise applications only**
  - Not technical grid applications
  - Applicable to every Enterprise
  - Validate that basic support is possible now, encourage or develop needed specifications ensuring openness
- **Capability within a single Enterprise only**
  - Not between Enterprises
  - Focus on a data center, but include interaction with other data centers first for availability and then for load balancing and cooperative processing
  - Interoperation between vendors, within a data center



## Phase 2: Include and Extend

- **Include support for Technical Grid applications**
  - Enables technical grid processing when commercial applications don't need the resources
  - Off hours capacity encourages development of more technical grid applications
  - Boundary between application types begins to blur
- **Extend multiple data center support to other organizations**
  - Message passing applications such as supply chain, trading applications
  - Web service calls between applications
  - Grids between Enterprises begin to interoperate





## Phase 3: Unify and Complete

- **Unify grid computing within and between Enterprises**
  - True cooperative processing, not just message passing
  - Dynamic capacity addition: Virtually extend the data center
  - Final capacity on demand capability delivered
- **Complete support for all Enterprise applications**
  - In all configurations, inside the data center and outsourced to data center providers
  - Complete interoperation between Enterprise grids
  - Final computing-as-a-utility model begins to emerge



## Initial Working Groups

- Reference model
- Component provisioning
- Data provisioning
- Utility accounting
- Grid security



## Post Launch Activities

- Initiating and accelerating activities
  - Marketing the Alliance within the industry as a force for change
    - *Recruiting participating companies' partners and customers*
  - Technical work within the Alliance:
    - *Populate and start work within initial working groups*
- Liaison
  - Negotiate MOU's with other consortia and sdo's
    - *IPR and interaction mechanisms*
  - Organizations with whom we would like to work
    - *DMTF, GGF, OSDL and SNIA + others (e.g. W3C, Oasis, ...)*
- Establishing regional subcommittees
  - EGA BoD has approved in principal
  - awaiting proposals from EU and Japan
  - Others (e.g. Americas) possible in future



Enterprise  
**Grid Alliance**

