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Silicon Graphics, Inc.

**Powering the Real-Time
Flexible Enterprise**

SGI Proprietary

May 2006

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Upgrading from R/3 to mySAP?

**Why not upgrade to the
flexible, real-time enterprise
at the same time?**

THE REAL-TIME ENTERPRISE

SGI's unique technology and systems architecture increases customer productivity and competitiveness by enabling...

...an open, flexible, real-time enterprise

THE FLEXIBLE, REAL-TIME ENTERPRISE

Transactional database systems operate in real-time, so IT becomes a powerful tool for creating competitive advantage

Business intelligence systems operate in real-time, so managers are empowered to make better, faster decisions than their competitors

A single hardware server can scale from tiny to arbitrarily large, so the days of rip and replace “forklift” upgrades are over

Problems with Traditional IT Enterprise Systems

Lack of Performance: Performing millions of complex database queries **takes too long**

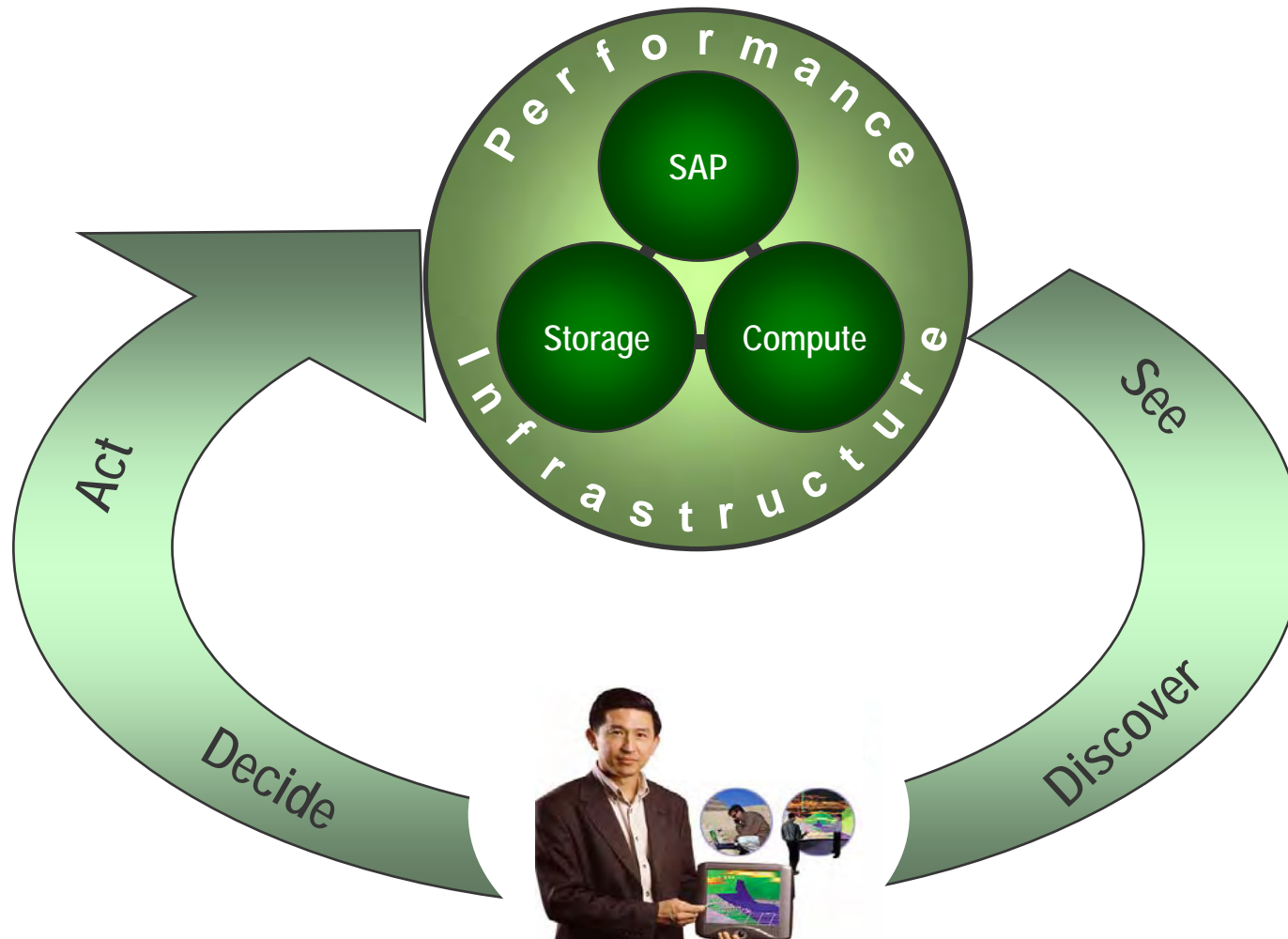
Databases are growing: Most of the data set resides most of the time on slow disks

Small Shared Memory: Creates a tremendous amount of network traffic, further slowing the system

**This Decreases Customer Productivity
and Lengthens “Time to Insight”**

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SGI's Unique Architecture Promotes Real-time IT



Creating a “Real-time IT Enterprise”



Benefits of a Flexible, Real-time Enterprise?

Lower Total Cost of Ownership

+

Improved Business Performance

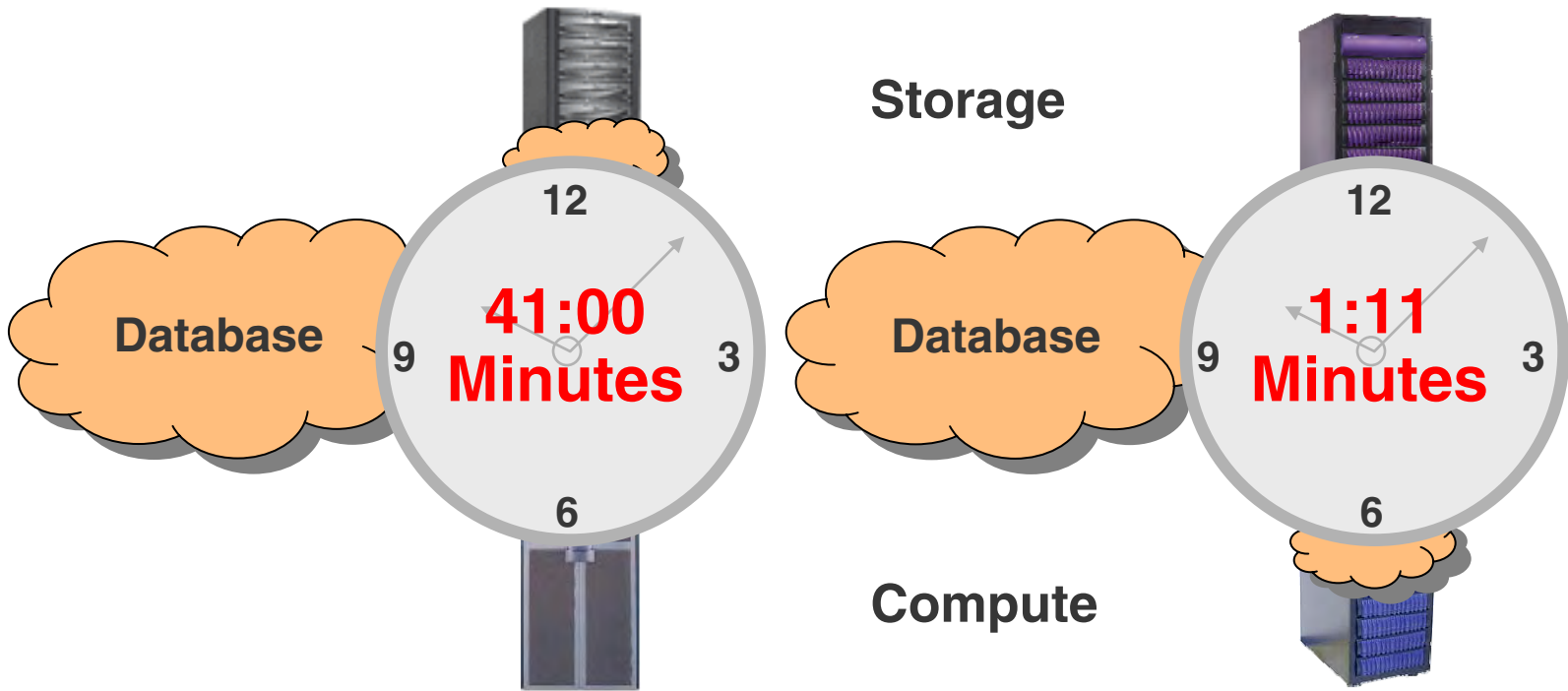
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Enhanced Return on Investment

Sample Benefit of Having a Real-time Enterprise

Traditional Approach

Large, Shared Memory Approach

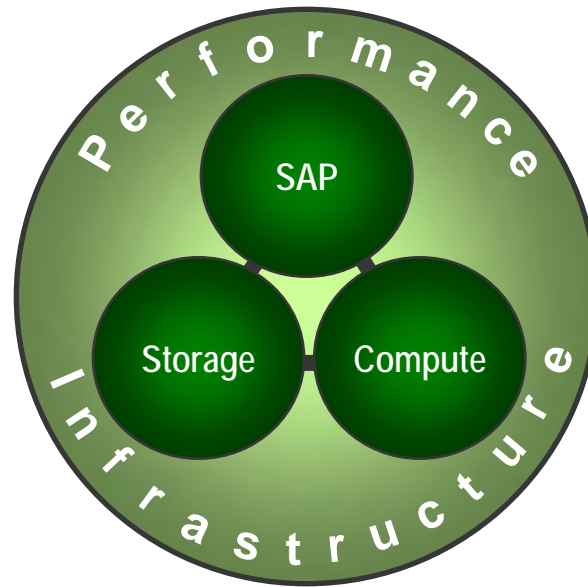


One Company's Actual Experience!

Database Queries all in MAIN MEMORY!



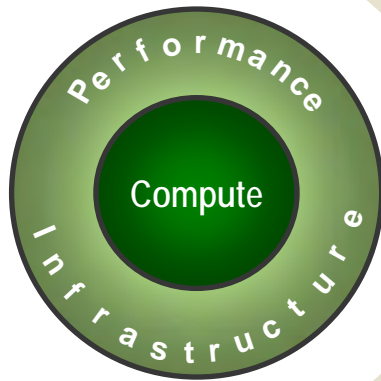
Why is SGI Technology Unique?



It's purpose-built for high performance!



Compute Goals

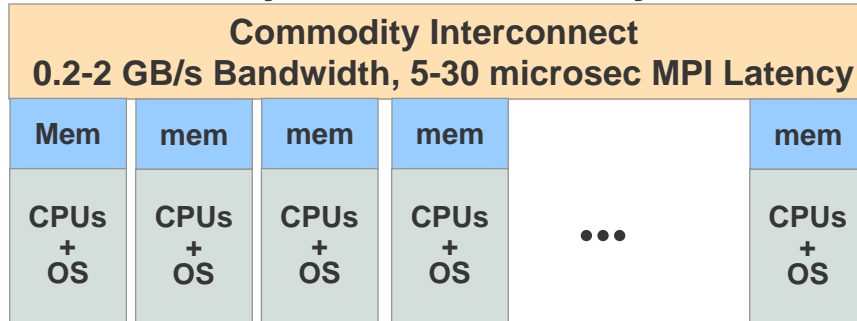


Goals

- Utilize the highest performance, 64-bit, CPUs
- Create a high-bandwidth, low-latency processor interconnect system to handle inter-processor communication
- Design a globally-shared high-performance memory sub-system
- Design the interconnect to be ultra-scalable

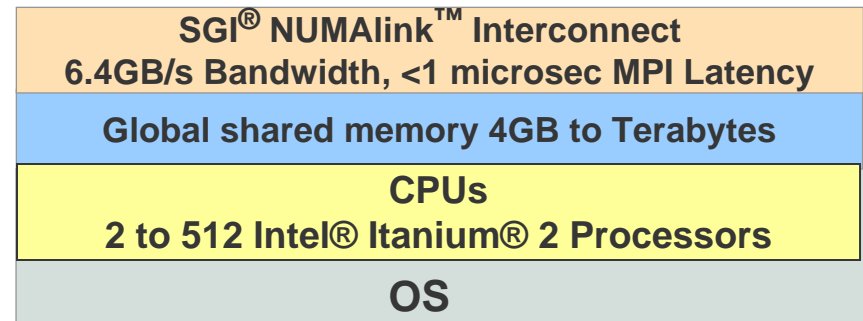
Benefits of a Shared Memory Architecture

Commodity and Unix/RISC Systems



- Each system has own memory and OS
- Data access through I/O bottleneck
- Inefficient cross-node communication creates bottlenecks
- Coding required for parallel code execution

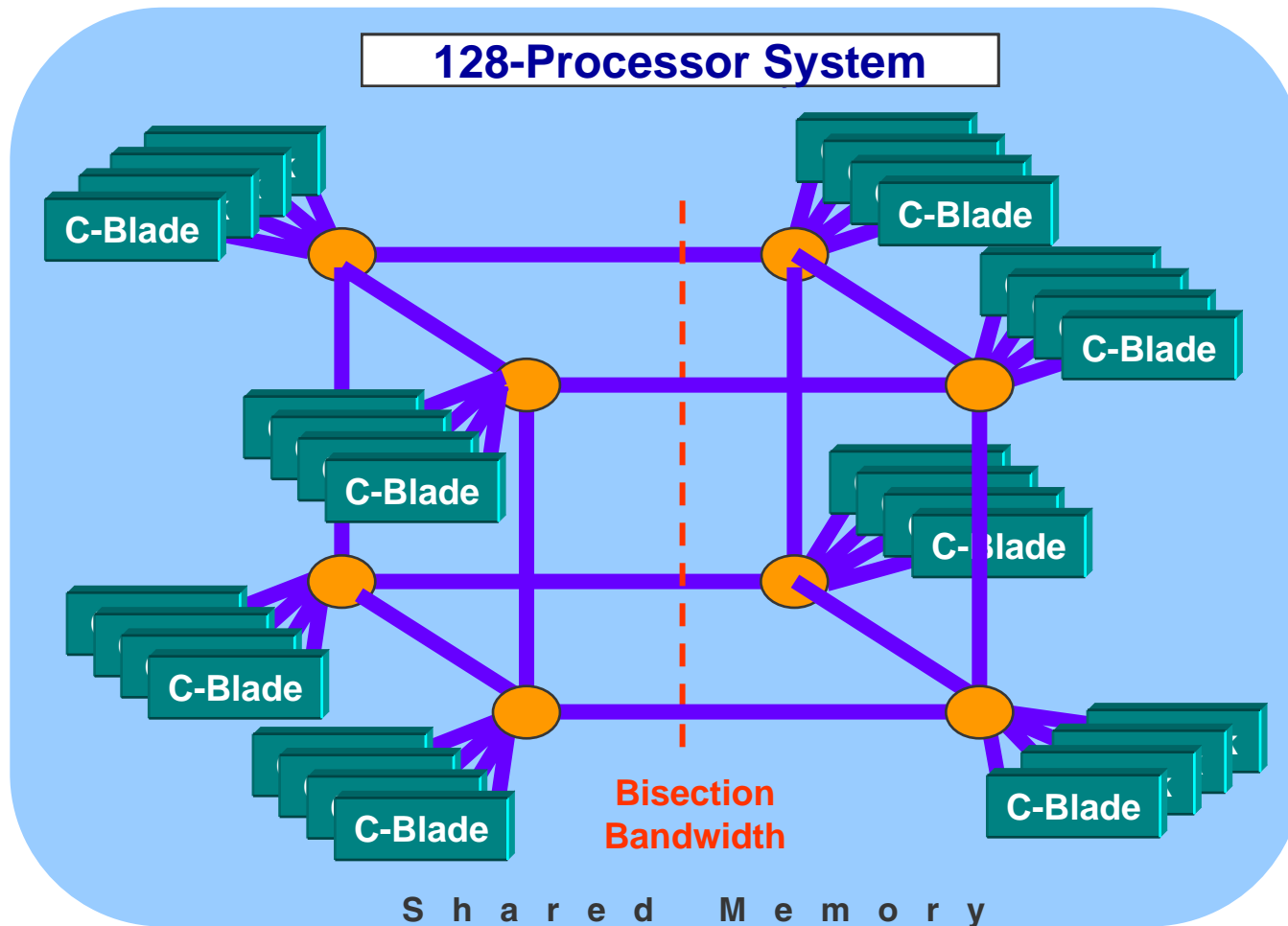
SGI® Altix® Family



- Next generation blade design
- All nodes operate on one large shared memory space: eliminates data passing between nodes
- Big data sets fit entirely in memory – no I/O bottlenecks
- Simpler to program
- High Performance, Low Cost, Easy to Deploy



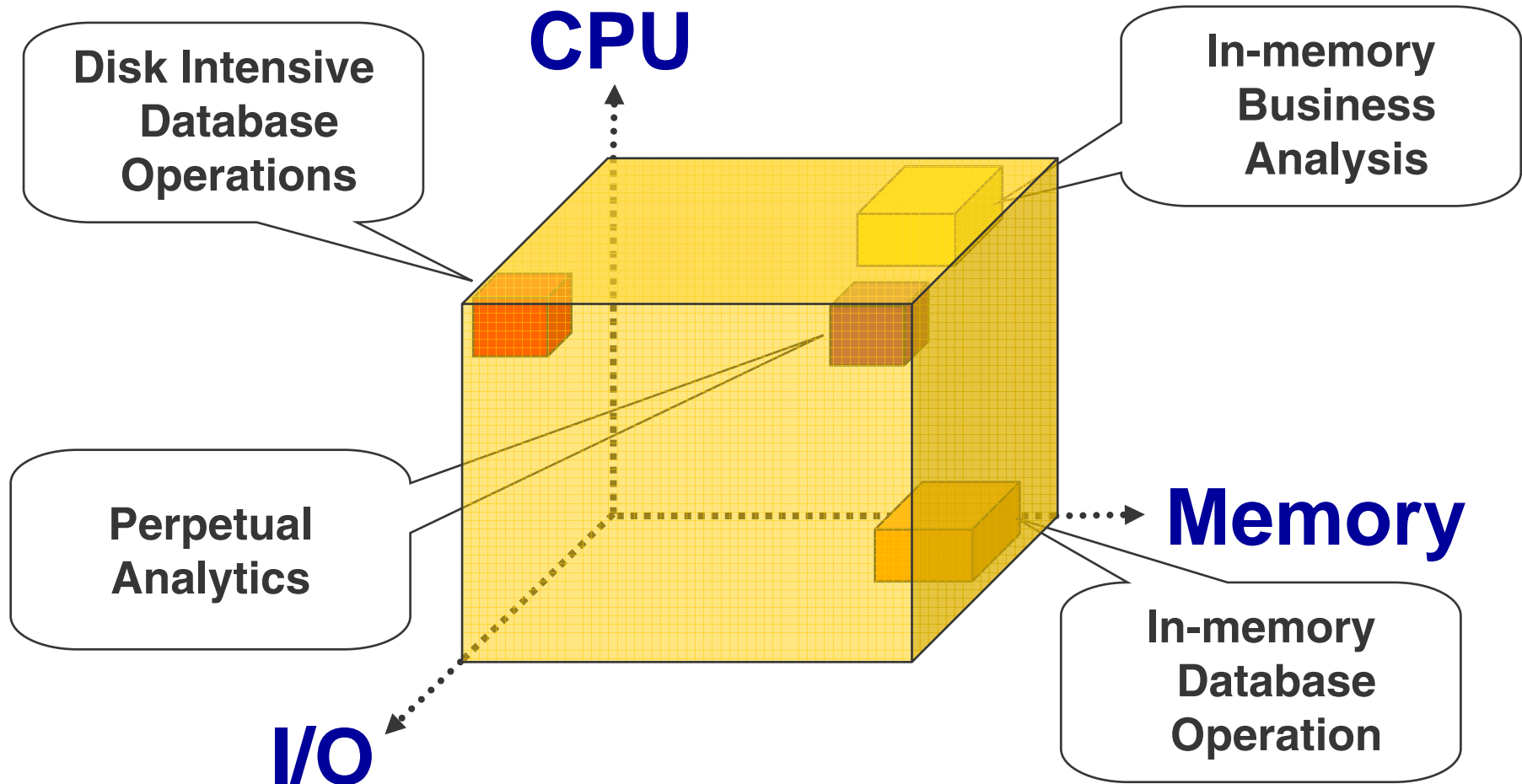
Scalable CPU/Memory Interconnect Fabric



Total System Bandwidth Scales Linearly



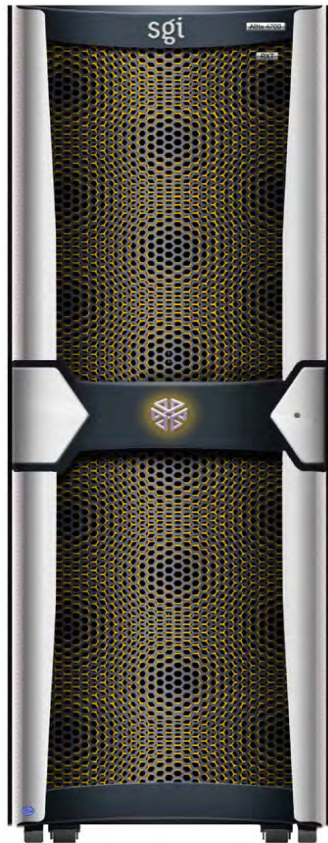
Modularity Means Scalability & Low TCO



**Large Memory Improves Performance
Independent Scalability Slashes TCO!**

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Introducing SGI® Altix® 4000 Platform



 SGI
Integrated Design Solutions

New blade design for superior scalability, performance, density and flexibility with shared memory

Enables seamless upgrade, expansion and integration of next-generation technologies

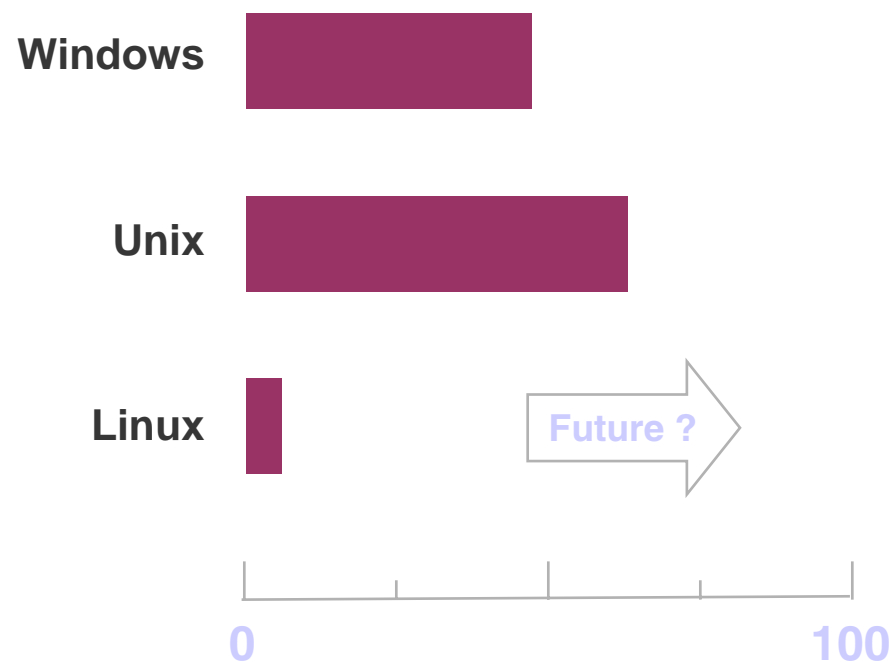
Scalable systems sized for unique customer requirements

Open System Architecture using COTS hardware and the Linux Operating System

Open System Architecture Improves ROI

The Linux Wave

What OS is used today, and what OS will be used three years from now?



Source: Peerstone Research, Nov 2004

Who was asked this question?: SAP, Oracle, PeopleSoft
users representing about 700,000 installed servers



SGI's Linux Blade Server – Crucial Differences

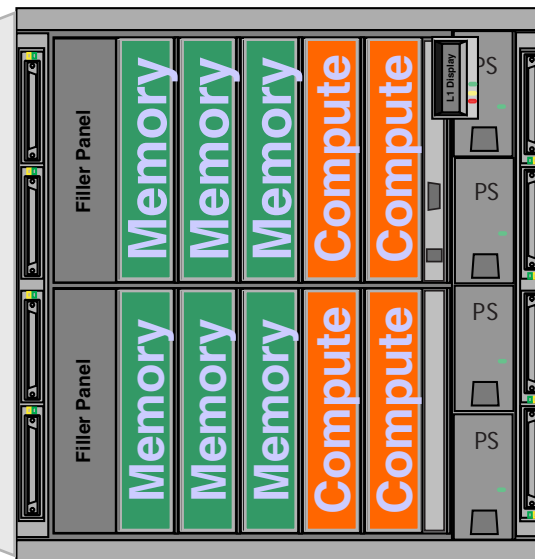
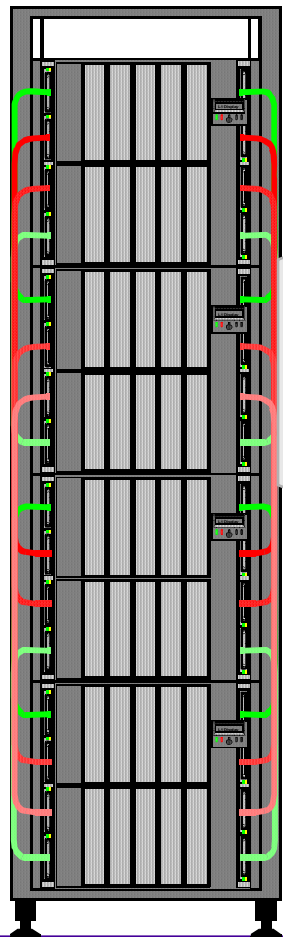
True Scalability: System bandwidth increases as blades are added

Memory-Only Blades: Add memory without having to add processors

No Limits on Shared Memory: From 4 gigabytes to 24 terabytes and beyond

Seamless Upgrade or Expansion, Unlimited Choice

Rack
Small Rack = 4 IRUs



Individual Rack Unit (IRU)
(Contains up to 10 Blades)

Right-sizing Done Right: SGI® Altix® 4000 Blades

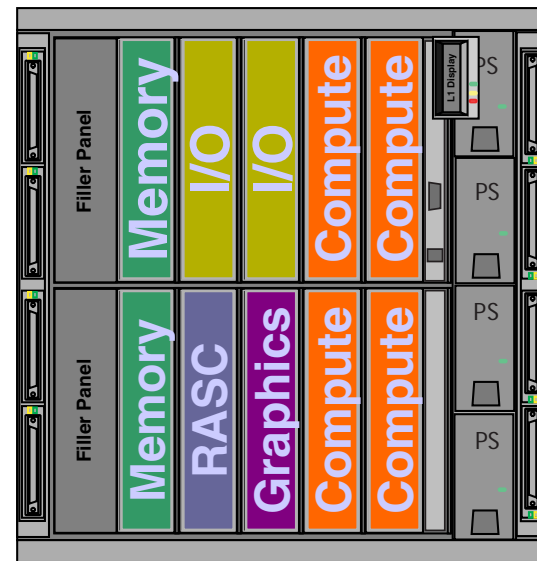
Processor Blades

Memory Blades

I/O Blades

Graphics Blades

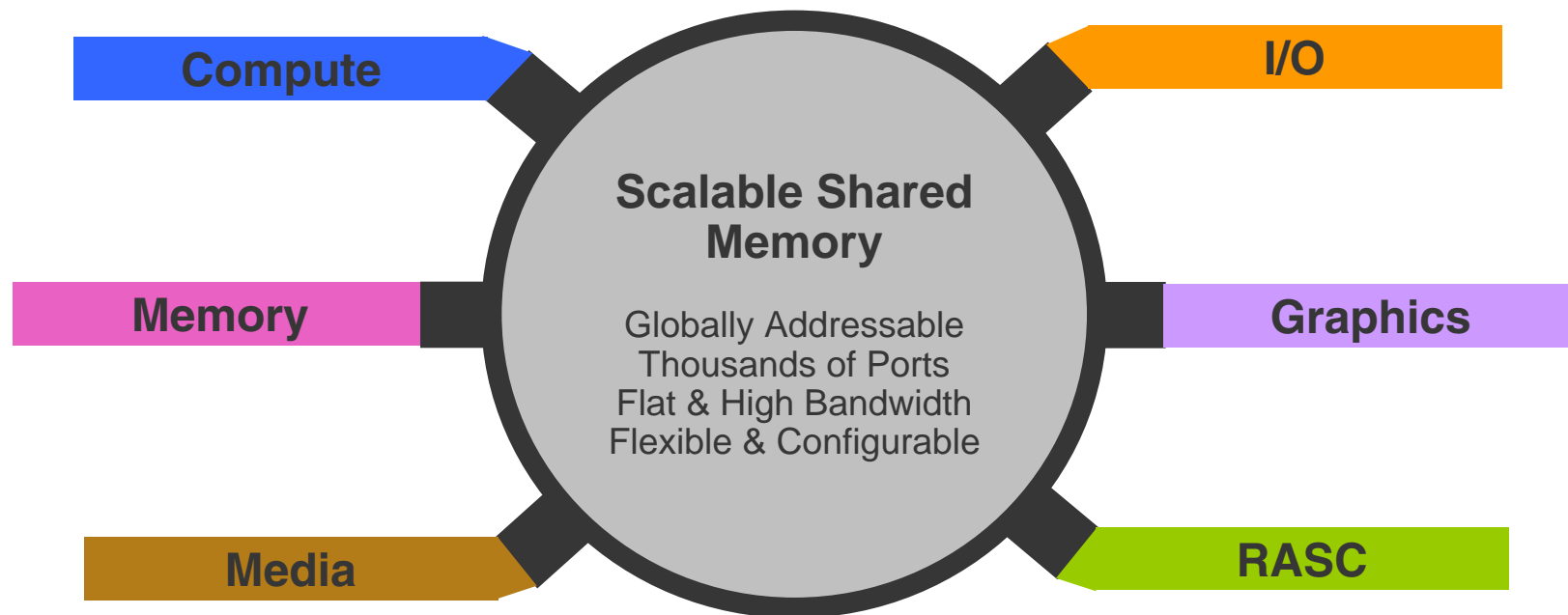
RASC “FPGA” Blades



Individual Rack Unit (IRU)
(Contains up to 10 Blades)

SGI's Multi-Paradigm Computing Strategy

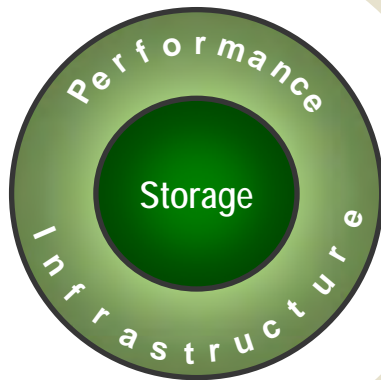
SGI hardware is uniquely able to seamlessly integrate different technologies focused to solve complex customer problems



Future Capabilities may Include Accelerating Database Query using RASC™ Blades!



SGI Storage Goals

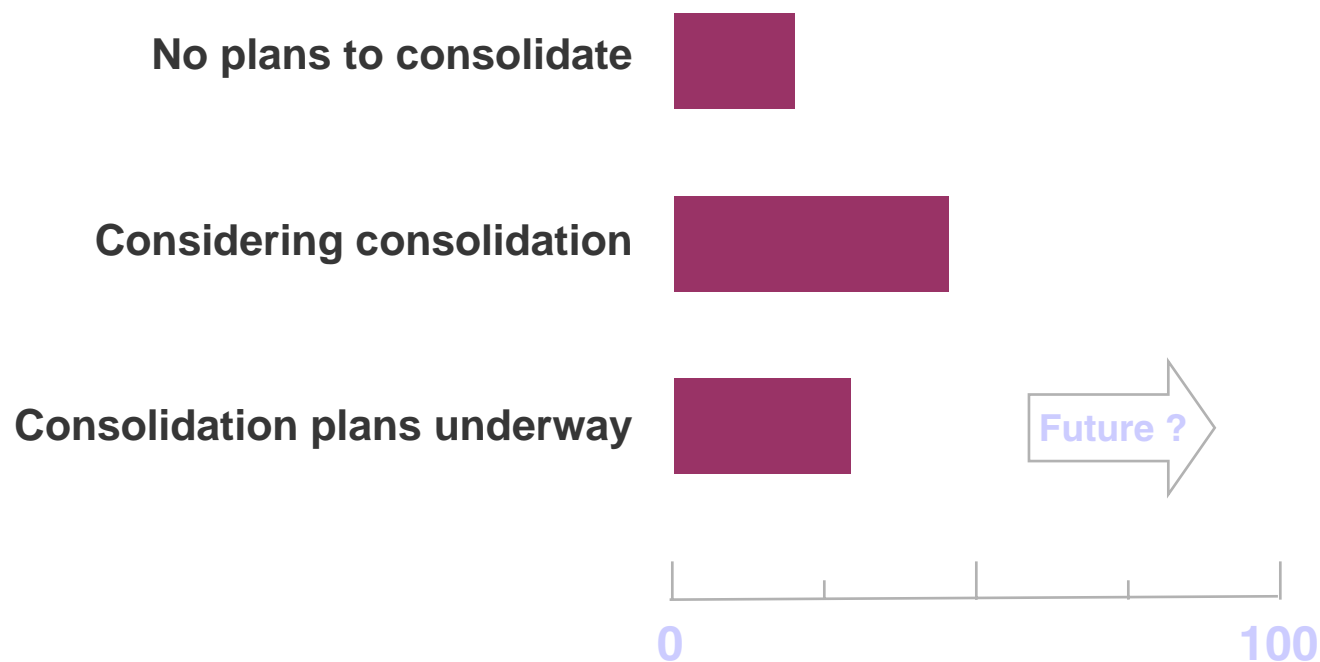


Goals

- **Access a huge, single file system with the widest, highest-performance data path available**
- **Enable heterogeneous, concurrent access to critical information across the entire enterprise**
- **Compress workflow by eliminating file copies and transfers**
- **Create a scalable storage system to handle virtually unlimited storage capacity**

The Consolidation Wave

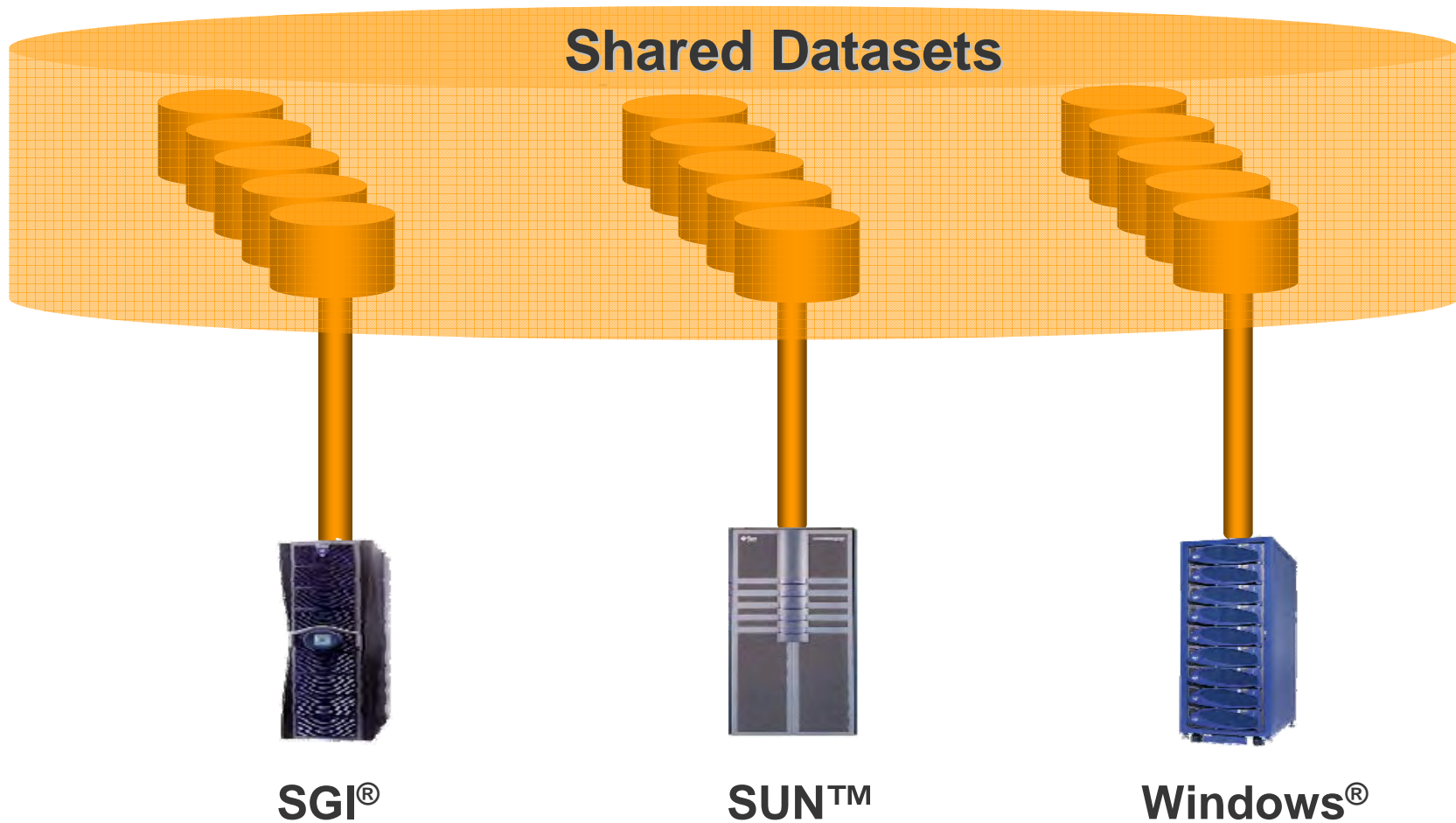
Are companies looking to consolidate their database servers in the next three years?



Source: Gartner, 2004



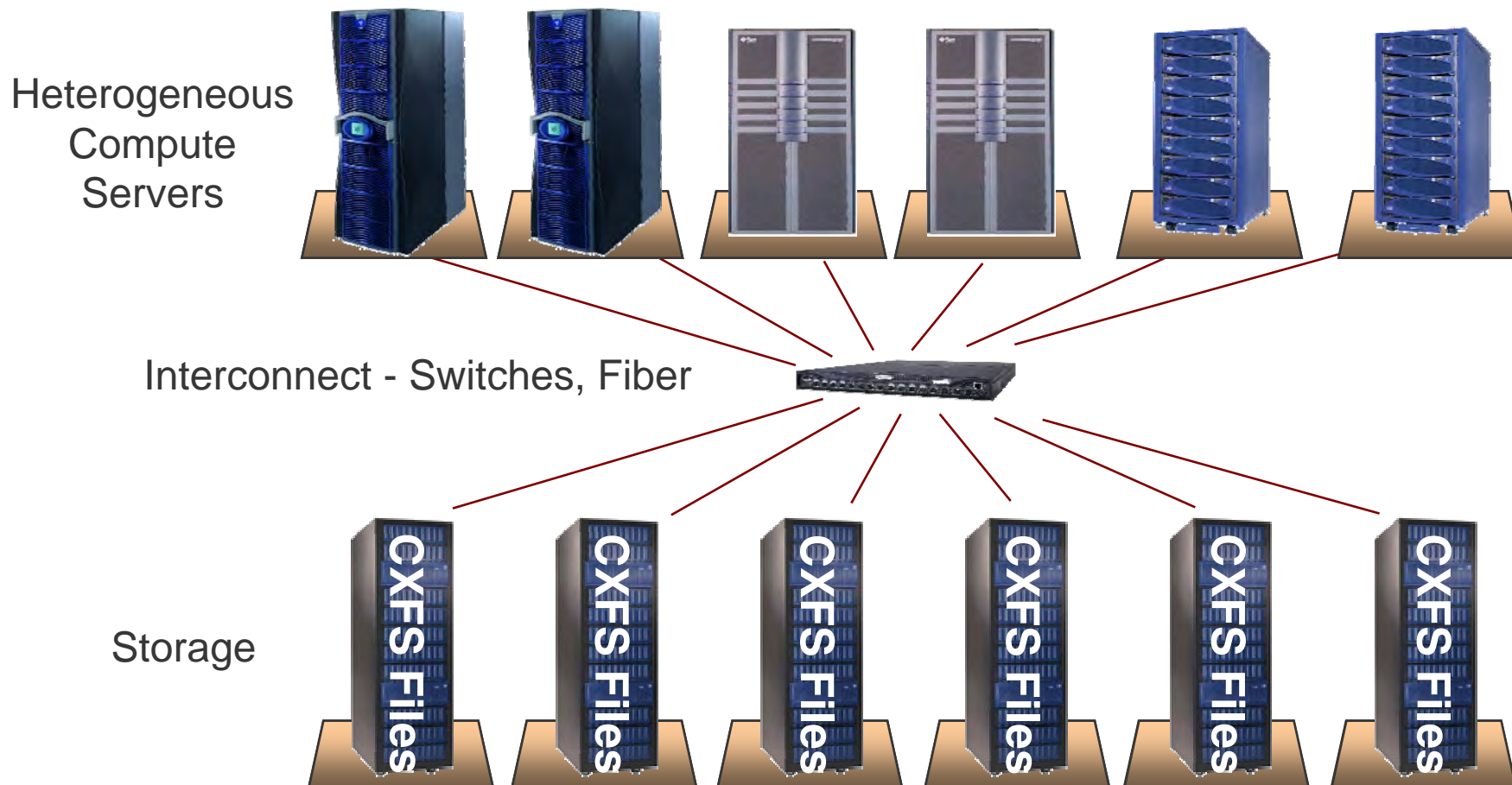
Server-Agnostic Access



Sharing SAP Databases Across Different Hosts!



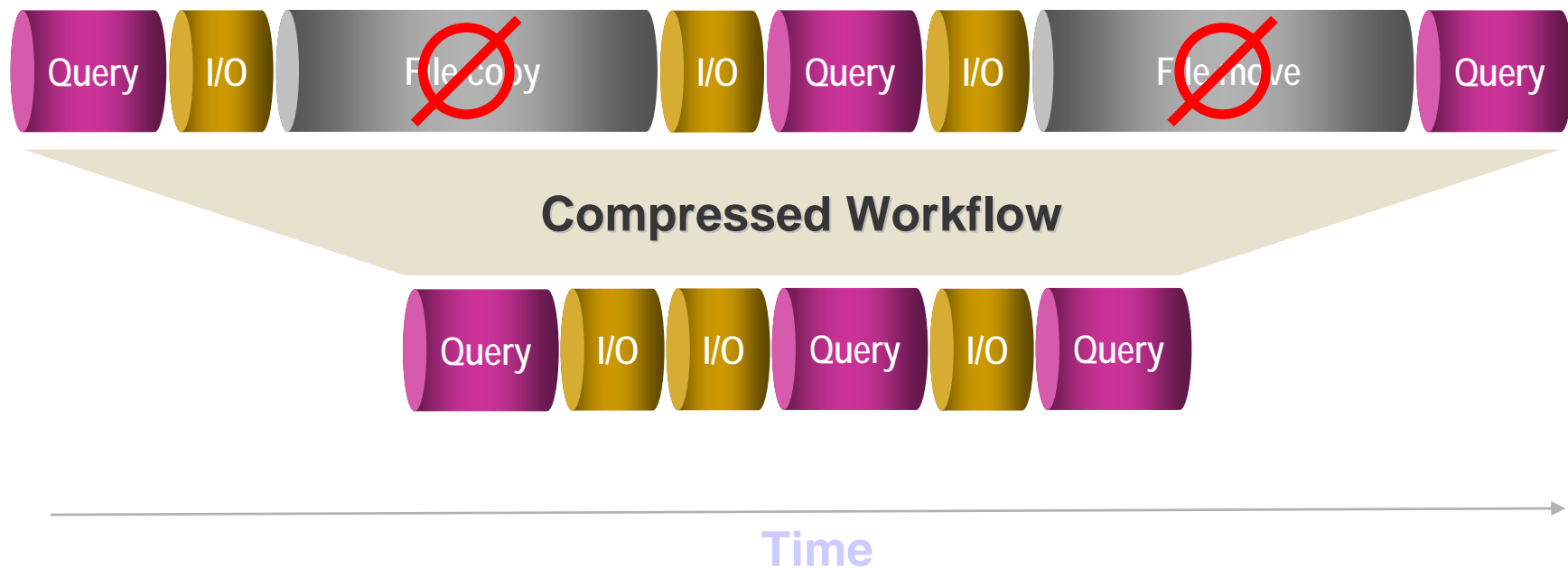
Seamless, Low Cost File Sharing with SGI CXFS™



All Hosts Access the Same Shared Data Files



File Sharing Also Compresses Workflow



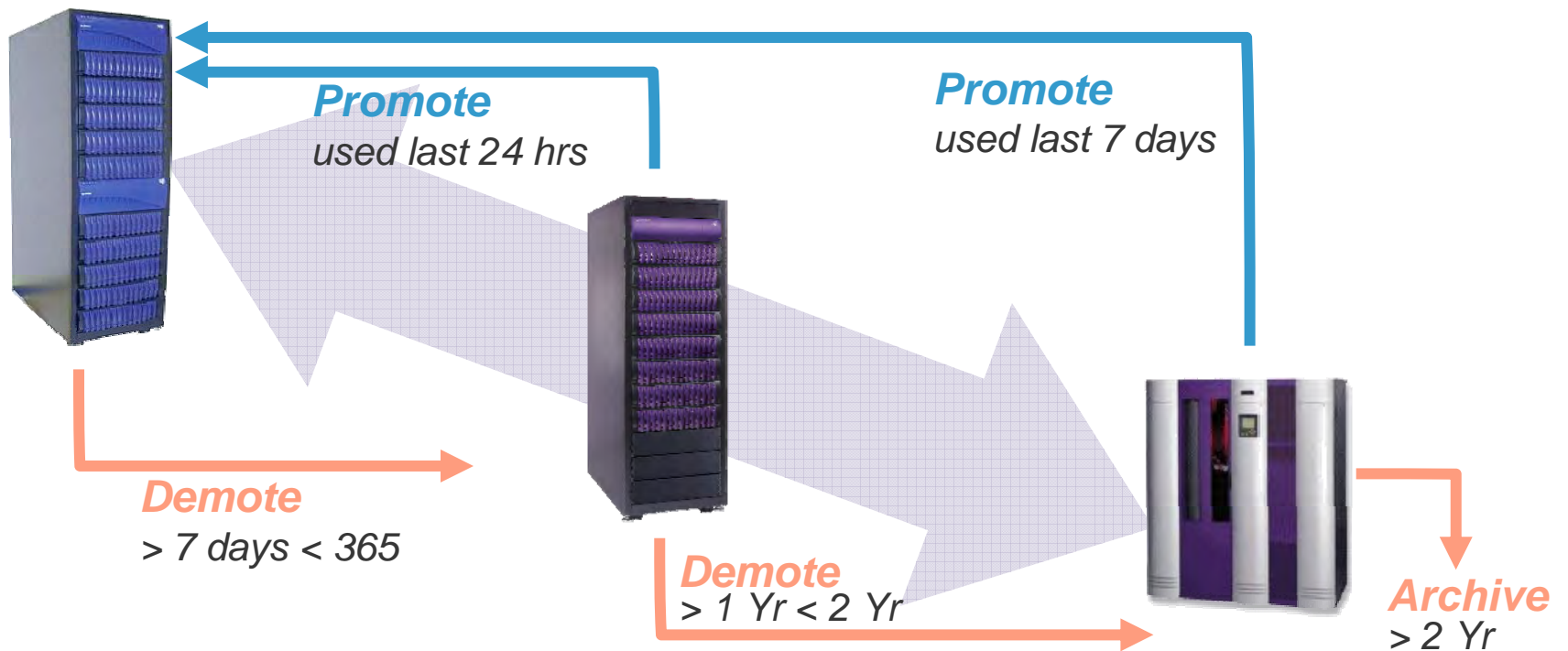
Eliminate HUGE Database Copies Across Systems! 

SGI's DMF Perfects Data Life-Cycle Management

Primary Storage

Secondary Storage

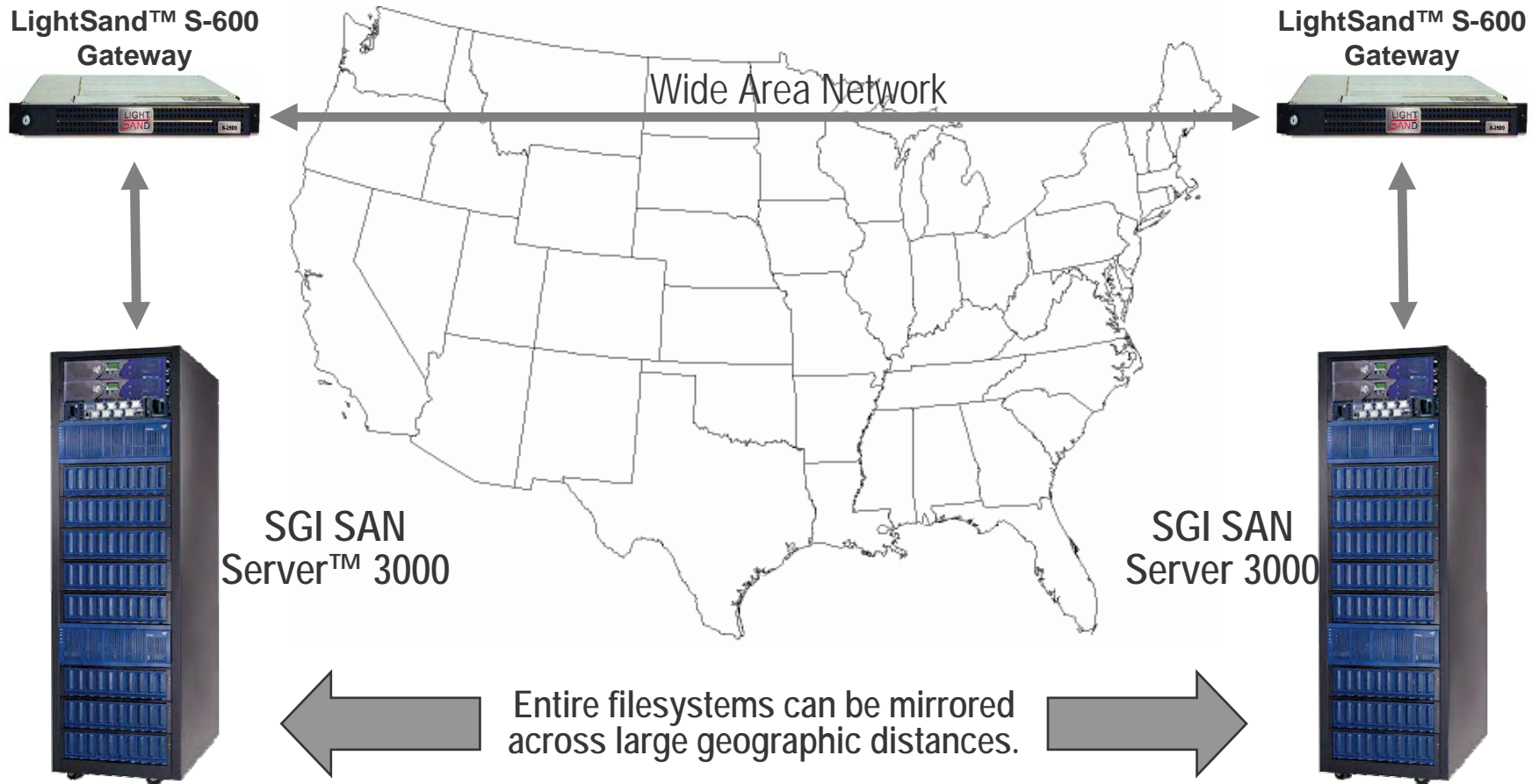
Tape Libraries



Completely Transparent to the SAP User



Safeguard Your Databases



Huge Databases Can Be Mirrored to Safeguard Data



A Unique Value Proposition

Real-time access to **HUGE** and complex data sets

Unlimited **flexibility** and **scalability**

SGI technology provides **faster time to insight**

SGI's REAL-TIME ENTERPRISE

SGI's unique technology increases customer productivity and competitiveness by enabling...

...an open, flexible, real-time enterprise

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