

## **Fujitsu's Server Strategy**

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Summary

### 1. Market Trends and Current State of Server Business

### Market Trends

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- Avg. Market Growth Rate
- Avg. Worldwide Growth Rate for IA Servers + 10% (IPF\*: about + 100%)
- Worldwide Growth Rate for UNIX Servers



- Worldwide: + 4%, Japan: 3%

- - 1%





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### Fujitsu's Share of the Server Market

Fujitsu Group's Share: 6% of Worldwide Market (2003) – No. 5

: 22% of Japan Market (2003) – No. 1



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### **Server-Related Products Business**



\*Server-Related Products Business: Includes servers plus storage systems and other products

### **Worldwide Server Development & Sales**

#### Development Structure

Mainframes
UNIX Servers
Mission-Critical IA Servers
IA Servers

GS PRIMEPOWER *under development* PRIMERGY

Fujitsu Fujitsu Fujitsu Fujitsu Siemens Computers

#### Sales Structure

Japan/Asia-Pacific/AmericasEMEA

Fujitsu Fujitsu Siemens Computers



### **Server Trends: Open Systems & Globalization**

FY 2003: Open Systems' Share of Total Server Sales – 62%
 Percentage of Overseas UNIX Server Sales – 54%





### 2. Our Server Business Strategy

### **Information Systems Going Forward**

From Centralized to Distributed Computing to "Ubiquitous Networking Era" Data Centers



### **Server Business Direction**

### Mission

Provide servers for socioeconomic infrastructure systems
 Rapidly respond to customers' diverse and changing needs
 Assure continuity of customers' assets

#### **Our Strategy**

- Continue leadership in mission-critical systems
  - ~ Commitment to developing core technology ourselves
  - High reliability, high quality, high performance, leading-edge technology
- Focus on and aggressively promote 'open' servers
  - Solaris, Linux, Windows
- Expand server business on a global basis
  - Tripartite business structure: Japan, US, Europe

### **Server Product Strategy**



### **Server Development Strategy**

**Deliver Mission-Critical Performance and Openness** 

- Utilize common Fujitsu mission-critical technology in all server offerings
- Leverage joint development tie-ups with global players



### **Shared Development**





**Mission-**Critical **IA Servers** 

| Shared<br>Development Ratio* | Structural Elements Shared Development Ra |     |
|------------------------------|---|-----|
| 90%                          | Processor                                 |     |
| 75%                          | Chipset (ASIC)                            | 20% |
| 30%                          | Firmware                                  | 30% |
| 80%                          | Components                                | 60% |

\*Ratio of common items in new model development



**PRIMEPOWER** Processor



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### **Our Server Business Positioning**

Fujitsu is Japan's only vendor able to leverage its mainframe technology heritage to develop its own processors and servers



### **Servers to Meet Varied Market Requirements**



### **3. Server Business Initiatives**

### 3.1 Continuing Leadership in Mission-Critical Systems

Commitment to developing core technology ourselves

### **3.2 Striving for Further Growth**

### 3.1 Continuing Leadership in Mission Critical Systems

**Commitment to Developing Core Technology Ourselves** 

### **Core Competence in Server Development**

Fujitsu's Heritage

#### **Fully Capitalizing on Our Core Strengths**

Combined

**Power** 

Server Development Technology

- Mainframe-class reliability technology
- Supercomputer-based highspeed technology

#### Leading-Edge Semiconductor Technology

- 90nm technology
- 10-layer copper
   wiring + Low-k<sup>(\*)</sup>
- High integration & low power consumption





(\*) Low-Dialectic Interlayer Insulation, Reduces size circuitry requirements

### World-Class Servers Using Mainframe Technology to Deliver High Reliability

Technology

Exclusive to Fujitsu

### **Processor-Embedded High-Reliability Technology**

#### **Processor Technology Guarantees Data Integrity**

#### **High-Reliability Design Architecture**

|                                      |      | PRIMEPOWER Processor<br>GS Processor |  |
|--------------------------------------|------|--------------------------------------|--|
| Cache Memory<br>Data Protection      | Tag  | ECC<br>(L1 Dual Parity)              |  |
|                                      | Data | ECC                                  |  |
| Cache Memory Dynamic<br>Degradation  |      | 0                                    |  |
| Computer/Register<br>Error Detection |      | Parity                               |  |
| Hardware Instruction Retry           |      | 0                                    |  |
| History                              |      | 0                                    |  |

#### SPARC64 V Error Detection Feature



#### **High Reliability**

### **Commitment to Continuous Operation**



### **PRIMEPOWER: World-leading Performance**

UNIX Servers with Best-in-Class Performance on a Variety of Industry Benchmarks

World-class performance at processor and overall system levels

| SPECjbb |  |
|---------|--|
|---------|--|

Java Applications

SAP SAP ERP

Decision Support

TPC-H

Parallel Processing

SPEC OMP

#### <u>SPARC 64V</u> <u>High-Performance Technology</u>

- Out-of Order
- 4-Instruction Parallel Decode /6-Operation Parallel Execution
- 3MB On-Chip L2 Cache

#### PRIMEPOWER High-Performance Technology

- World-Leading Scalability (Expandable to 128 CPUs x 128 Nodes: 16,384 CPUs)
- Fiber-optic Interconnect Technology (4GB/s)
- System Bus Performance (133GB/s)

# High Performance PRIMEPOWER: World-leading Performance

**SPECjbb** Applications



\*Source: SPEC web site (http://www.spec.org/) 2004.6.22

\* SPECjbb2000 : Benchmark measuring processing performance for servers running Java software. Simulates enterprise inventory management and order processing.

## Our Processor Development Roadmap



### Pursuing the World's Top Quality

**Employing Japan's Unique Approach to High Quality** 





Automated clip failure tester

ted Server quality status:

re Top-level in industry: 70% (1QFY03) →95% (4QFY03)

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PBB: polybrominated biphenyl

PBDE: Polybrominated diphenyl ether

### **Proactive Environmental Protection Efforts**

Fujitsu has ranked #1 for five successive years in the computer industry segment of the Dow Jones Sustainability Index

• Products That Are Energy Efficient and Incorporate the "3R's": Reduce, Reuse, Recycle

- All 2005 server models to meet energysaving standards
- Reuse and recycling of plastic casing and packing materials

#### • Efforts to Eliminate Harmful Materials

Elimination of six substances\* targeted for end of FY 2005

\*mercury, lead, chromium VI, cadmium, PBB, PBDE

Super-Green Products PRIMERGY Blade Server Energy saving (1/3) Space saving (1/7)





### **3.2 Striving for Further Growth**

#### Advancing Autonomic, Virtualization & Integration Technologies – Toward Utility Computing

Providing Virtual/Autonomic Functionality in Addition to Superior Reliability, Quality and Performance



2003

-29-

2005

### **Strategic Collaboration with Global Partners**

#### Global Business Expansion Through Strategic Alliances with Major Global Industry Players

Open systems development through alliances with strong players



### **Global Business Expansion Scenario**

#### ~ FY 2003

Strengthen Business Infrastructure and Organization in Three Main Markets

Win new global customers with PRIMEPOWER

**PRIMEPOWER Customers:** 

Japan/ Asia-Pacific: about 2,300

Europe: about 800 (FSC)

N. America: about 200 (FCS)

FSC: Fujitsu Siemens Computers FCS: Fujitsu Computer Systems

#### **FY 2004**

Strengthen Sales Capability through Global Expansion of TRIOLE

Europe: Promote platform integration model in close cooperation with FSC & FS

North America: Promote expanded sales to Fortune 500 companies, Particularly by FCS & FC

China/Asia-Pacific: Solution business tie-ups centering on FCH & FAPL

FS: Fujitsu Services FCH: Fujitsu China Holdings

FC: Fujitsu Consulting FAPL: Fujitsu Asia Pte. Ltd.

#### FY 2005 ~

Accelerate Business Development by Strategic Alliances with Global Partners

Expand share of
 UNIX market through
 unified product offering
 (APL) with
 Sun Microsystems

• Win business in new IPF market with missioncritical IA servers (Linux, Windows)

### **Strategic Roadmap**



### **Summary: Role of Servers in Business Development**



- Customer-centric perspective
- Commitment to developing core technology ourselves
- Strive for further business growth

Proactive response to open systems trends



### THE POSSIBILITIES ARE INFINITE

### **Cautionary Statement**

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•rapid technological change, fluctuations in customer demand and intensifying price competition in the IT, telecommunications, and microelectronics markets in which Fujitsu competes;

•Fujitsu's ability to dispose of non-core businesses and related assets through strategic alliances and sales on commercially reasonable terms, and the effect of realization of losses which may result from such transactions;

•uncertainty as to Fujitsu's access to, or protection for, certain intellectual property rights;

•uncertainty as to the performance of Fujitsu's strategic business partners;

•declines in the market prices of Japanese and foreign equity securities held by Fujitsu which could cause Fujitsu to recognize significant losses in the value of its holdings and require Fujitsu to make significant additional contributions to its pension funds in order to make up shortfalls in minimum reserve requirements resulting from such declines;

•poor operating results, inability to access financing on commercially reasonable terms, insolvency or bankruptcy of Fujitsu's customers, any of which factors could adversely affect or preclude these customers' ability to timely pay accounts receivables owed to Fujitsu; and

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