TRIOLE
~ Fujitsu IT Infrastructure ~

October 2003
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Current trend of Information Systems

~ Fusion of systems optimized individually ~

Optimized system by purpose/work front

Information portal

Environment improvement

Increasing Information
Improved quality

new metrics for IT innovation

Speedup, channel innovation

Present

Mainframe

UNIX

PC

Ubiquitous networking

New types of Business processes

Optimized system by purpose/work front

Current trend of Information Systems

Utilization of Information

Information Processing
Customer expectations toward IT system

- Services oriented integration (people, process, information)
  In B and B to B creates a new value.
- System development with good use of existing IT asset
  (Not forklift replacement, but extension and incremental addition)
- Rapid system expansion along with business growth
- Reduction of operation costs
Evolution toward a new IT infrastructure

2. Products

- Integration
- Virtualization
- Automation

1. Platform Integration

Optimization of entire customer system

Techniques for developing & deploying and operating customer’s system

Server
Storage
Network
Middleware
Integrated Platform

Mainframe Model
- Integrity ✓

Open System Model
- Select-ability ✓

Platform Integration Model
- ✓

Ambiguous boundary between application and platform
- Many product variations result in complicated configurations
- Ensuring consistency with applications results in difficulty in achieving stable operation

# ISV: Independent software vendor   IHV: Independent hardware vendor
Model of Platform Integration
Platform Integration

- Customer requirements: Quick development of high-quality & robust platform
- TRIOLE’s approach: Patterned, building blocks and fabrication

- Existing method
  - Vendor: Middleware, Server, Storage, Network
  - Customer site: Applications
  - Development and verification from scratch

- TRIOLE’s method
  - Fujitsu Pi Center: Template
  - Pre-fabricated and Pre-verified
  - Quick development Stable and reliable system

- Customer site: Applications
Pi-Template

Integrate other vendor’s products

Basic Pi Template: System is divided into basic functional blocks

Example: Add-in to the legacy system

Pi : Platform Integration
Expand line-up of templates based on analysis of the customer’s needs and provide the combined templates suitable for different purposes.

Pi-Template Deployment

Contents consolidation

Web 3-layer

XML Search

XML Hub

Intranet

System Mngt.

Biz. Application

Data Base

Internet Front

Web Application

Basic Templates

Combined templates

Expansion of line up

Intranet

XML Search

XML Hub

Server Consolidation

Web Appl + Biz. Appl

Back Up

Expansion of line up

Basic

Internet Front

Web Application

Biz. Application

Data Base

System Mngt.
Enhancement of the Basic Products
Toward “Business Agility”

Service-oriented Integration

- Planning department
- Sales department
- Cellular phone
- PDA
- PC

Existing system
- Web service
- Third Party system
- CRM
- SFA
- SCM
- Transactions

People Integration

Business Process Integration

Common service middleware
Using new XML techniques

sales
record
information
information
Service Oriented Integration

- Application
- Information Integration
  - XML Search Engine
  - Business Intelligence
    - OLAP
    - Mining
  - Content Management Repository
    (Definition Information, Location Management)
- People Integration
  - Communication
  - Presentation
  - User Profile Management

GLOVIA Adapter
SAP R/3 Adapter
RDB Adapter
Legacy Adapter
Thousands of institutions have individual data formats.  
- difficult to search  
  Required search for different mixed databases  
- Flexible and consolidated search using XML technology  
- 50 Megabytes of text data in one second with single CPU  
  High speed search algorithm  
- Keep fixed search time against increased requests  
  High traffic technology
Toward "Stable Operation and TCO Reduction for the System"

**Mission**
- 24 x7 Stable Operation
- TCO Reduction

**Approach**
- Establishment of Quality Chain
- Autonomous System Infrastructure (optimization of resource utilization)
Quality chain from component level to system level

- Feedback of customer requirements
  - Adoption of high-reliability design parts
  - Environmental/life tests

- Parts level
  - Guarantee of data integrity

- Equipment level
  - High-reliable equipment
    - Redundancy of components
    - Hot-swap

- Products level
  - Non-stop products
    - Cluster system
    - Redundancy of storage/network
    - Online expansion

- System level
  - Non-stop business
    - Management of entire system
    - Optimization of system resources

- Accumulation of reliability
- Non-stop business

- Management of entire system
- Optimization of system resources

- Feedback of customer requirements
The Autonomous Systems Infrastructure

(Optimization of resource utilization)

- **Middleware**
  - Web Server
  - Application Server
  - Database Server
  - Application

- **Autonomous System infrastructure**

- **Resource Coordinator**
  (Development Code)

- **Hardware**
  - Server
  - Storage
  - Network

- ? The shortage of performance
- ? Allocate the hardware with low utilization
- ? The watch and the Confirmation of the operational status of the Hardware
Road Map of Autonomous Systems

Foundation of Resource management

Provisioning

Autonomic workload Management/Grid

TCO-reduction

Service level

step1 [2003]

step2 [2004]

step3 [2005]
TRIOLE is a Fujitsu IT infrastructure vision that drives down costs by integrating existing technologies, improving business processes and designing for future expansion.

Fujitsu will optimize customer IT resources using the TRIOLE core technologies of automation, virtualization and integration.

TRIOLE assimilates server, storage, network and middleware products in a cohesive, stable system.