From server-virtualization to private cloud

Chandan Mehta
From server-virtualization to private cloud

Chandan Mehta
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Gartner: virtualization leads to cloud

Stage 1: Server Virtualization
- Hardware efficiency
- Capital and energy costs

Stage 2: Distributed Virtualization
- Flexibility and speed
- Automation
- Operational cost
- Reduced downtime

Stage 3: Private Cloud
- Self-service
- Service standardization
- IT as a business
- Usage-based metering

Stage 4: Hybrid Cloud
- Capital and operational cost
- Overdrafting on demand

Stage 5: Public Cloud
- No capital cost
- Total usage flexibility
- Low barrier to entry

Source: Gartner (Thomas Bittman) Private Cloud Computing: Driving a strategy, February, 2011
What fits for me?

Server-virtualization
- Would its enhanced usage be sufficient for me?

Private cloud
- Does it solve my problems?
What about your requirements?

**Flexibility**
- New business demands
- Rapidly adapt services
- Time-to-production of new services

**Efficiency**
- Reduce complexity and cost
- Transparency
- Minimized risk
- Compliance

**Quality**
- Improved service levels
- Productivity
- End user satisfaction
Server-virtualization could solve your problems

Better utilization of physical resources
- Lower IT operation costs (energy, space, …)

A homogeneous separation layer
- Old services can be used on new hardware

Many automation options
- Standardize routine jobs

Easy deployment
- E.g. "offline" software deployment

Easy scalability
- New services are available in minutes

Easy to implement availability solutions
- Uniform SLA's through application independence

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Virtualization states

What do you think where you are?

Consolidation and Standardization

Virtualization

Hyper Visor

Using server-virtualization

Automation

Server-virtualization as a strategy

Automation & Industrialization

Advanced IT- Solutions

Tools for Orchestration

IT as a utility

Cloud Computing

Operation and Industrialization

IT as a utility

Business Centric

IT-centric

Evolution

Time
Let's take a look at cloud computing

Cloud: Consuming IT as a Utility

Pay per use

Elastically Scalable

Self Service

Private
just for you

Community
selectively shared

Public
shared with anyone

Hybrid – a combination

IaaS

PaaS

SaaS

BPaaS

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What do you expect from a private cloud?

- Are you looking for ‘Pay per use’ or cost transparency?
- Does any self service solve your business or IT requirements?
- What is the scalability you need?
Agreed so far?

What to do next?

Why should I look for in a partner?
Customers speak:

"The Fujitsu solution has transformed our server environment, reduced our carbon footprint and is expected to save us £500,000,- in the first year alone."

Karen Charlton, Senior Technical Specialist, Imperial Tobacco

"Thanks to virtualization and Fujitsu's stable storage systems, our IT runs securely and smoothly – and the performance is exceptional. We felt that we were in good hands during the consulting process."

Frank Rabe, Acting National Chief Executive, DLRG

"The project should enable OPEGIEKA to implement advanced R&D projects. Those will include application of cloud computing and the SOA architecture in geodetic, analytical, and decision-support systems."

Sebastian Stybel, Chief Network Administrator, OPEGIEKA Sp. z.o.o.

"The solution Fujitsu delivered was absolutely perfect for us. We were able to double performance, maintain around-the-clock availability, cut power consumption by half and reduce operating costs. And we were able to do all that quickly and economically."

António Marques, IT Manager, Linha de Cuidados de Saúde (LCS)
Fujitsu private cloud reference architectures

Microsoft Private Cloud Fast Track
- Selected reference architectures especially for Microsoft environments

Intel Cloud Builder Program
- Ongoing enhancements
Fujitsu supports various cloud approaches

Cloud has many flavors and several dimensions

- Private Clouds
- Public Clouds
- Hybrid Clouds

Fujitsu Offerings:
- Solution offerings
- As-a-Service offerings
- Solution and as-a-Service offerings
- As-a-Service offerings
Why Fujitsu?

- Many years of experience – coming from mainframe virtualization and as a cloud service provider
- Best of breed platforms
  - PRIMERGY, ETERNUS, various clients, …
PRIMERGY – the virtualization and cloud platform

Scale Up / SMP Computing

High-end Rack Server
- RX900 S2
- RX600 S6
- TX200 S6
- TX300 S7
- RX350 S7
- RX300 S7
- RX200 S7
- RX100 S7
- MX130 S2
- TX100 S3
- TX120 S3

Scale Out / Distributed Computing

Tower Server
- TX140 S1
- TX150 S7
- RX300 S7
- RX200 S7
- RX100 S7
- TX300 S7
- TX200 S6
- TX100 S3

Rack Server
- RX100 S7
- RX300 S7
- RX200 S7
- RX350 S7
- RX600 S6

Blade Server
- RX100 S7
- RX300 S7
- RX200 S7
- BX400 S1
- BX900 S2

Multi-Node Server
- RX900 S2
- RX350 S7
- RX200 S7
- RX100 S7
- MX130 S2
- TX140 S1
- TX150 S7
- RX300 S7
- RX200 S7
- RX100 S7
- TX300 S7
- TX200 S6
- TX100 S3
- TX120 S3

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PRIMERGY virtualization power

VMmark 1.x – closed 12/2010 with Fujitsu as No. 1 in all participated performance categories: 8, 12, 16, 24 and 32 cores

VMware VMmark 2.0 screenshot as of April 25th, 2012
ETERNUS optimized for virtualization

ETERNUS DX is integrated into VMware supporting the VAAI plug-in (vStorage APIs for Array Integration)

The ETERNUS DX remote copy functionality simplifies the implementation of disaster recovery concepts

VMware vSphere

Production site

Recovery site

App  App  App  App  App  
OS   OS   OS   OS   OS   

ETERNUS plug-in

Hypervisor

ETERNUS DX

VM  VM  VM

VM  VM  VM

Hypervisor
Why Fujitsu?

- Many years of experience – coming from mainframe virtualization and as a cloud service provider
- Best of breed platforms
  - PRIMERGY, ETERNUS, various clients, …
- Virtualization utilizing and extending offerings
  - ServerView Suite
  - ETERNUS CS, Zero Clients, FlexFrame for SAP, ….
  - DI Blocks
  - Dynamic Infrastructures for VMware vCloud
Fujitsu PRIMERGY ServerView Suite

Infrastructure Management
Resource Management
Remote Management

Performance and Threshold Manager
Power Control and Monitoring
Server Monitoring
RAID Manager

System Configuration Installation and Deploy

Dynamize
Control
Maintain
Deploy
Integrate

Investigation & Inspection
Update Management
Integration

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Fujitsu’s Integrated Private Cloud Platforms

Get the complete engine not single pieces!

- Validated IT infrastructure
  - Servers, network, storage and management software
  - Pre-integrated and pre-tested
- Life-cycle management for the complete infrastructure
  - Consistent and verifiable setup, update and upgrade of all solution components
- Cloud service management
  - Resource pool management
  - Self-service provisioning

Reduces implementation risk, time to production, maintenance efforts and associated costs
Increasing the level of integration and flexibility to serve versatile requirements

- Flexible platform support (physical / multi-hypervisor)

- Dedicated for VMware vSphere environments
Why Fujitsu?

Many years of experience – coming from mainframe virtualization and as a cloud service provider

Best of breed platforms
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Virtualization utilizing and extending offerings
- ServerView Suite
- ETERNUS CS, Zero Clients, FlexFrame for SAP, …
- DI Blocks
- Dynamic Infrastructures for VMware vCloud

Comprehensive service portfolio
- All steps from various assessments services up to managed and cloud services
# Standard services

## Technical IT Infrastructure services

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## Technical IT Infrastructure Services

- Customer Briefing
- Hardware Installation
- Upgrade Services
- Solution Contract
- Strategy Workshop
- Solution Specification
- Solution Implementation
- Go Live Services
- Inspection Services Tool based Assessment
- Migration Specification
- Migration Service
- Operational Consulting & Optimization
- Assessment IT Infrastructure
- Operational Specifications
- Operational Implementation
- Health Check Services
- Solution Concept
- Audit Service
- Rollout Services
- Managed Services
- Proof of Concept
- Solution Implementation
- Managed Services
- Project Management
- Service Level Management

## Financial TCO and ROI Services

- ROI Estimate
- ROI Predict
- ROI Deliver
- TCO/ROI Evaluation
Start of your journey to the cloud

What it is?

A workshop to accelerate and substantiate your decision-making for cloud computing and how to start successfully implementing this in your organization.

Benefits

- Quickly gain expert advice on the advantages that cloud computing can offer you today
- Accelerate your decision-making for cloud computing versus other IT sourcing options
- Gain valuable input in supporting your IT sourcing strategy

Deliverables

You receive a report clearly detailing:
- A business benefits analysis for cloud computing for your organization
- Sourcing options matching your discrete IT services, detailing compatibility to cloud and non-cloud delivery models
- Prioritization of existing processes to a possible cloud delivery model
- An executive cloud strategy for the organization

Participants

- Fujitsu cloud consultants
- Business and IT strategic decision makers from the customer organization

Cloud Deployment

- Hybrid
- Public
- Shared or Community
- Private

Cloud Consumption

- Traditional IT Delivery
- DIY or Outsourced
- IaaS
- PaaS
- SaaS
- BP Services

Cloud Infrastructure

- IT infrastructure
- Dev & Test
- Knowledge Mgmt.
- New Market IT infrastructure
- SalesForce.com
- Email

Cloud Operations

- IT operation costs
- Fixed IT operation costs reduction of 30%
- Business obj of global collaboration
- Fixed IT operation costs reduction of 30%
- CRM agility improved
- Improving customer response time from 5 working days to 3 hrs

Cloud Services

- SaaS
- PaaS
- IaaS
- BP Services

Cost Savings

- 40% reduction Fixed IT operation costs
- 30% reduction Fixed IT operation costs
- 60% Fixed IT operation costs of Siebel
- CRM agility improved
- Improving customer response time from 5 working days to 3 hrs

Traditional IT Infrastructure

- From £75 per user per month to < £1 per user per month
- Fixed IT operation costs of Siebel
- Business obj of global collaboration
- Fixed IT operation costs reduction of 30%
- CRM agility improved
- Improving customer response time from 5 working days to 3 hrs

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Possible next (or first) step

Cloud Readiness Assessment

This service examines your infrastructure based on current workloads and applications assessment to determine the readiness and the appropriate targeted cloud environment & solution.

Environment examination

- Infrastructure
- Activity, processes & people
- Software, SLA's, etc.

Cloud technology portfolio

Fujitsu Cloud solutions

- Hybrid Cloud
  - Balancing own and external capacity
- Private Cloud
  - Stay in control, data security and individual set-up
- Trusted Cloud
  - Unlimited scalability, efficiency, reduced integration and maintenance efforts, cost transparency

Recommended cloud solutions

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- Comprehensive service portfolio
  - All steps from various assessments services up to managed and cloud services
- Close cooperation with all market leaders – to have the best solution for your individual need
A strong global partner ecosystem

Leveraging strong alliances with leading global players, we are even better positioned to serve our customers...

This is an excerpt from our global partner list
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  - All steps from various assessments services up to managed and cloud services
- Close cooperation with all market leaders – to have the best solution for your individual need
- "Made in Germany", worldwide capabilities
R&D and manufacturing at the heart of Europe

Global responsibility for PRIMERGY x86 server and ETERNUS storage business centralized in Europe

- Close to our customers and their needs
- Quick response times and direct contact to R&D
- Backed up by our global R&D capabilities:

A continued commitment to quality - Made in Europe

- Europe’s most modern manufacturing facility for business PCs, notebooks and servers
- Built-to-order (BTO) for business customers, Configure-to-order (CTO) for retail/partners
- Made4you for special requests
- Unique integrated Management System delivering the highest standards
  - ISO 9001 – Quality management, ISO 14001 – Environmental management

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Expanding globally…

As a global company, we assure security and trust. We provide global delivery and project management.

Global

- Scale and integration
- Knowledge, assets and expertise
- Delivery capabilities
- Project management

Potential for a “follow the sun” service

- 3 global delivery centers (remote infrastructure management and applications management)
- 5 regional delivery centers
- 5 multi-lingual service desks supporting 29 languages

Fujitsu data centers*

*Pins denote country not city; presence not number of locations.

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Agreed so far?

What to do next?

Contact us!

Let us jointly ascertain where you are and where you want to be.
We support you to reach the level you are looking for!

It is possible in one single step!