

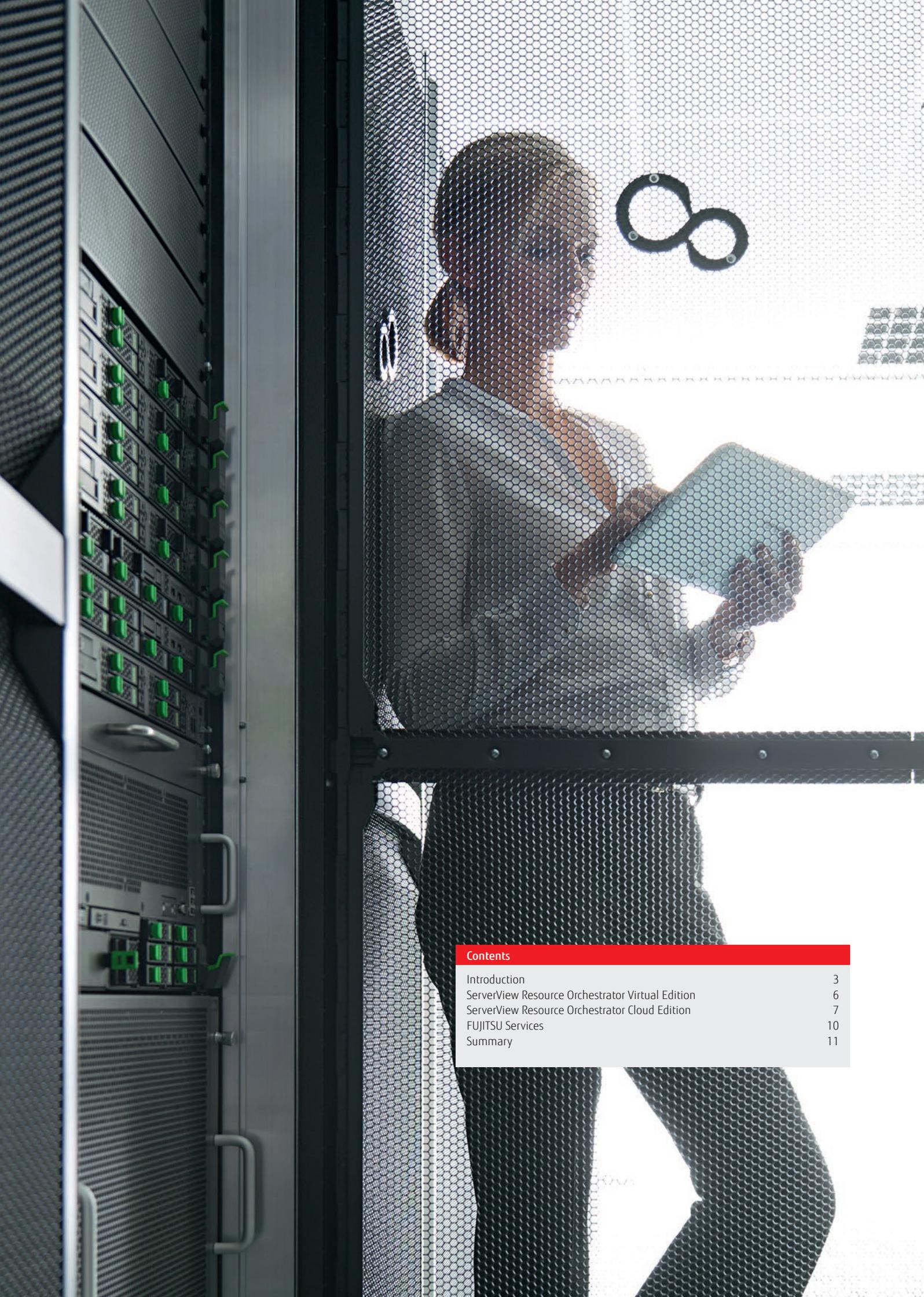


Executive Briefing Fujitsu Software ServerView Resource Orchestrator

Mastering the transition toward business-oriented IT:
How to best manage your move from consolidated silos to a
private cloud infrastructure

shaping tomorrow with you

FUJITSU



Contents

Introduction	3
ServerView Resource Orchestrator Virtual Edition	6
ServerView Resource Orchestrator Cloud Edition	7
FUJITSU Services	10
Summary	11

Introduction

A new generation of customers and employees in business units or development departments has arrived in today's business world. Accustomed to extensive use of social media, mobility and cloud technology, they want to get the IT resources they need for doing business in the same way they get the resources they need for their daily lives – as a service over the Internet. They don't really care about who provides this service, or how it is implemented; they just demand low-barrier access, fast delivery and flexible use.

Internal IT organizations are in danger of being bypassed if they cannot provide these users with the appropriate level of business orientation. Challenged by these expectations, many IT managers realize that current provisioning processes are not sufficiently fast and flexible. They need to react in order to prohibit a gradual loss of control over how users are sourcing their IT.

The goal is to create a more business-oriented IT, an IT that properly applies information technology to maximize business value. By deploying business-oriented IT, companies can increase their productivity and operational efficiency. This efficiency translates not only into lower operational costs and improved agility in the IT organization – it ultimately leads to increased customer satisfaction.

IT organizations with many years of data center experience are typically reluctant to go for a big bang infrastructural transformation, and this will hold true as organizations move from traditional infrastructures to cloud-based alternatives. They prefer an evolutionary bottom-up approach for deploying new technology.

Whether your organization is looking for software to efficiently manage a consolidated server environment, is planning to implement more dynamic resource management, or even wants to launch its own on-site private cloud infrastructure, FUJITSU ServerView Resource Orchestrator is the single tool that helps you manage your transition toward a more business-oriented IT.

The transition to business-oriented IT

While in recent years server virtualization and platform consolidation have been key strategic initiatives delivering major gains in data center efficiency, those are just the overture to a much wider movement that ultimately takes IT organizations toward more business-oriented IT. Most companies that have already taken these initial steps primarily benefit from savings in capital expenditures. However, in almost all cases those environments tend to be rather static and poorly managed.

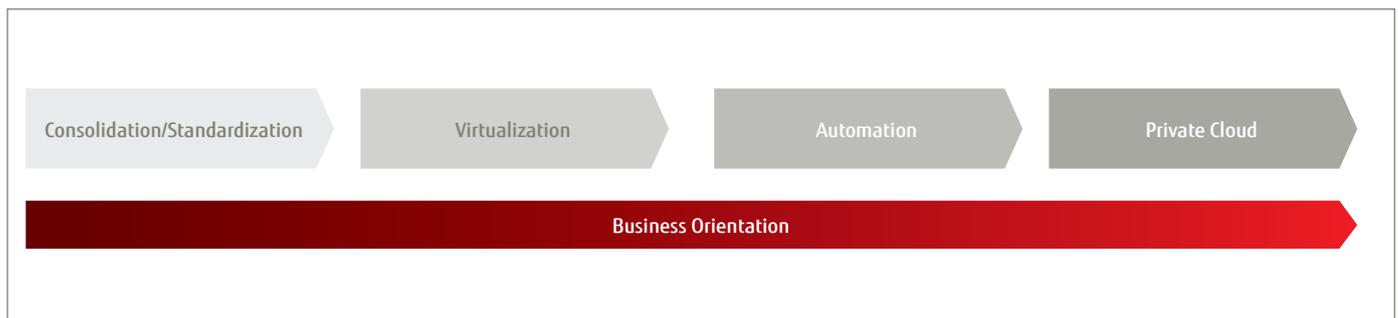
Evolving toward a dynamic IT environment

In response to an increasing demand for improved time-to-market for IT services, many IT organizations are currently preparing to implement more dynamic IT environments. Users want to have faster access to IT resources for new applications, as well as more flexible IT support for changing business requirements. IT organizations reaching this stage achieve operational cost savings, resulting from improvements in flexibility, speed and the ability to reduce downtime more efficiently.

The adoption of virtualization technology enables IT organizations to address those requirements to a certain extent. However, even with virtualization in place, IT organizations cannot fulfill user expectations because they struggle to manage the increasing complexity of the complete hardware and software technology stack.

One major reason for the increasing complexity is the soaring use of virtual servers. The growth rate of virtual machines and the resulting virtual machine sprawl leads to an increasing gap between physical and virtual server deployments. Beyond the problem of managing a huge number of virtual servers, the implementation of virtualization technology also affects storage and networks. IT organizations have to introduce new virtualization-aware management tools alongside their existing tools that manage the physical infrastructure. The situation gets even worse for customers who use products from more than one hypervisor vendor, where taking advantage of each hypervisor's management tool means embracing an even more complex management scenario.

IT organizations forced to manage an increasingly complex IT infrastructure with limited staff resources need to have more efficiency in their provisioning processes to reach, or better yet, move beyond the tipping point toward a more dynamic IT environment. As an important step in that direction, Fujitsu proposes the use of management software that includes infrastructure orchestration functions. This supports a more holistic IT management approach by closely integrating provisioning processes across physical and virtual server, storage and network resources.





Enter the private cloud

The ability to orchestrate IT infrastructure provisioning processes is an ideal foundation for IT organizations that want to implement their own on-site private cloud infrastructure. Self-service provisioning, in combination with automated service approval workflows, reduces administrative involvement to a minimum and delivers agility for provisioning processes. As a result, highly skilled developers or application administrators are no longer forced to spend their valuable time on basic system installation tasks. The availability of predefined, tried and tested service templates in a service catalog leads to higher consistency of system configurations and reduced maintenance efforts. Furthermore, the self-service portal provides users and IT operations with accurate information about the current status and utilization of their resources, which in turn is valuable input for IT administration when planning further optimization of resource usage.

Typical workloads to be hosted in a private cloud environment are infrequently used applications with a short lifespan, or applications that are dynamically growing and shrinking their resource consumption while running. Examples are retail applications that experience a dramatic increase in demand (i.e. during Christmas shopping seasons), or travel booking applications that expand rapidly as holiday seasons approach.

These kinds of workloads profit best from a flexible design of the underlying infrastructure and thus would be the first targets for transition to a private cloud environment. However, also infrastructure

applications like print, directory or e-mail services – that tend to run all the time at a predictably steady state – can of course be hosted in a private cloud environment.

In addition to usage scenarios where IT organizations want to adapt their server resources to fluctuating business demands, private cloud infrastructures are a perfect fit for infrastructure consolidation projects and all projects with the goal of accelerating software rollout processes (i.e. for development, test and staging environments, training and e-learning). Moreover, private cloud infrastructures offer an ideal foundation for deploying more cost-efficient high-availability or disaster recovery solutions.

In order to receive the full benefits of a private cloud infrastructure, companies will need to realign traditional budgeting processes, as well as the organizational structure of their administrative staff. The cloud paradigm of shared use and automated delivery of resources will fundamentally impact the way people in IT operations work together in the future. Because automated self-service provisioning affects the responsibilities of many administrative domains (servers, storage and networks), companies need to move away from the traditional silo organization toward a structure that employs more cross-functional teams to design and manage all infrastructure components required for a service end-to-end. In addition to classical infrastructure administrative roles, IT organizations will see the introduction of new roles like cloud service administrators who are responsible for defining the services provided to users.

ServerView Resource Orchestrator Virtual Edition

Simplifying day-to-day server management operations of a highly consolidated server infrastructure

For many IT organizations, blade servers combined with virtualization technologies are the IT infrastructure of choice to achieve considerable consolidation benefits. It also is the ideal basis for ensuring more flexible usage of server resources. However, managing all parts of the underlying technology stack of such a highly consolidated server infrastructure presents a looming problem for IT managers. IT administrators have to use a greater number of specialized management tools to manage their daily business. As a result, IT managers are looking for ways to improve the operational efficiency of day-to-day server management operations in mixed physical and virtual IT environments.

With ServerView Resource Orchestrator Virtual Edition, Fujitsu offers a system management tool that delivers standardized management of the consolidated virtual and physical server environment, simplifies server lifecycle management and provides cost-efficient methods for protecting the complete server environment.

Uniform management of physical and virtual servers

No doubt, server virtualization is a key technology in consolidation projects. However, when looking at the current situation in most data centers, a significant number of workloads still runs and will continue to run on physical servers. This means that mixed operation of physical and virtual servers will be a long-term reality in most data centers. Therefore, server management tools must enable optimization across both physical and virtual environments. The situation is even more critical for IT organizations that use products from more than one hypervisor vendor. A sample use case for such a scenario would be a tiered hypervisor approach similar in concept to tiered data storage. The operation of multiple hypervisors allows you to save costs by using a less expensive hypervisor environment for lower priority virtual machines, along with the hypervisor environment used for your most critical applications.

However, operating a multi-hypervisor environment harbors the risk of becoming trapped in «siloes» virtualized pools. Taking advantage of each hypervisor's management tool also means accepting an even more complex management scenario.

ServerView Resource Orchestrator Virtual Edition brings the management of physical and virtual server environments together under a "single pane of glass." By integrating the administration of physical and virtual servers as much as possible, ServerView Resource Orchestrator Virtual Edition addresses the management challenges encountered in heterogeneous physical and virtual server environments.

Sonnico



Sonnico gained higher uptime and simplified administration of its virtual and physical server environment through revamping its aging IT infrastructure by migrating to PRIMERGY BX900 blade servers and using ServerView Resource Orchestrator Virtual Edition.

Sonnico gained higher uptime and simplified administration of its virtual and physical server environment through revamping its aging IT infrastructure by migrating to PRIMERGY BX900 blade servers and using ServerView Resource Orchestrator Virtual Edition.

Valbury Asia Security



Valbury Asia Security needed to revamp their IT infrastructure to anticipate a surge in transaction volumes. Simplified system management with ServerView Resource Orchestrator Virtual Edition helped existing IT staff cope with the additional load. The automated server failover was an important feature for their mission-critical systems.

Valbury Asia Security needed to revamp their IT infrastructure to anticipate a surge in transaction volumes. Simplified system management with ServerView Resource Orchestrator Virtual Edition helped existing IT staff cope with the additional load. The automated server failover was an important feature for their mission-critical systems.

Siemens Indonesia



In an IT consolidation project, ServerView Resource Orchestrator Virtual Edition helped Siemens Indonesia achieve higher service levels through automated recovery from server hardware failures and faster provisioning of new servers and installation of new applications for project teams.

In an IT consolidation project, ServerView Resource Orchestrator Virtual Edition helped Siemens Indonesia achieve higher service levels through automated recovery from server hardware failures and faster provisioning of new servers and installation of new applications for project teams.

Sinopec Shanghai Petrochemical Company Limited



Sinopec Shanghai Petrochemical Company Limited adopted FUJITSU PRIMERGY BX900 blade server systems and ServerView Resource Orchestrator Virtual Edition software to build a strong IT infrastructure platform for their office automation systems and application development platform.

Sinopec Shanghai Petrochemical Company Limited adopted FUJITSU PRIMERGY BX900 blade server systems and ServerView Resource Orchestrator Virtual Edition software to build a strong IT infrastructure platform for their office automation systems and application development platform.

Cost-effective server high availability

ServerView Resource Orchestrator Virtual Edition enables cost-efficient N+1 high availability. IT organizations can now protect more servers without paying a premium for dedicated high-availability tools like cluster software. By assigning one or more spare servers to a pool of production servers, it is possible to automatically failover any production servers to the spare server in the event of hardware or operating system failures. Business applications can be resumed without any administrator intervention. Compared to manual recovery processes, server recovery time is reduced significantly, thus resulting in faster responses to server failures. This applies to both physical and virtual server environments.

ServerView Resource Orchestrator Cloud Edition

Building blocks of a private cloud infrastructure

ServerView Resource Orchestrator Cloud Edition delivers all the functions needed to manage a private cloud infrastructure. The software is specifically designed to set up an IaaS environment that enables IT organizations to:

- Design infrastructure for shared resource usage
- Introduce self-service provisioning to deliver infrastructure in minutes
- Constantly optimize infrastructure with advanced monitoring, capacity planning and accounting tools
- Protect continuity of services with cost-effective high-availability and disaster recovery options

Design infrastructure for shared resource usage

IT organizations often struggle with the limitations of an inflexible IT infrastructure. This is often caused by fixed long-term allocation of IT resources to single business units, thus making it difficult to re-allocate IT resources to other business units and to avoid under or overutilized resources.

With ServerView Resource Orchestrator Cloud Edition, IT organizations overcome these limitations by introducing a new IT infrastructure setup which allows flexible sharing of IT resources across different business units. The basic design principle behind this new infrastructure setup is to organize IT resources in global or tenant-specific resource pools. In combination with integrated security functions such as firewall support and role-based management, this establishes a multi-tenant environment capable of safely hosting several clients in parallel on the same IT infrastructure.

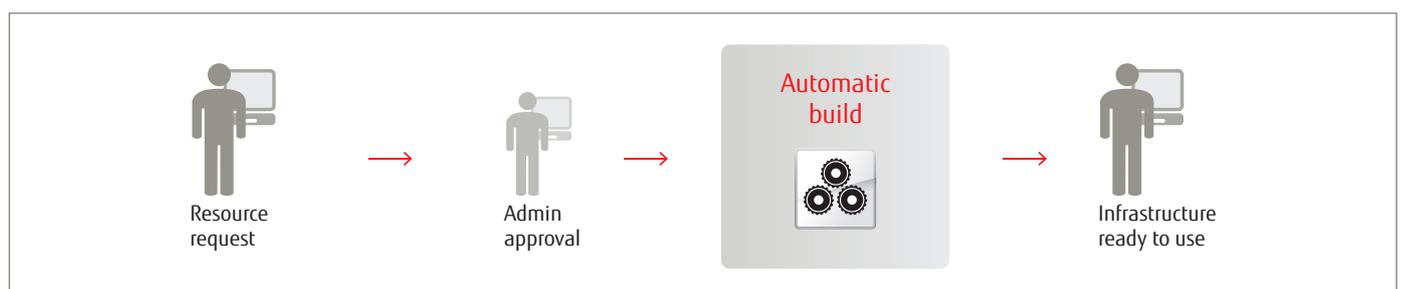
Based on such a shared IT infrastructure, ServerView Resource Orchestrator Cloud Edition is now able to provide flexible adaptation of IT resources. IT organizations benefit from faster provisioning of new IT resources and an easy exchange of IT resources between business units.

Introduce self-service provisioning

One of the key values delivered by ServerView Resource Orchestrator Cloud Edition is the introduction of maximum automation in the provisioning processes executed in back-end data center operations. Provisioning has typically required many administrators, many coordination tasks among administrative domains and many manual operations, which has resulted in long delivery times and user dissatisfaction. By automating the provisioning processes for server, network and storage resources, the time required for setting up a new server system can be reduced significantly. And there is further potential for streamlining the overall provisioning process, because ServerView Resource Orchestrator Cloud Edition reduces or even eliminates the communication time lag between different administrative domains in large organizations. Automation not only accelerates the provisioning of IT infrastructures, it also handles routine tasks so that IT staff can focus their attention on matters like innovation.

ServerView Resource Orchestrator Cloud Edition fundamentally changes the way IT resources are provisioned and the way IT users get access to these resources. IT users are provided with a service catalog of predefined infrastructure templates which include logical descriptions of single virtual or physical servers, plus multi-server configurations. Available on a web portal, this service catalog enables IT users to easily select and request their IT resources.

Consider a sample usage scenario where an IT administrator requires IT resources for a web service. Instead of directly approaching the IT department, he just opens the service catalog on the self-service portal, selects a multi-server platform and starts the provisioning request. Upon approval of his request, the complete provisioning process runs unattended without any administrative intervention. ServerView Resource Orchestrator Cloud Edition takes the required resources from the resource pools and automatically builds a ready-to-use multi-server configuration consisting of virtual and physical servers, storage and network connectivity.



Constantly optimize infrastructure

ServerView Resource Orchestrator's advanced system management capabilities provide deep insight into your private cloud infrastructure, providing tools for central monitoring of IT resources, optimizing and planning resource pool capacity, and for gaining access to accounting information.

ServerView Resource Orchestrator Cloud Edition provides a range of service monitoring options (i.e. dashboard) allowing end users and IT administrators to get a consolidated view of resource pool utilization and performance metrics of resources currently in use.

Capacity management tools enable infrastructure administrators to continually analyze the utilization of all resource pools, even giving them an option for setting thresholds to get early notification of pools running out of resources. For planning the future demand of resources, ServerView Resource Orchestrator Cloud Edition shows a demand forecast based on the past utilization of resource pools. When running in a VMware environment, ServerView Resource Orchestrator Cloud Edition supports administrators in optimizing resource allocation on VM hosts. ServerView Resource Orchestrator Cloud Edition shows the current load status of VM hosts to identify VM hosts running into performance problems. In order to better balance workloads or to temporarily adapt resources according to future peak demands, ServerView Resource Orchestrator Cloud Edition supports simulation and execution of VM guest reallocations for a better workload balance.

The integrated accounting capability enables IT organizations to link pricing information to resources, showing users the costs of the requested IT infrastructure. Having cost transparency for self-service resource requests enables business units to better understand the cost of deploying and maintaining their business services. This information can also provide companies with a basis for implementing charge-back models.

Protect continuity of services

A shared IT infrastructure, in combination with automated provisioning processes, provides a dynamic IT environment agile enough to improve time-to-market for IT services. Another top priority in many IT organizations is to guarantee the availability of a highly consolidated IT infrastructure. ServerView Resource Orchestrator Cloud Edition has effective multiple high-availability options that range from safeguarding single physical and virtual servers to protection against complete site failures.

Legislative Yuan of the Republic of China



The Legislative Yuan of the Republic of China implemented an Infrastructure as a Service (IaaS) offering based on a private cloud infrastructure using ServerView Resource Orchestrator Cloud Edition.

Yamato System Development Co., Ltd.



In Japan the Yamato System Development Co., Ltd. implemented a next-generation IT infrastructure using ServerView Resource Orchestrator Cloud Edition for setting up a private cloud environment. This enabled Yamato group companies to quickly create required systems, enable more effective use of resources and ensure high availability.

Indonesia's Technology Assessment and Application Agency (BPPT)

Indonesia's Technology Assessment and Application Agency (BPPT) selected a Fujitsu platform consisting of PRIMERGY servers, ETERNUS storage systems and ServerView Resource Orchestrator Cloud Edition to build a private cloud infrastructure for its data center and knowledge management systems.

Kanto Gakuin University

For Kanto Gakuin University in Yokohama, Fujitsu implemented a private cloud infrastructure that enabled the IT organization to become a true service provider thanks to improved operational efficiency in delivering IT resources for students.

A woman with dark hair pulled back, wearing a dark pinstriped blazer over a light-colored collared shirt, is smiling warmly at the camera. She is seated at a desk in an office environment. In the background, there are several computer monitors and a window with bright light coming through. The overall scene is professional and positive.

Consolidated management of physical and virtual environments

Many private cloud computing providers totally rely on managing or provisioning only virtual server infrastructures, thereby ignoring the fact that every private cloud infrastructure depends on a variety of physical resources which also have to be managed. Moreover, such an approach does not meet the expectations of customers who still see physical systems as the best choice for running resource-hungry workloads like ERP applications or other customized applications not suited for virtualized environments. This is why ServerView Resource Orchestrator Cloud Edition offers a centralized and integrated set of functions for standardized provisioning and management of physical and virtual resources.

FUJITSU Services

Maintenance and Support

State-of-the-art enterprise IT is the heartbeat of successful business processes and continuity. However, should it miss a beat even for a moment, there could be serious repercussions for a company's operations and productivity levels. Therefore, FUJITSU Support Packs and ServiceContracts for software and hardware provide comprehensive support, with various service levels matching your specific requirements.

IT Consulting Services

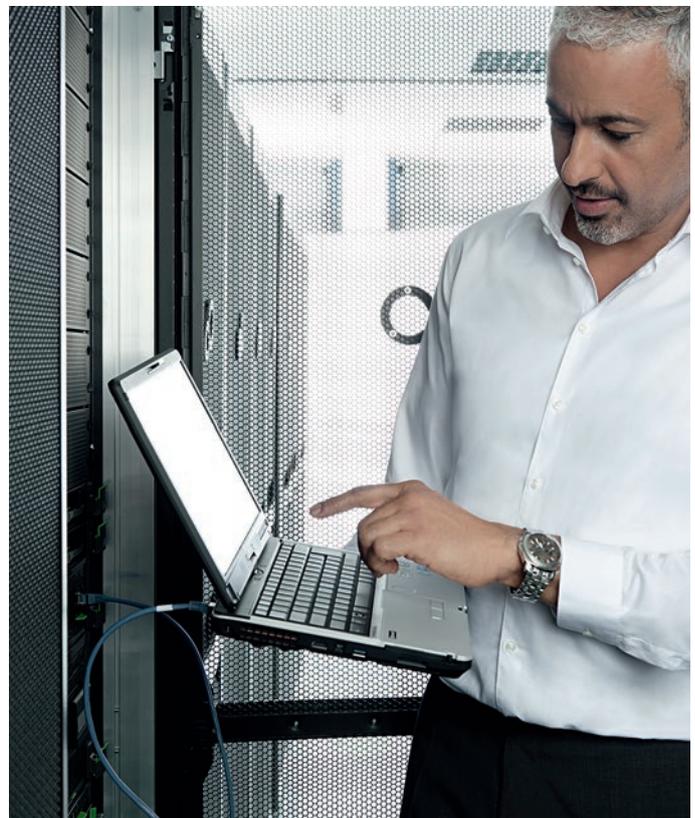
FUJITSU IT Consulting services assist you in ensuring that your IT is able to adapt quickly and efficiently to new business requirements, and that it is delivered in the most cost-effective model to suit the pace of your business growth. We work with you to assess your current IT situation, delivering expert insight and recommendations that support your choices, in alignment with your business and technology strategies.

Managed Private Cloud Services

Do you want to reduce the routine workloads of your internal IT staff in managing complex IT infrastructures? Do you want them to concentrate on projects that address new opportunities and deliver real business value? With Managed Private Cloud Services, Fujitsu offers a comprehensive service portfolio for operating private cloud infrastructures. The services are modular in design, covering a wide range of tasks, from the management and operation of a ready-to-order cloud service catalog, to running the cloud infrastructure and providing full data center functions. Managed Private Cloud Services include a portal that delivers complete service transparency, preconfigured service catalogs for building and managing multiple application environments, chargeback with usage tracking, capacity reporting and monitoring of service level agreements (SLAs), plus an extremely resilient, secure, standardized cloud infrastructure that is factory tested.

Financial Services

Financing is a key component of your private cloud infrastructure investment decision – there are many reasons to choose IT financing over cash purchase and ownership. FUJITSU Financial Services offers you a complete portfolio of financial solutions in all key international markets through our presence in over 50 countries, covering your planning, transitioning, acquiring, managing and eventual retiring of your new private cloud infrastructure solution. Leasing and financing from FUJITSU Financial Services can accelerate the acquisition of mission-critical IT in times when flexibility, transparency and affordability are essential. Financial solutions can help create budget where none existed, change fixed costs into variable costs, turn up-front costs into affordable payments, protect against technological obsolescence and disperse financial risk. With our complete customer solutions, we can give you peace of mind, leaving you to concentrate on your core business.



Summary

One-stop shopping with Fujitsu

Whether your organization is looking for efficient ways to set up and manage a consolidated and dynamic server environment, or is planning to deploy an on-site private cloud infrastructure, Fujitsu has the IT infrastructure, management solutions and services to guide you through your complete transition toward more business-oriented IT.



Published by

Fujitsu Limited

Shiodome City Center, 1-5-2 Higashi-Shimbashi Minato-ku, Tokyo, Japan.

Copyright: © Fujitsu Limited 2013

Contact: www.fujitsu.com/contact

All rights reserved, including intellectual property rights. Technical data subject to modifications and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.