Executive Briefing
ServerView Resource Orchestrator

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

A new wind of change is sweeping through data centers today – a wind that will dramatically reshape the way IT infrastructures are designed, managed and provisioned. The ultimate goal is creating a more business-centric IT to maximize business value. By deploying business-centric 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 also leads to higher productivity among all employees in the company.

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

Whether your organization is looking for management software to efficiently manage a consolidated server environment, is planning to evolve into more dynamic resource management, or is even planning to introduce its own on-premise private cloud infrastructure, Fujitsu ServerView Resource Orchestrator is the single tool that helps you manage your transition toward a more business-centric IT.
Customers typically take a step-by-step approach on their way to a more business-centric IT

Most companies start their transition toward a more business-centric IT by consolidating their server hardware (most often based on blade server architectures) and by introducing virtualization technology (basically server virtualization) with the primary goal of benefitting from the savings in capital expenditures due to consolidation. Most often, those environments tend to be rather static and poorly managed. Customers need a management tool that optimizes the management of a consolidated server infrastructure across virtual and physical servers.

While in recent years server virtualization and platform consolidation have been critical in delivering major gains in data center efficiency, those are just the overture to a much wider movement.

Evolving toward a more 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 in case of changing business requirements. IT organizations reaching this state 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 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-premise private cloud infrastructure. Self-service provisioning based on service templates and automated service subscription workflows simultaneously reduce administrative involvement to a minimum and delivers agility for provisioning processes. Furthermore, the self-service portal service 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.

Examples of usage scenarios for private cloud infrastructures in a customer’s data center environment would be IT 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). In addition, private cloud infrastructures fit perfectly for IT organizations that want to adapt their server resources to periodical changing business demands (i.e., for day/night or end-of-month operations), or need support for unplanned workload changes typical in web server environments. Moreover, private cloud infrastructures offer an ideal foundation for setting up more cost-efficient high-availability or disaster recovery solutions.

The introduction of private cloud infrastructures will fundamentally impact the way people in IT operations will work together in the future. In order to achieve the full benefits of a private cloud infrastructure, companies will need to modify the organizational structure of their administrative staff. 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 manage services end-to-end.
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. Operating a multi-hypervisor environment harbors the risk of becoming trapped in »silod« 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 in heterogeneous physical and virtual server environments.

Simplified server lifecycle management
Beyond centralized monitoring for effectively managing mixed virtual and physical environments, ServerView Resource Orchestrator Virtual Edition provides integrated lifecycle management, including automated server deployment via server cloning, backup and restore of OS images and basic operations on virtual servers – all from a single intuitive management interface.

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.
**Evolve toward more dynamic IT environments**

ServerView Resource Orchestrator Cloud Edition delivers all of the functions needed for a more dynamic IT environment and a private cloud infrastructure, front-ended with a self-service provisioning portal to speed delivery of IT infrastructures to end users.

**Build your private cloud infrastructure based on resource pools**

The most effective way to organize IT infrastructure resources in a private cloud environment is to build pools of shared resources which can be flexibly allocated to applications. A typical situation in traditional infrastructures with resources directly dedicated to applications arises when new applications are deployed: The IT organization faces the problem of having to manage a growing number of application silos, each with a specific number of resources, which over time leads to a huge sprawl of IT resources. As usage and load conditions for the individual applications change, the systems running those applications happen to be either highly over-provisioned or under-provisioned. It is very difficult, if not impossible, to shift resources from one silo to the other in order to achieve a more balanced usage of existing resources.

ServerView Resource Orchestrator Cloud Edition introduces resource pools to facilitate the sharing of resources between applications. Resources can be flexibly allocated or reallocated to applications on demand, increasing the overall resource utilization. Another positive effect of having a pool architecture is that one or a few systems can stand in for many productive systems, thus delivering a cost-efficient alternative to traditional high-availability solutions.

**Automate IT infrastructure provisioning**

The key value 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.
Enter the private cloud – easier access to IT infrastructure resources with self-service provisioning

Many IT organizations cannot cope with the high number of system requests they receive due to resource shortages. As a result, highly skilled developers or application administrators are forced to spend their valuable time on basic system installation tasks. Furthermore, since many application-oriented people are not real experts in IT infrastructure provisioning, system configurations tend to be inconsistent. This makes system maintenance a nightmare, especially in larger environments. It is not surprising that just keeping the data center running takes up so much time and resources.

Resource abstraction hides the complexity of the underlying IT infrastructure

In order to simplify access to IT infrastructure resources for end users, ServerView Resource Orchestrator Cloud Edition introduces an abstraction layer that hides the complexity of the underlying IT infrastructure. With its logical platform (L-Platform) concept, ServerView Resource Orchestrator Cloud Edition enables end users or application administrators to select their required systems, including all parameters for storage and network connectivity. These systems (which can be a single server or multiple connected servers for setting up multi-tiered architectures) are made available as logical elements from a self-service portal. In response to a request for a logical platform, ServerView Resource Orchestrator Cloud Edition automatically puts together the requested resources out of the available resource pools. To make it even easier, users can choose from a catalog of predefined templates with proven configurations.

Resource abstraction also enables IT organizations to clearly separate application and infrastructure administration roles. Application administration can now concentrate on application management, such as the rollout, operation and maintenance of applications. There is no longer any involvement related to IT infrastructure tasks or technologies – administrators only need to make requests for logical IT infrastructure resources. Similarly, administrators for servers, network and storage can concentrate on delivering resources to the respective resource pools. Each expert can fully leverage his skills instead of following a practice where everybody is doing everything, but inefficiently.

In addition to users, IT organizations also benefit from the introduction of standardized template-based provisioning processes. They get an IT infrastructure that is easier to maintain and easier to keep compliant with company standards.

Sonnico

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

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 to cope with the additional load. And having automated server failover was vital for their mission-critical systems.

Siemens Indonesia

ServerView Resource Orchestrator Virtual Edition helped Siemens Indonesia achieve higher service levels through automated recovery from server hardware failure as well as faster provisioning of new servers for project teams and installation of new applications in an IT consolidation project.
Ready for self-service provisioning

By combining resource abstraction at the user frontend and the automation of provisioning processes at the data center backend, companies are ready to introduce self-service provisioning. This capability is enabled through a self-service portal, where a catalog of predefined service templates, resources, and service subscription workflows are available. Pending any necessary approvals, these are then dynamically granted upon request.

Once resources are provisioned, ServerView Resource Orchestrator Cloud Edition offers users multiple options to control and customize a given configuration. Service dashboards provide end users and IT administrators with a consolidated view of the current status and utilization of resources.

IT organizations can use the integrated usage metering capability to collect data on how resources are used and who is using them. This information can be used as a foundation for companies that want to implement a charge-back model. At the very least it enables them to report business-critical resource usage.

Building a reliable IT infrastructure to guarantee business continuity

Resource abstraction and orchestration deliver the technical foundation for efficient resource provisioning that provides a dynamic IT environment agile enough to improve time-to-market for IT services. Another very important aspect that is a top priority in many IT organizations is how to guarantee the availability of such a highly consolidated IT infrastructure. Here, ServerView Resource Orchestrator Cloud Edition has effective multiple high-availability options that range from protection of single physical and virtual servers to protection against complete site failures.

Operation security in private cloud environments is key

In private cloud environments, where IT infrastructure resources are shared across multiple users, operation security is always of concern. Here, ServerView Resource Orchestrator Cloud Edition supports firewalls, offers multi-tenant management and precise role-based administration functions for IT organizations that require isolated access to resources for different user groups.

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 want to provision physical systems as the best choice to run 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 managing and provisioning physical and virtual resources in a standardized manner.
Fujitsu’s DI Blocks – Taking several steps in one toward business-centric IT

While many companies prefer evolutionary steps in transforming their IT infrastructure toward a private cloud infrastructure, this approach can be slow and requires specific know-how. Implementation and integration of all the individual components of such complex IT environments can consume major resources and time. The schedule for the IT infrastructure transformation process proposed by IT management often does not meet business expectations, making IT managers at odds with business owners who want to leverage IT innovations as fast as possible. Because of these conflicts, IT organizations look for ways to reduce complexity by having more industrialization in their IT infrastructure. The goal is to select a set of predefined building blocks of hardware and software that form a standardized platform. These standardized blocks can then be used for multiple use cases, are rapidly deployable and ultimately lead to reduced time-to-production for new IT projects.

For IT organizations under pressure to quickly set up private cloud infrastructures, Fujitsu has developed the DI Blocks solution. By using Fujitsu’s DI Blocks, they can take several evolutionary steps at once with the major benefit of significantly reducing the time required to achieve better business-centric IT.

Fujitsu’s DI Blocks are the most efficient way of leveraging IT to help organizations boost agility, efficiency and quality of service. They combine server, storage and network components with virtualization and dynamic resource orchestration software to deliver powerful automated pools of IT resources that can be flexibly provisioned within minutes. This enables customers to react more quickly to changing business requirements. Fujitsu’s DI Blocks are available as scalable and modular building blocks, configurable to meet different capacity and performance requirements.

In order to reduce implementation risks, Fujitsu has established a team of experts (DI Labs) for setting up the DI Blocks solution. Thanks to the extensive integration and testing done in the Fujitsu DI Labs, customers receive a fully hardened solution which significantly speeds up time-to-production at the customer site.

Taking solution maintenance into a new dimension

To ensure the availability and compatibility of the complete DI Blocks solution throughout its lifetime, Fujitsu has integrated a unique lifecycle management which keeps the whole solution in a consistent state. Previously cumbersome and complex maintenance tasks are no longer required because a proven, consistent and verifiable update and upgrade process takes solution maintenance into a new dimension.

In addition, Fujitsu’s DI Blocks are complemented by a variety of outstanding consulting services.
Summary

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