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Introducing ServerView Resource Orchestrator Express/Cloud Edition XOC Pack V1

Version 1.1.2

August 2014

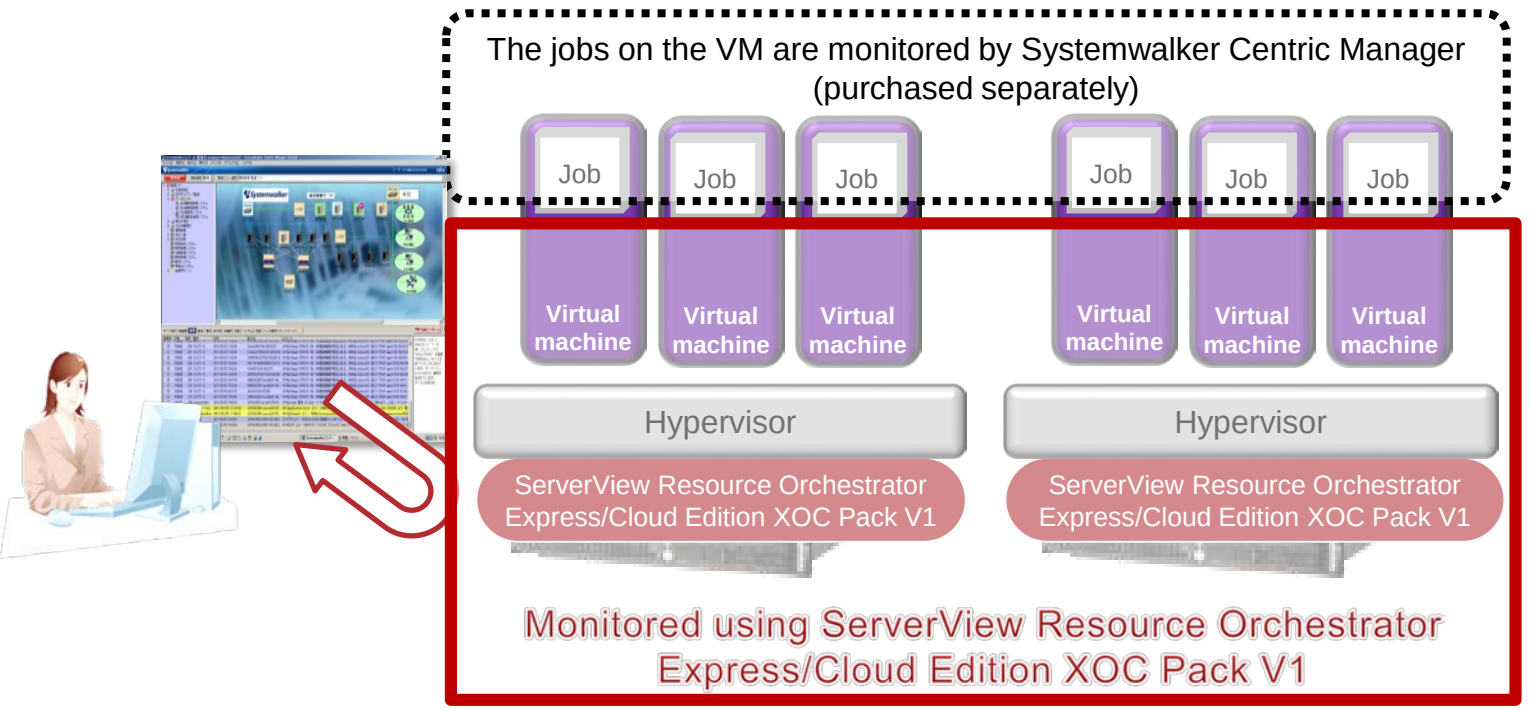
Fujitsu Limited

Product Overview

Integrated monitoring of a virtualized collection of virtual machines and physical servers

- Integrated monitoring of a virtualized collection of virtual machines and physical servers

  VM heartbeat monitoring (ping), VMware log monitoring (trap), hardware monitoring (trap)
- Visualizing relationships between physical servers and virtual machines, and operations are centralized
- The administrator is notified by mail when a serious problem has occurred



Management server

A monitoring server can also be set up on the VM

Monitoring targets

Operation monitoring of physical and virtual servers

Number of managed servers

Express XOC Pack: Up to 30VMs
Cloud Edition XOC Pack: Up to 300VMs

Billing (License) unit

Per physical server

Positioning of the ROR Express/Cloud Edition XOC Pack

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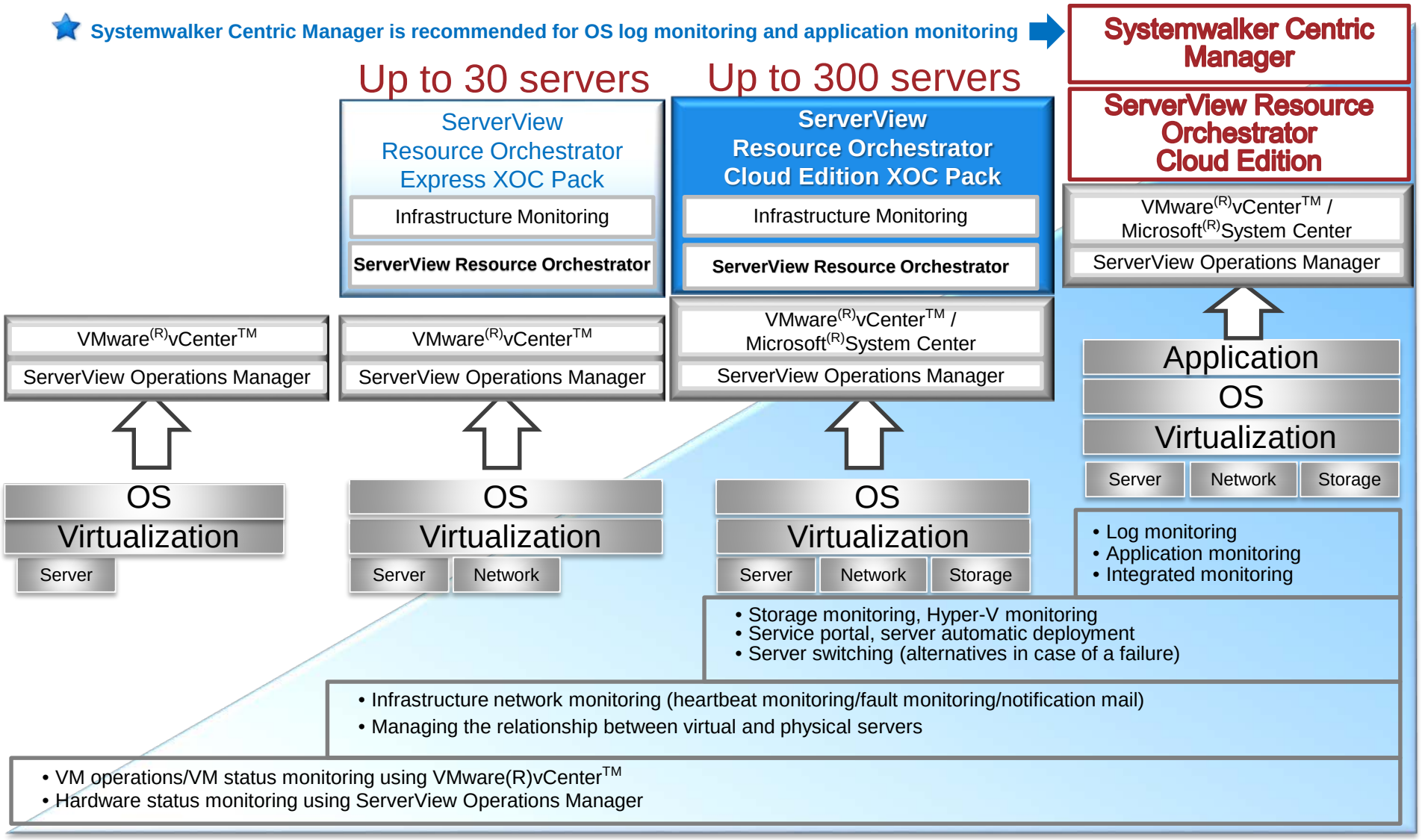
Differences in the ranges covered in cloud infrastructure management



ServerView Resource Orchestrator Features

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Features range per edition

Build requirements	Features provided	Express	Cloud Edition
Central management of virtual and physical servers	Visualization and monitoring from physical server to virtual server	**Yes**	**Yes**
	Provision of a unified management interface on the server	**Yes**	**Yes**
Improved server availability	Flexible configuration of I/O between the server and storage		**Yes**
	Automatic recovery from a server fault		**Yes**
	Avoidance of virtual server crashes using a fault predictor		**Yes**
Achievement of platform-provided services	Resource pools and visualization of the usage status		**Yes**
	Logical platform template/automatic deployment		**Yes**
	Logical platform management using a service portal		**Yes**
	Visualization of resource operation status and billing management		**Yes**
	Disaster recovery which targets the logical platform		**Yes (*1)**

*1: To use this function, the "ServerView Resource Orchestrator DR Option" is required separately

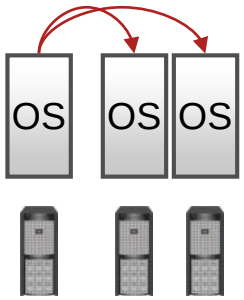
ServerView ROR Express XOC Pack

- Realization of unified operation status monitoring and operations in virtual and physical environments, which reduces the management load (virtual servers, VM hosts, physical servers, and networks)

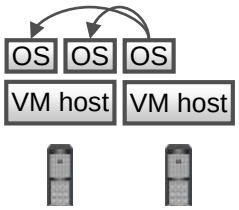
1. Monitoring

2. Scalability

Batch-building of servers via disk cloning



Remarks
The cloning function provided by the virtualization software is used



3. Energy saving measures

Visualization of the operational effect by displaying a power consumption graph

Labor saving in server management

- Integrated monitoring of servers and network devices belonging to the same subnet
- Providing an integrated understanding of the relationship between servers and their status in virtual and physical environments
- Restoring virtual server deployments which run on the VM host to their original state

Simplified installation of physical servers

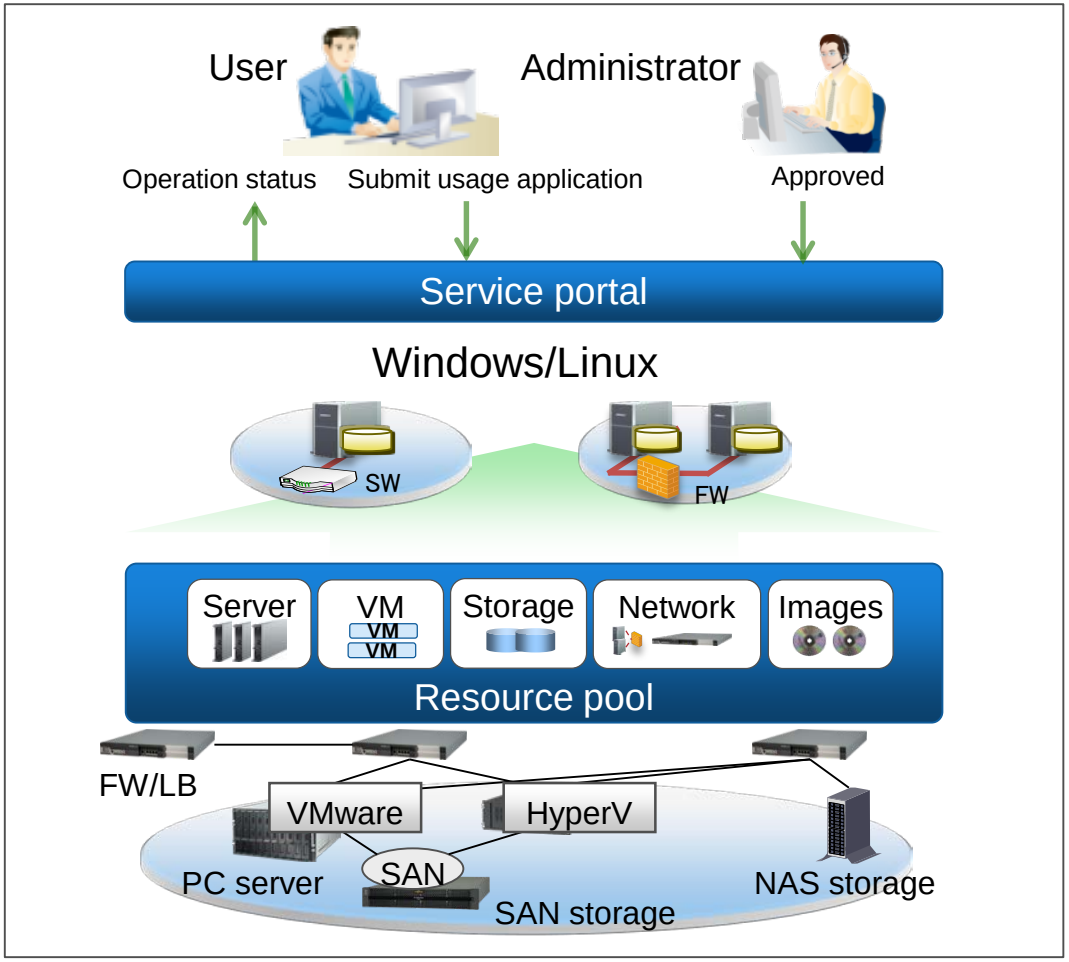
- Labor-saving in tasks via batch-installation of multiple servers (Windows/Linux)

Visualization of the power consumption

- Visualization of trends in power consumption
- Reduction in power consumption using a power on/off control

ServerView ROR Cloud Edition XOC Pack

- Labor-saving is achieved for server installation/operation/maintenance tasks via automation and visualization
- Reductions in system build time and efficiency of operations are achieved via shared management of resources in a pool and the automatic deployment of a platform



Submit usage application /automatic deployment

- Workflow of the application process from the usage application to batch-deployment
- Batch-deployment of multi-layer systems using a standard template

Effective utilization of resources

- The business system effectively utilizes resources by the complete optimization of shared resources
- Management load is reduced using resource demand forecasting or simulations

Improved availability

- Detects predictors of server faults and migrates the virtual servers before faults occur
- Automatic recovery from the server fault using a shared spare server

Functional Overview of ServerView Resource Orchestrator Express XOC Pack V1

- Infrastructure Monitoring + ServerView Resource Orchestrator Express

What ServerView ROR Express XOC Pack can be Used For

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ServerView ROR Express XOC Pack

Infrastructure monitoring

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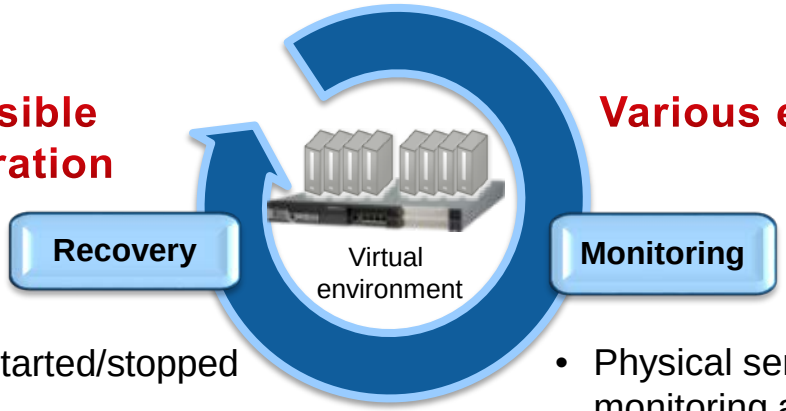
Server management

- Integrated monitoring of a virtualized collection of virtual servers and physical servers

  VM heartbeat monitoring (ping), VMware log monitoring (trap), hardware monitoring (trap)
- The administrator is notified by mail when a serious problem has occurred
- Visualized relationship between physical and virtual servers and operations are centralized

Server recovery is possible using a one-touch operation



Various environments can easily be understood

- The physical/virtual server is started/stopped using a button operation
- The virtual server that was moved is brought back to the original host using a one-touch operation

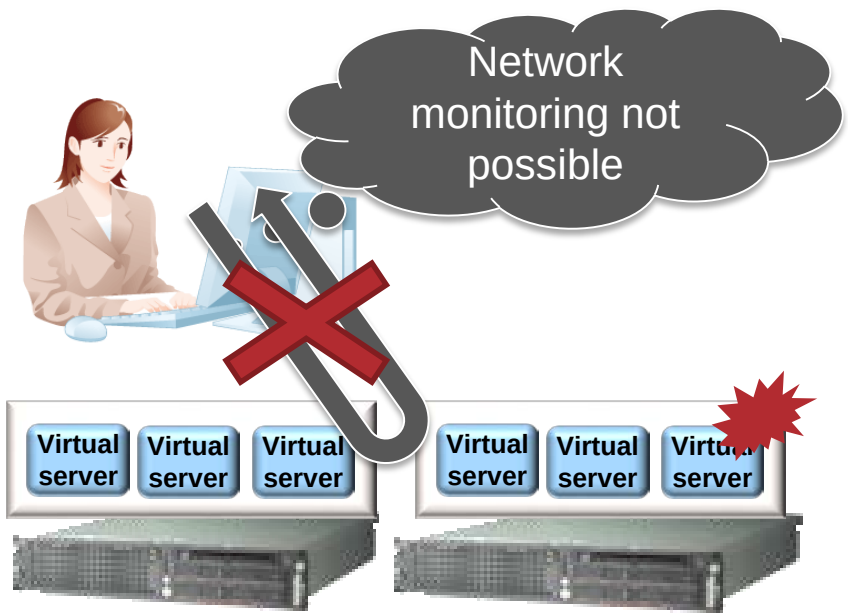
- Physical server/network/virtual server status monitoring and relationship management
- Problem notification by mail

Easily Understanding the Operation Status of Entire System

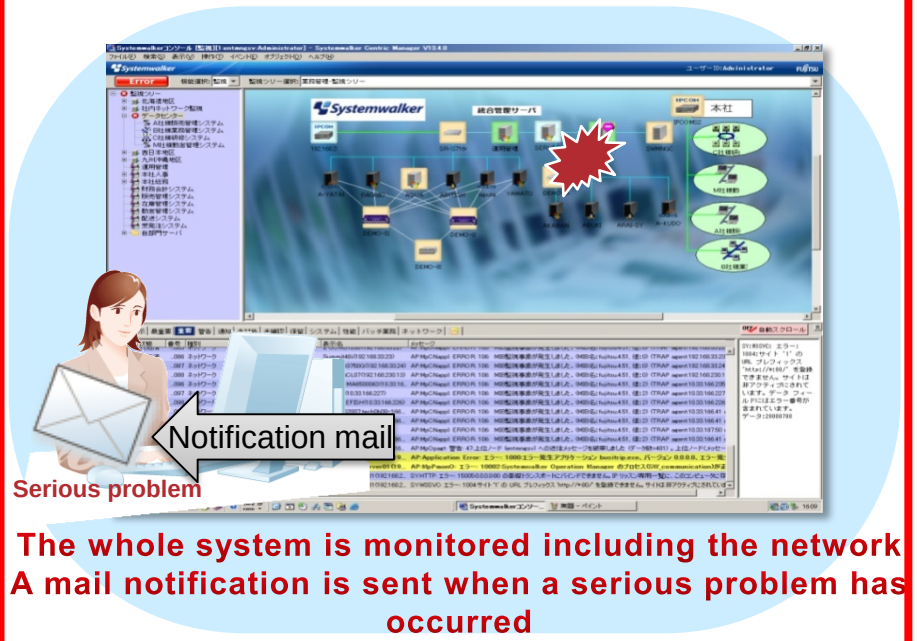
Speedy detection when problems occur in a visual monitoring screen

- The operation status of the physical server, virtual server, and network device is monitored
- The fault that was detected is notified by mail
- No need for monitoring settings for the monitoring target

Only virtualization management software



ServerView ROR Express XOC Pack + Virtualization management software



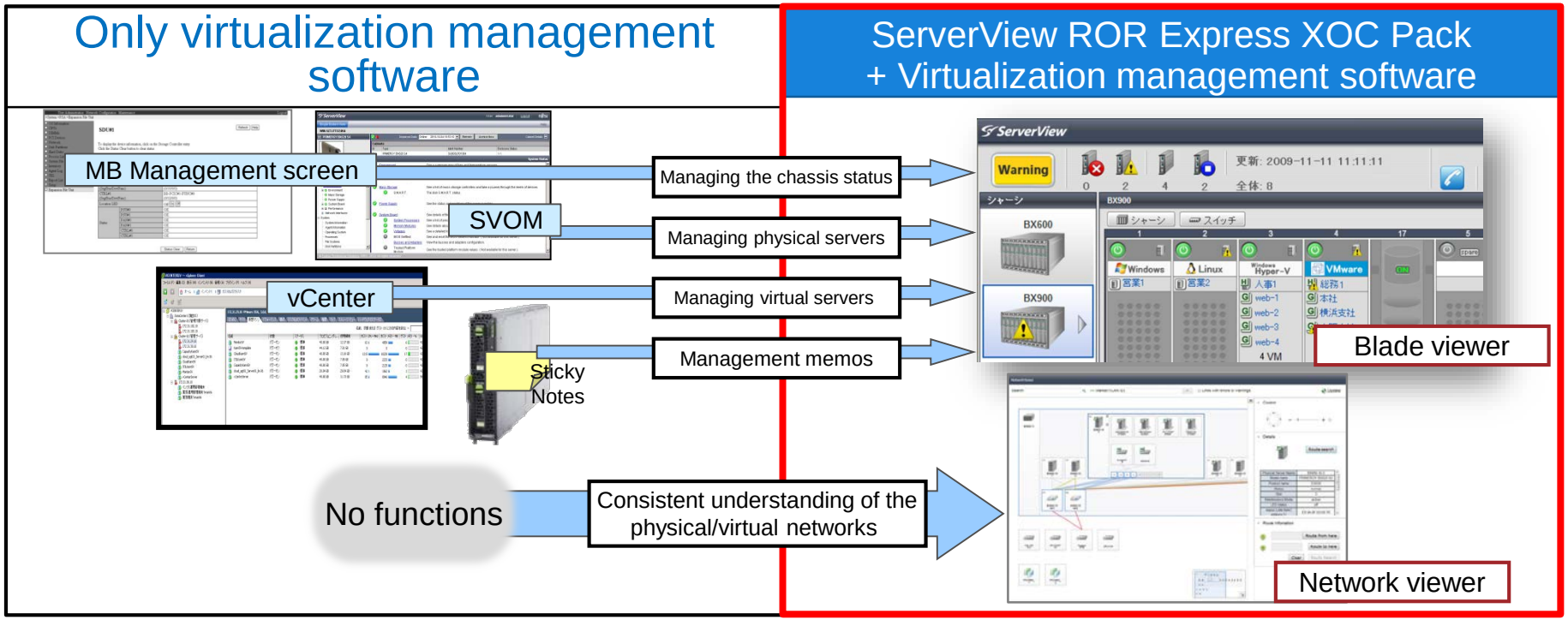
The whole system is monitored including the network
A mail notification is sent when a serious problem has occurred

- When only virtualization management software is used, there is no network monitoring function, so it is not possible to detect link down or server stoppages in real time

Easy Management of the Relationship between Virtual and Physical Servers

The relationship between the virtual and the physical servers and networks is displayed visually, so the investigation time when problems occur is reduced

- The relationship between the physical and the virtual is managed using hardware chassis images in a blade viewer
- The physical/logical (VLAN) connection status is visualized, from virtual networks to blade switches



- When only virtualization management software is used, it is not possible to see the relationship between the job and server/network, so it will be difficult to identify the cause of problems that have occurred

Managing Different Hypervisor Environments in a Single Screen

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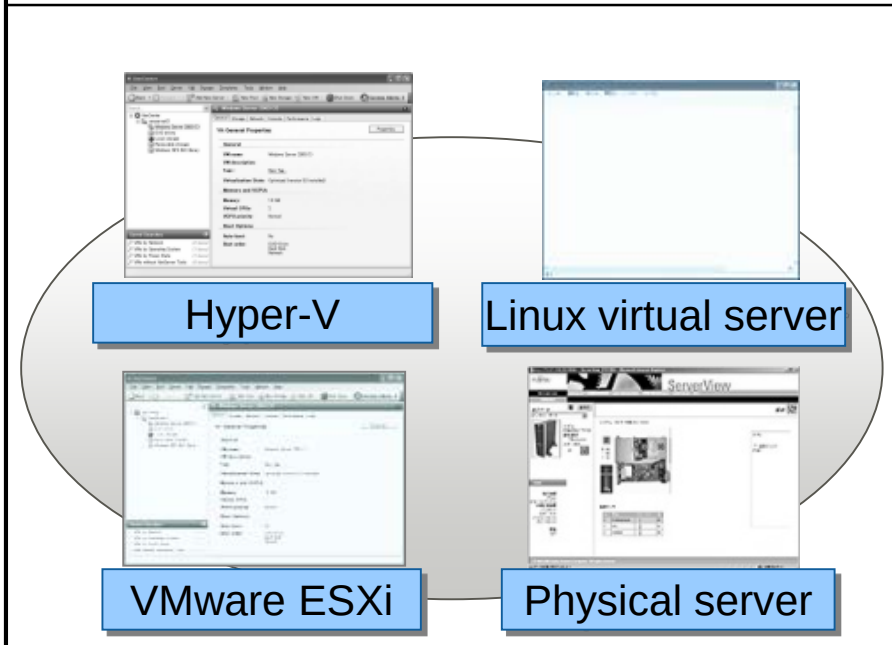
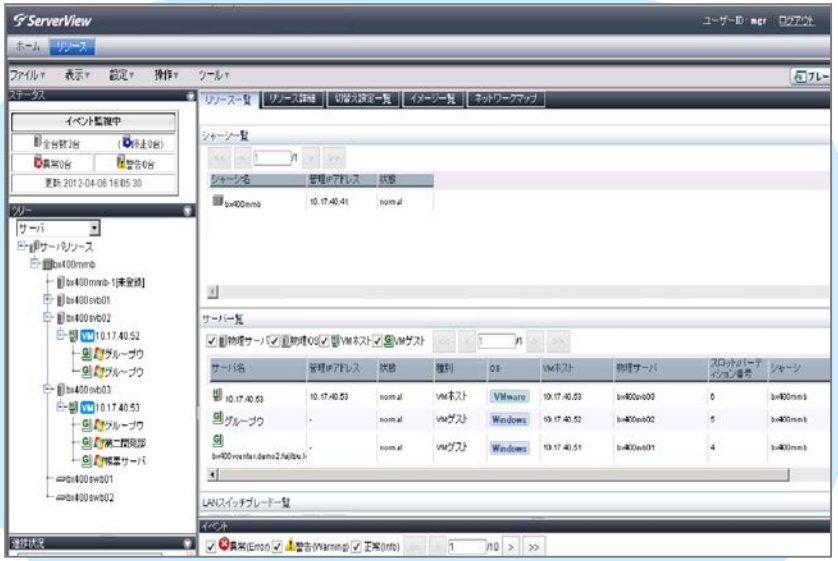
The operation load is reduced via a unified management screen and operations

- Different hypervisor virtual environments are integrated and managed
- The virtual server operations are unified, so the virtual server can be moved easily

Only virtualization management software



ServerView ROR Express XOC Pack + Virtualization management software



Central management using ServerView ROR Express XOC Pack

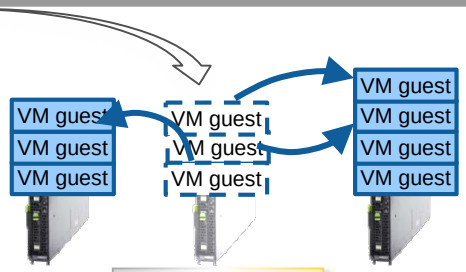
- When only virtualization management software is used, the different management screens and operations for each management target have to be used

Maintenance Work becomes More Efficient and Risks are Reduced

Server maintenance tasks become more efficient by bringing the virtual server back after it has been moved

- The location of the virtual server is stored, and the server is returned to the original location using one operation (central management of which physical server the virtual server is positioned on)

At the time of server maintenance (e.g., BIOS/farm updates or parts exchange), it is possible to migrate the VM easily using virtualization management software...

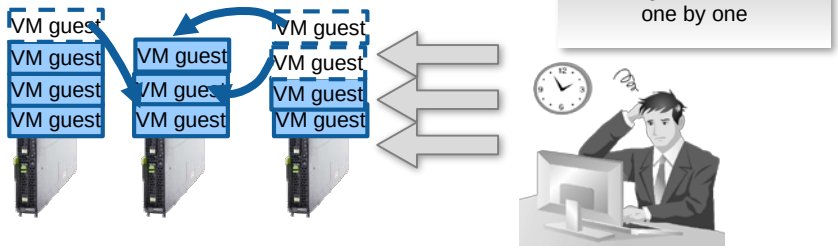


After server maintenance

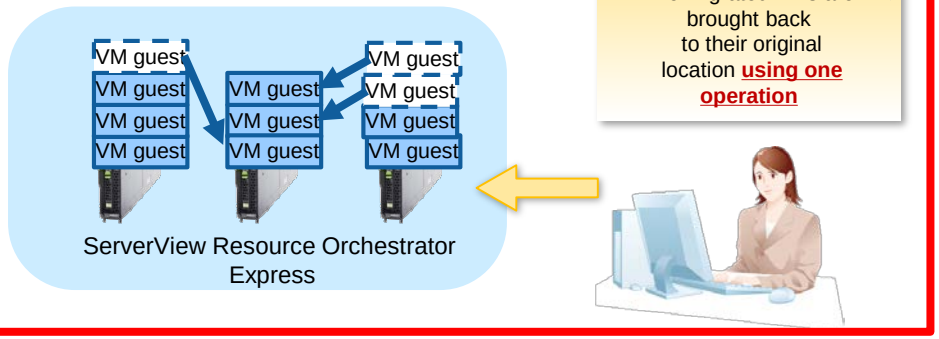
- No need to wait for operations on the screen
  Example: Can save the operation time (VM move time (41 seconds*) x number of VMs)
- Reduction in task errors

* Example of the actual measurement by Fujitsu

Only virtualization management software



ServerView ROR Express XOC Pack + Virtualization management software



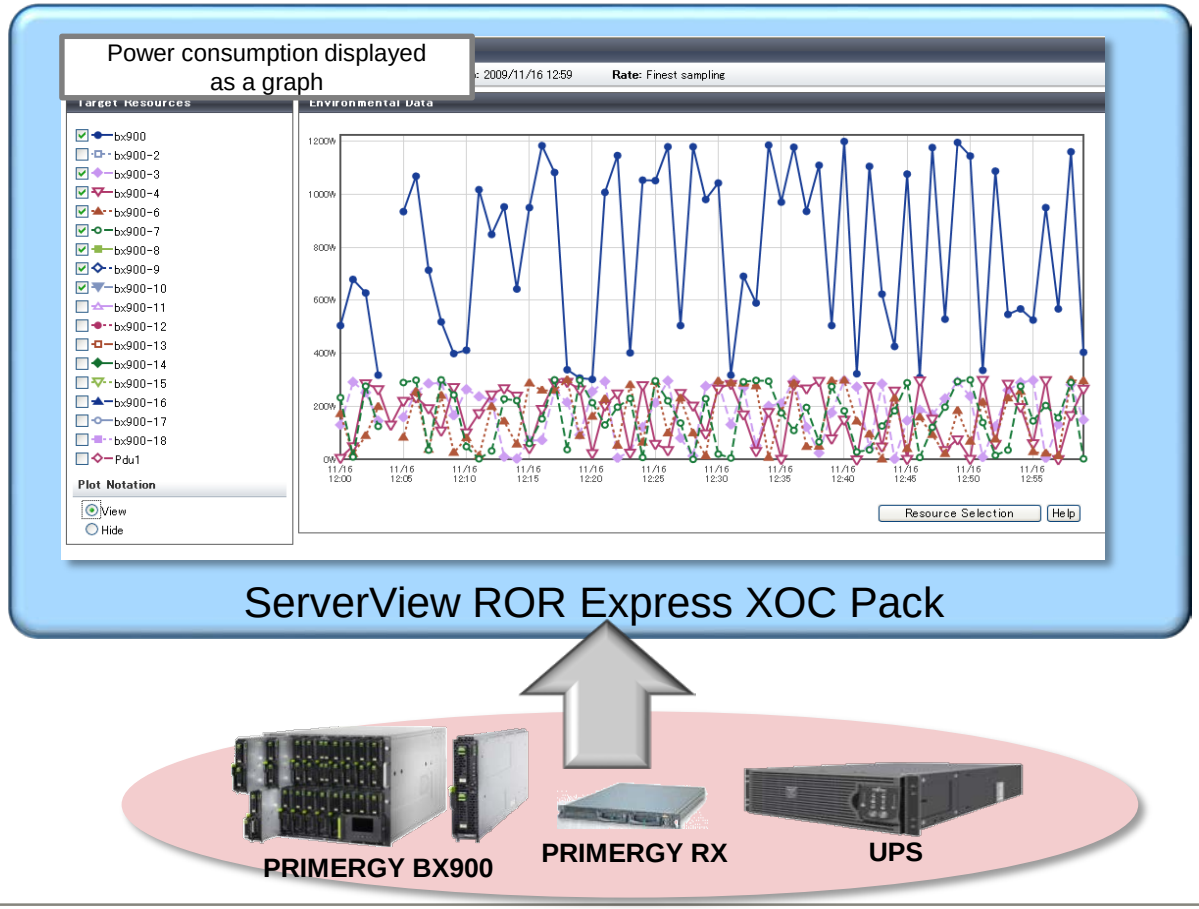
- After server maintenance, when only virtualization management software is used, on top of the time it takes to bring the VM guest back to the original host server one by one, there is a high risk of human error occurring

Reference

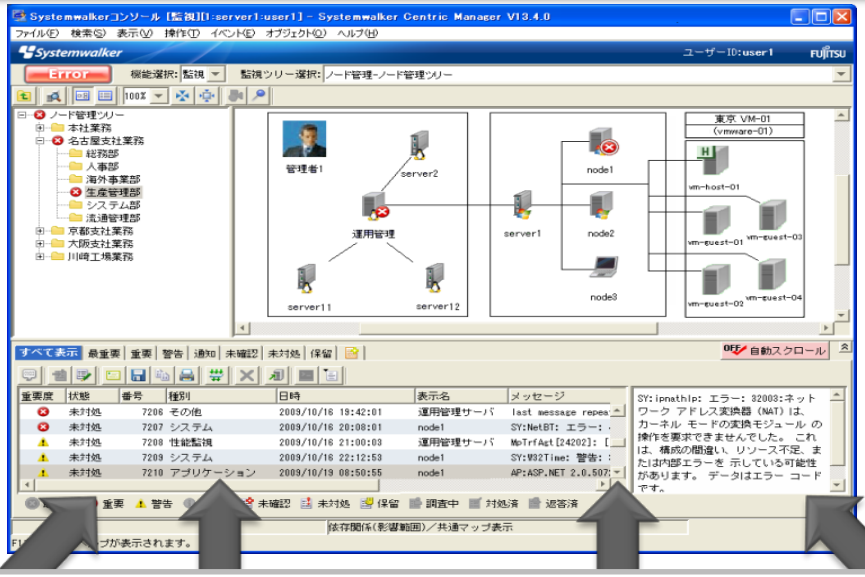
Visualizing the Power Consumption

Power consumption is visualized and used as the basic data for power-saving measures

- The power consumption is recorded per ICT resource, for example, chassis, server, UPS, and etc.
- Trends in the power consumption are displayed as a graph or output to a CSV file

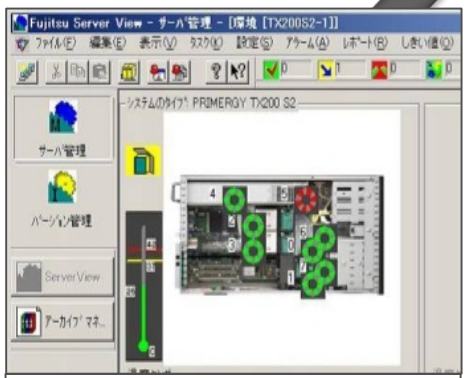


Integrated monitoring products

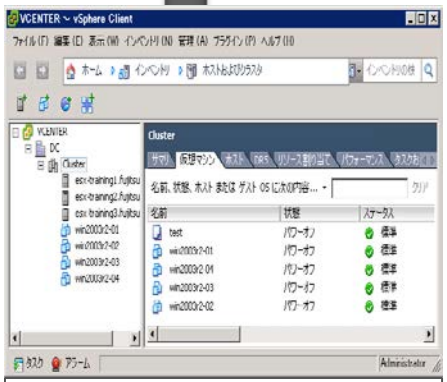


- Trap notifications from various monitoring products are centrally managed in an infrastructure monitoring screen
- The administrator is notified of important events by mail
- The standard monitoring settings are provided as a definition file

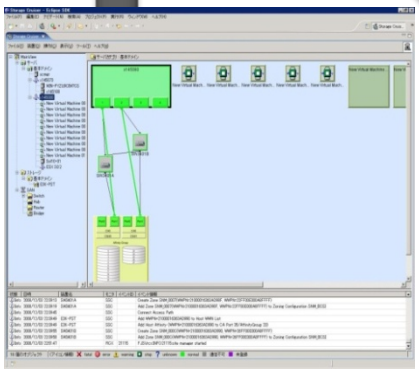
Trap notification



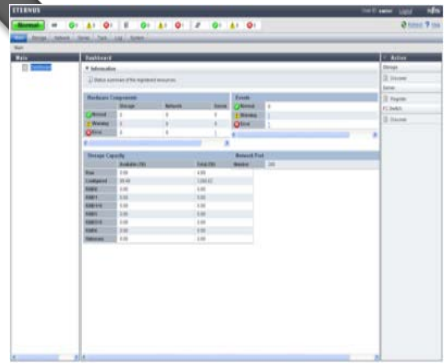
Monitoring physical servers
ServerView Operations Manager



Monitoring VMware
VMware vCenter Server



Monitoring storage
ETERNUS SF Storage Cruiser



Managing backups
ETERNUS SF
AdvancedCopy Manager

Operating Environments

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Software

	Software	Function
OS	Windows Server 2008 Windows Server 2008 R2 (*1) Windows Server 2012 Windows Server 2012 R2	Management Server (Manager)
Browser	Microsoft Internet Explorer 8 Microsoft Internet Explorer 9 (*2) Microsoft Internet Explorer 10 Microsoft Internet Explorer 11	Management Client
Virtualization software	VMware Hyper-V	Hypervisor

*1: This is supported on SP2 or later.
*2: The web client must use the Compatibility View function.

Hardware

	Hardware	Function
Server	PRIMERGY BX/RX/TX	Management Server (Manager)

Note: Contact Fujitsu technical support for details on applying this to PRIMEQUEST.

Functional Overview of ServerView Resource Orchestrator Cloud Edition XOC Pack V1

- Infrastructure Monitoring +
  ServerView Resource Orchestrator Cloud Edition
- Features which have been added in Express XOC Pack

What ServerView ROR Cloud Edition XOC Pack V1 Can be Used For

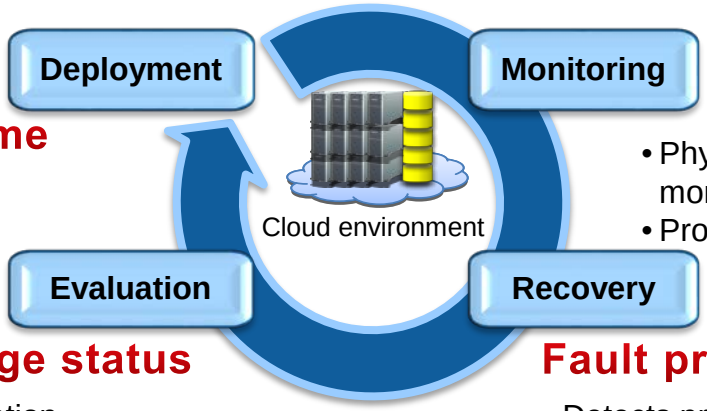
ServerView ROR Cloud Edition XOC Pack V1

Infrastructure monitoring

+

Cloud infrastructure management

- Integrated monitoring of a virtualized collection of virtual servers and physical servers
  Heartbeat monitoring (ping), hardware monitoring (trap)
- The administrator is notified by mail when a serious problem has occurred
- The server is switched automatically by the fault predictor and recovered automatically from the server fault
- Resource pooling
- Automation of the whole process from usage application to batch-deployment



Reduced system build time

- Resource pooling
- Automatic deployment

Integrated management of various environments

- Physical server/network/virtual server status monitoring and relationship management
- Problem notification by mail

Visualized resource usage status

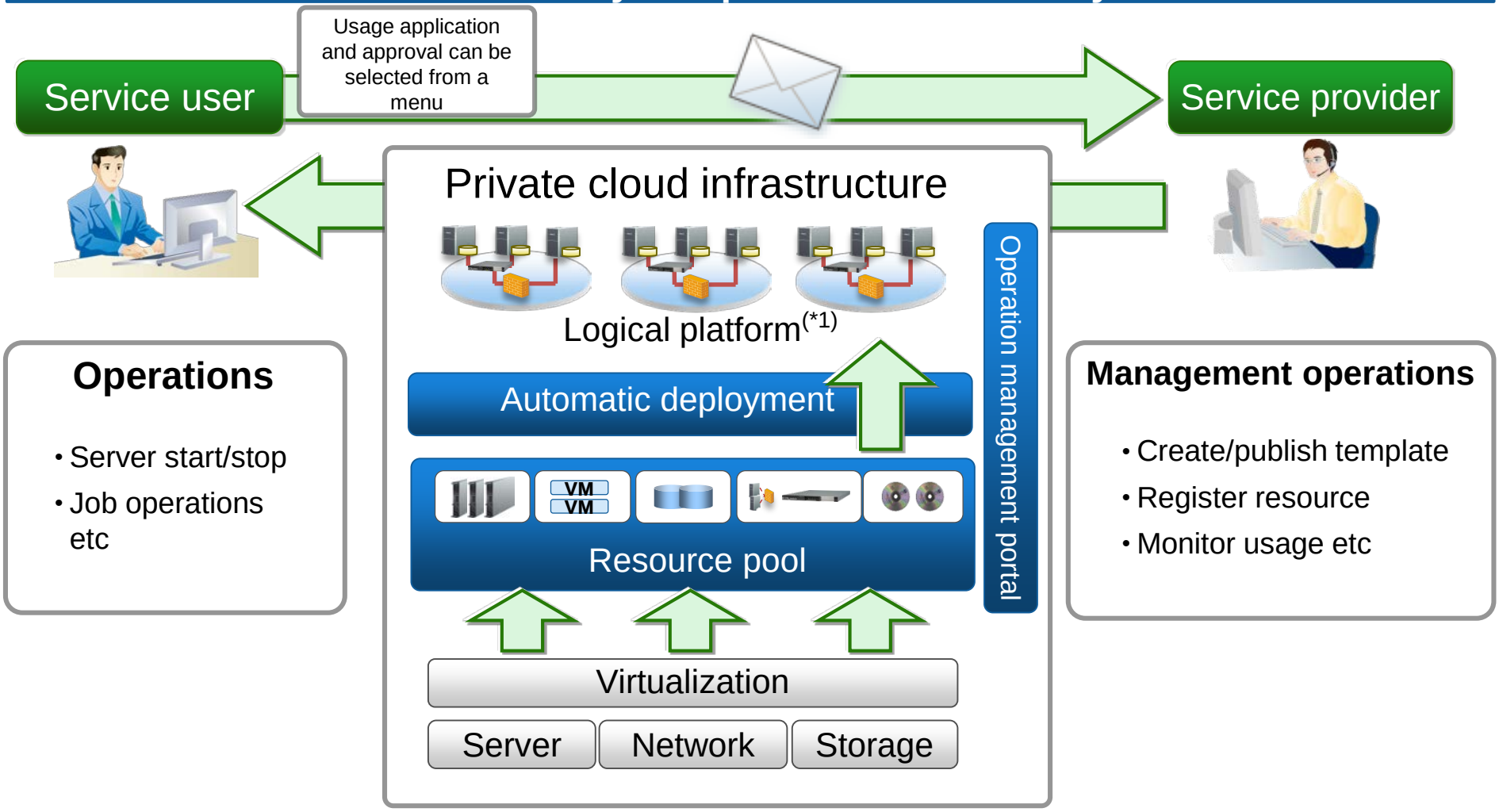
- Collecting operation information
- Resource usage threshold monitoring
- VM location simulation

Fault prediction, automatic recovery

- Detects predictors of server fault and switches the server automatically
- Automatic recovery from the server fault using a spare server

Managing Private Cloud Infrastructures

When the usage application is submitted, a usable platform is built automatically and provided immediately



*1 This is the business system infrastructure which comprises the combined virtual and physical resources

Deploying a Logical Platform

Speedy provision of a logical platform is possible

- Based on the template specified by the user, it is possible to automatically deploy logical platforms on which virtual servers or physical servers or both can co-exist

Information Systems Department Cloud Infrastructure Operations Manager

ServerView Resource Orchestrator

Images
Windows

L-Platform templates

(1) The application is accepted

(2) The logical platform template is obtained

Apply for the deployment

The deployment is notified

(3) Automatic deployment
- Server, storage, network settings
- OS settings

Virtualization management software

Virtual server | Virtual server | Physical server

Virtualization software

Network devices (firewall, load balancer)

Logical platform

Optimized Usage of VM Host Resources

The problem of insufficient VM host resources as a result of overlapping virtual server load peaks is resolved

- The overload/non-overload state can be understood via visualization of the resource usage per VM host
- In order to resolve the VM host overload, it is possible to determine the relocation of virtual servers without overlapping load peaks by using a relocation simulation

In operation

VM hosts in an overload state are monitored based on the usage and the physical resource amount

By simulating the resource usage for the VM host, the moving of the virtual server is validated/evaluated

The move operation for the virtual server is executed based on the validation/evaluation results

(1) Check per VM host

(2) Check per virtual server

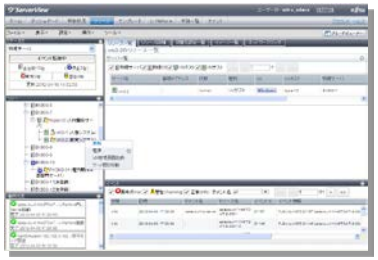
(3) Determine the move target virtual server and move destination VM host

Display by time zone

Display in chronological order

Display by day of the week

(4) Refer to the VM host in a resource pool and order the move



(5) The overload state is resolved

Note)This function is effective for VMware.

Operating Environments

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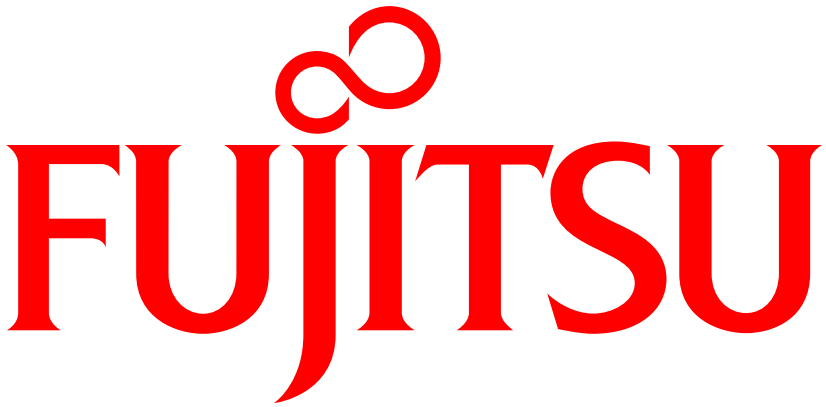

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