Contents

- Benefit of private cloud
- Functional Overview
  - Features for Private Cloud
  - Features for Resource management
- System configuration & supported environment
Benefit of private cloud

Speed up system setup time and reduce operational complexity and management

1. Service Portal
   User interface for system operation and management
   Provide a unified interface for a multi-Platform environment and reduce the operational costs

2. Auto deployment
   Automated L-Platform setup
   Dramatically reduce setup time by batch setup of a multi-tier system with a standardized template

3. Resource Pool
   Integrate resources into a resource pool
   Use resources more effectively by optimizing multiple systems’ resources
Features for Private Cloud
Platform provision as a service

Automatically provide a ready-to-use platform

Use the service

Provide a service

Operation
- Subscribe a L-Platform
- Start/stop servers
- Status monitor, etc.

Management
- Create, publish service template
- Manage resources
- Monitor capacity, etc.

Service Portal

Logical Platform*1

Auto deployment

Resource Pool

Virtualization
- Server
- Network
- Storage

*1 A production system mixed with a combination of physical and virtual resources.
Administrative operations are limited by the user roles

Tenant User
- L-Platform subscription
- Resource status monitor

Tenant Admin
- Manage tenant private pools
- Manage tenant specific templates
- Manage tenant user accounts
- Approve L-Platform subscriptions

Infra Admin
- Register resources, manage hardware
- Manage public pools
- Create and publish the basic templates
- Review and approve L-Platform subscriptions

Service Portal

Deployment

Resource Pools

L-Platform

Visualize the operation status
L-Server can be a **physical L-Server** (native OS and hypervisors) or a **virtual L-Server** (VM Guest) which is: [Defined by FUJITSU Software ServerView Resource Orchestrator using resources in the resource pools]

L-Platform is an infrastructure logical platform that may include one or more L-Servers, storages, networks and system images; up to a maximum of 30 components including firewall and server load balancer.

**Sample of a multi-tier L-Platform system**

- **Web-AP Server** (virtual L-Server)
- **DB Server** (physical L-Server)
- **Server Load balancer** (Network device)
- **Firewall** (Network device)
- **VLAN**
- **(FC-SAN)**

**Note 1:** L-Server defines the logical specification for virtual server/physical server and storage/network connected to them (number of CPU, memory size, number of NIC, disk etc).

**Note 2:** L-Platform is by FUJITSU Software ServerView Resource Orchestrator unit of subscription by users
Manage resources in a multi-tenant environment

Share public infrastructure resources across multiple separated tenants

- Each tenant uses resources exclusively from the private resource pools
- L-Platform template creation and publication is tenant-specific as well
Users access cloud resources via the advanced self-service portal
Platform lending process flow

Automatic building of the infrastructure layer which can also be used for visualization of ICT resource usage

- **Tenant User**
  - Use service

- **Tenant admin**
  - Select L-Platform and apply for service
  - Displays status of utilization

- **Infrastructure administrator**
  - Define L-Platform specification
  - Approval of L-Platform

- **FUJITSU Software ServerView Resource Orchestrator**
  - Provisioning management (Building of L-Platform)

Pool Management of ICT resources. (consolidate resources and create pools)

ICT resource pools

VM
Based on the user specified template, L-Platform is automatically deployed and configured. Physical/VM mixed L-Platforms are also supported.

**L-Platform deployment**

1. **Accept subscription**
   - Image file
     - Windows
   - L-Platform template

2. **Get information from L-Platform template**
   - 2. Get information from L-Platform template

3. **Deployment**
   - Setup server, storage, network
   - Deploy and configure OS

*FUJITSU Software ServerView Resource Orchestrator*

- VM software
- VM Server
- Physical Server
- VM management software
- Network device (firewall, server load balancer)

**Quickly provide logical platforms to tenant user**

- Based on the user specified template, L-Platform is automatically deployed and configured. Physical/VM mixed L-Platforms are also supported.
Template creation and publish

Provide different configuration patterns to group companies or for internal use

- GUI operation to create, register and publish a template
- Server and allocated resources can be defined for each template
- Template can be shared by multiple tenants or used by one tenant

FUJITSU Software ServerView Resource Orchestrator

1. Register
   - Template info
   - L-Platform spec: Name, Purpose, etc.

2. Register
   - Setup script
   - Define firewall ruleset
   - Define Server load balancer rules

3. Publish

Service portal

Create a template

Infra Admin
Tenant Admin
L-Platform subscription

Service-enabled L-Platform creation with full automation process

- A multi-tier system, including firewall and server load balancer, can be deployed automatically by simply selecting a template
- CPU and Memory spec can be changed after L-Platform creation

1. Select a template
2. Customize
3. L-Platform subscription
4. Approval process
5. Notification email when finished (user ID, password, etc.)

Auto deploy a virtual L-Platform

Tenant Admin (Approval)
InfraAdmin (Review)

Get a virtual L-Platform

Firewall/Server Load balancer

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Subscription process

Ensure the subscription of a tenant user is valid or not before the actual deployment

- Two stages (review and approval) to check the tenant user’s subscription
- Reject or approve the subscription is judged by the responsible person

FUJITSU Software ServerView Resource Orchestrator

Tenant User

Tenant Admin

Infra Admin

Tenant Admin

Infra Admin

Tenant User

Subscription process

Ensure the subscription of a tenant user is valid or not before the actual deployment

- Two stages (review and approval) to check the tenant user’s subscription
- Reject or approve the subscription is judged by the responsible person
Using of cloud services (1)

After L-Platform deployment, L-Platform spec and configuration can be changed by tenant user (subscription is required)

- System configuration, spec and L-Server number can be changed

Tenant user can change the following parameters without stopping L-Platform:
- CPU number, performance
- Memory size
- Disk number
- Server Number

Tenant User

End user number is increasing

Customer division A

Customer division B

Heavy load

Add more resources
To avoid the performance neck

L-Platform A
Task A

L-Platform B
Task B

VM
Using of cloud services (2)

Easy operation and easy maintenance

- Power on/off L-Platform, including all L-Servers through one operation
- Support 3 generations snapshot image management, and be able to restore to any specified generation

Power control button

Snapshot collect
Resource pool management

- Integrate resources into resource pools for central management
- Easy to know the current resource usage and plan for future

Integrate the scattered resources into resource pools

*: Pools to manage the network configuration info (IP, VLAN-ID, physical connection) and network devices (Firewall/Server load balancer)
Network configuration automation (1)

Reduce operation costs by automating and simplifying VLAN networks

- Automatically create VLAN and virtual networks on the VM host.
- Automatically connect newly created virtual servers into the virtual network

Site Preparation

**STEP1:** Cabling and decide VLAN ID

ServerView Resource Orchestrator Manager

Configure uplink port VLAN ID (via by FUJITSU Software ServerView Resource Orchestrator GUI)

**STEP2:** Create network resource

- Use VLAN ID=101
- Uplink port info a,b
- Subnet address
- Available IP address

L-Platform subscription

1st time Manager

Blade Chassis

LAN switch blade

VLAN101 network

Virtual Server

Server Blade

Server Blade

2nd time Manager

LAN switch blade

VLAN101 network

Virtual Server

Server Blade

Server Blade

*:Automated area

* Sample of VMware ESX/ESXi(vNetwork), Hyper-V on blade server. Automation scope differs from OS/hardware environment
Simplify firewall and server load balancer configuration

- Automatically configure firewall and load balancer when creating/modifying/changing the L-Platform.
- Prepare recovery scripts in advance, if the script execution fails, it is skipped and the unfinished configuration is removed automatically.

*1 The infrastructure administrator should prepare the setting script for each piece of equipment. Tenant user can specify arrangements of that scripts from setup screen.
Resource status monitoring

Easy to check the server resource usage and conditions

- Centralized view to show all the L-Platform resources usage
- Reference range can be restricted in accordance with the tenant user and tenant admin’s role authority

Collect and store usage data

Display resource usage in graph

- CPU usage rate(%)  
- Memory amount (MB)  
- Disk read/write amount (MB/S)  
- Disk read/write number (IOPS)  
- Network throughput (Mbps)
Monitoring of resource usage (1)

- Predict the future usage based on existing actual data
- Early detection of insufficient resources through threshold monitoring

Real time analysis for the best performance

Regression analysis the usage of the resource pool

Threshold monitoring and email notification

When threshold is exceed

Notification email

Total

Usage graph

Period until depletion point

Predict when the depletion

VM Pool(CPU) (demand forecast)
Monitoring of resource usage (2)

Resolve the VM host insufficient resource problem by optimizing the VM guest relocation

- Resource load is displayed in graph per host, which can be used to check whether the host is over-loaded or under-loaded
- Simulate the VM guest reallocation, to find the best solution and avoid peak time heavy load in advance

1. Check usage per host
2. Check usage per guest
3. Decide the reallocate guest OS and its destination
4. Refer to the simulation result and migrate the target guest OS
5. Avoid system over load

Pre-validate the resource usage by simulating the status after guest OS reallocation

Monitor over-load VM host based on the physical resource amount and usage

Based on the result of simulation reallocate the guest OS to avoid the over-load

Display temporal sequence
- Display by weekday
- Display by time slot
Flexible billing function based on the customer requirements

- Easy to use monthly billing based on the unit price of L-Platform
- Unit price (master DB) and usage (metering log) can be collected from FUJITSU Software ServerView Resource Orchestrator API, to customize the billing rule
Disaster recovery

Quickly recover the private cloud infrastructure on the backup site by replicating the disk contents and FUJITSU Software ServerView Resource Orchestrator configurations.

- Both of primary site and backup site can be used as active state (backup site can be used for another purpose).
- In case of disaster, the whole primary site or a part of resources (L-Platform, tenant, etc.) can be recovered. More than one primary sites can share one backup site to reduce spare resources.

* This function is activated by “ServerView Resource Orchestrator DR Option”.

Diagram:
- Primary site (Operating in usual)
  - Admin server
  - App A
  - Server
  - Storage (SAN/NAS/iSCSI)
- Backup site (operating in disaster)
  - Admin server
  - App A
  - App B
  - Server
  - Storage (SAN/NAS/iSCSI)

Replication for system disk and data disk
Duplicate the configuration info
Hybrid cloud support (migration between private and public)

Realize a flexible migration of virtual server to the public cloud

- Export/Import the virtual server image format (OVF file) on the private cloud with a definition information.

Source: private cloud

ServerView Resource Orchestrator

Virtual server  Virtual server  Virtual server

Resource pool

Destination: public cloud*1

Image format for virtual server (OVF file: Open Virtualization Format)

*1: Please contact the engineer about the destination cloud.
Apply for VDI (Virtual Desktop Infrastructure)

Decrease the operation costs of the VDI environment

In VDI, timely providing of virtual PC to the user is important like Private Cloud operation. This product can efficiently operate the life cycle of the virtual PC by automatic deployment and visualization of the operation status.

[point 1] timely providing of a lot of virtual PCs
- Shortening at VDI environment creation period (1.5 month*1) by automatic deployment of virtual PC (including register ActiveDirectory and VDI software).

[point 2] easy management of virtual PCs
- The user operation status can be monitored via viewer function.
- Take a snapshot before OS patch is applied.
- Reuse the released resources from user.

*1: an actual sample of a customer
Automatically Quarantine

Automatically switch infected computer to the quarantine network

The infected computer is automatically switched to the quarantine network by ServerView Resource Orchestrator, and vice versa.

<table>
<thead>
<tr>
<th>Without ServerView Resource Orchestrator</th>
<th>With ServerView Resource Orchestrator</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram of computer with virus scanner" /></td>
<td><img src="image2" alt="Diagram of computer with virus scanner" /></td>
</tr>
<tr>
<td>Administrator notification</td>
<td>Quarantine infected computers automatically</td>
</tr>
<tr>
<td>XenApp/XenDesktop</td>
<td>ServerView Resource Orchestrator</td>
</tr>
<tr>
<td>Virus Scanner</td>
<td>Virus Scanner</td>
</tr>
<tr>
<td>Service LAN</td>
<td>Service LAN</td>
</tr>
</tbody>
</table>

Above process causes delay in response which can lead to the spreading of the virus.

In thin-client environment, both users and administrators' manual processes can be done automatically.

V3.4 enhancement:
- Functions also provided in ROR Virtual Edition.
- Additional Anti-virus software (Symantec, McAfee) supported
- Actions on security risk can be selected in advance (Reboot PC/Quarantine/Send e-mail to administrator)
<table>
<thead>
<tr>
<th>Function</th>
<th>Summary</th>
<th>Virtual Edition</th>
<th>Cloud Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Security</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Account management</td>
<td>Register/delete users for each tenant</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Access management</td>
<td>Limit operational resource scope based on the user’s role</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Automatically Quarantine</td>
<td>Automatically Quarantine virus-infected computers</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Resource subscription</td>
<td>Apply for a logical platform (L-Platform)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Configuration change</td>
<td>Delete/modify the L-Platform configurations after it is created. Define firewall and server load balancer’s setting</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Power control</td>
<td>Power on/off L-Platform and L-Servers</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Snapshot</td>
<td>Collect and restore virtual server’s snapshot as backup</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Display resource usage</td>
<td>Display CPU/memory usage, power status, Network status, etc. of each L-Platform.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Auto deploy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service template</td>
<td>Define/modify/customize/publish a service template. Cloning master can be change/delete as well. Define the scripts for the external network device</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Subscription workflow</td>
<td>Manage L-Platform application, approval operation and history</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Resource pool</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource pool</td>
<td>Create/change/move/delete resource and resource pool</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Provisioning</td>
<td>Automate server provisioning within the accessible resources</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Monitor resource usage</td>
<td>Monitor resource pool’s usage and forecast. Display and simulate virtual server, virtual host resource usage.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Disaster-recovery</td>
<td>Move the customer production from primary site to remote backup site</td>
<td>✓</td>
<td>*1</td>
</tr>
<tr>
<td><strong>Billing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billing and accounting</td>
<td>Collect and output the resource usage data which relates with billing (XML/CSV). Calculate and display the billing report on GUI</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

*1 FUJITSU Software ServerView Resource Orchestrator DR option license is required
Features for Resource management
Simplify blade server management

- Display blade chassis, server blades, virtual/physical servers, OS names
- Easy to confirm status of all servers (powered on/off, error)

Status view (warning light)

- normal
- warning
- error

Status view (server status and #)

- None
- Normal
- Warning
- Error
- Stop

Contact person address

Power control

Green: power on
Gray: power off

Server Status

OS and label is displayed (when the guest OS is migrated to another host, the name is moved as well)
Network Viewer (1)

Easy to identify the network error location and impacted servers

- Display the connection between physical/virtual servers, physical/virtual switches
- Display connections (VLAN/VM, redundant network) and switch port status

Resources can be searched and Autocomplete is available.

Network connections related to selected VLAN ID is highlighted.

Network connections with error and warning are only displayed.

Moving, Scaling, Initializing

Detailed information for selected resource is displayed.

Network route can be searched specifying start and end.

Map navigation area
Network Viewer (2)

Strongly support operations management of cloud management

[Function]
- Display physical/virtual network and corresponding production network (logical platform configuration)
- Display/output lists of resources and contacts of tenants

[Benefit]
- Enable administrators to monitor network status from service perspective

---

Physical/virtual network (VM guests, virtual switches, etc.)

Switch screen

Production network (Logical platform)

Display list / CSV output (Physical/virtual resources, Contacts of tenants)
VM home position

One click to migrate all guest OSs to the original location

- Register the belonging VM host (home position), and move all the guest OSs back to original location automatically
- Home position registration and home position operation can be done for a single physical server or the whole system

Without VM home position

Sometimes the administrator needs to migrate the guest OSs to other hosts temporarily (during maintenance, etc.). But after that, it takes time to migrate those guest OSs back to the original designated position

With VM home position

One click will move all the guest OSs to the original designated position

FUJITSU Software
ServerView Resource Orchestrator
Unified system image management

- Backup system images, and centrally manage images in FUJITSU Software ServerView Resource Orchestrator manager (keep multiple generations)
- Simple operation from GUI to backup system image. CLI is also provided for automation

Without this function, image management is difficult

Managed Server

- This function supports iSCSI boot and EFI environment as well (in addition to SAN boot and local boot).
- Backup/restore can be performed for each physical server or VM host.
- Note that VMware vSphere 4/5 host backup/restore is not supported.
Auto recovery (PC Server)

N+1 “cold-standby” enables high availability and cost reduction

- Share one spare server across multiple production servers (N+1 cold-standby)
- Auto recovery of failed server on spare server to keep server functional

Ex: FUJITSU Server PRIMERGY BX900+SAN Boot

Server Failover

1. Detect a hardware failure
2. Power off the failed server
3. Configure the network
4. Remap the virtual addresses (when using I/O virtualization method)
5. Restore with the server image (when using backup/restore method)
6. Boot from the spare server

*: Windows server can not share the same spare server with VMware vSphere 4/5 ESX/ESXi servers.
Auto recovery (UNIX Server)

N+1 cold-standby solution on SPARC Servers

- Auto recovery FUJITSU SPARC Servers from a hardware failure
- Integrate with FUJITSU Software ETERNUS SF Storage Cruiser(*1), FC switch zoning and host affinity settings of SAN storage settings can be automatically switched

Auto recovery FUJITSU SPARC Servers from a hardware failure

1. Detect a hardware failure
2. Power off the failed server
3. Reconfigure the access path
4. Boot from the spare server

*1. ETERNUS SF Storage Cruiser is required for this function
Auto migration from pre-failure error

Reduce the risk of server stoppages due to physical server failure

- Pre-failure detection, migration, failover, and move back to the original host (home position), the whole process is automated

1. Detect a prefailure
2. Migrate to other healthy server
3. Recover VM host (host failover)
4. Move back to the original position (home-position)

FUJITSU Software ServerView Resource Orchestrator

VM Management Software

1. Guest A
2. Guest B
3. Guest E
4. Guest F
5. Guest C
6. Guest D
7. Guest B
8. Guest A

Pre-failure

Server A
Server B
Server C
Spare

VM Host#1
VM Host#2
VM Host#3

Process of prefailure detection until system recovery

*1. All supported VM software (except for VMware vSphere 4.1 ESXi) which provides migration function can be supported.
*2. This function requires external script (will be published on web site)
FUJITSU Software ServerView Resource Orchestrator monitors the managed servers by ping command (*1). When the server has no response, FUJITSU Software ServerView Resource Orchestrator automatically re-starts the server (*2).

When the server has no response after restart, FUJITSU Software ServerView Resource Orchestrator automatically failovers the server to spare server (*3).

*1. FUJITSU Software ServerView Resource Orchestrator uses admin LAN to monitor the managed server. When this “OS hang-up monitor” option is enabled, the server may be forcibly rebooted when running. Admin LAN redundant setting is recommended.

*2. VMware ESXi is not supported

*3. For servers which doesn’t support server failover (FUJITSU Server PRIMEQUEST 2000/1000 Series), the action will be OS restart only.
Quick server addition using cloning image deployment

- Using image deployment to setup a new server quickly
- After image deployment, management LAN information is automatically configured
Visualize power consumption and support green IT

- Monitor each IT resources (chassis, server, UPS) power consumption status in real time
# Server management function list

<table>
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<tr>
<th>Function</th>
<th>Summary</th>
<th>Virtual Edition</th>
<th>Cloud Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration display</td>
<td>Display physical/virtual server list, and the relationship of VM host and guest</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Server monitor</td>
<td>Monitor physical/virtual server status (normal/stop/warning/error)</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Failure monitor *¹</td>
<td>Monitor server hardware failure, hardware prefailure and vCenter alert. Invoke server failover, force reboot or other external customer scripts</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Power control</td>
<td>Physical/virtual server power control ON/OFF (provides GUI/CLI)</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Power consumption display *¹</td>
<td>Graphically display power consumption amount of server, blade chassis, UPS</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Server cloning *¹</td>
<td>Quickly deploy native OS to physical server for quick setup (Windows/Linux)</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Disk backup *¹</td>
<td>Backup/restore system disk of physical server (Windows/Linux)</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>VM server migration *¹, *²</td>
<td>Migrate VM guest to other VM host. One-click to re-migrate back all VM guests to the original VM host position</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>PRIMERGY blade server management</td>
<td>Monitor blade server in intuitive GUI which shows similar picture as a real blade chassis. Simplify LAN switch blade VLAN setting and display the topology including virtual network and physical LAN switch blade VLAN setting</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>PQ partition management</td>
<td>Display server partition information (SB, IOB, GSPB). Display virtual network and server NIC vlan setting</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Server I/O virtualization *¹</td>
<td>Replace physical server without re-configure SAN storage</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>VM server HA *¹, *²</td>
<td>Automatic migrate guest OS to other server when hardware prefailure happens on hypervisor</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Physical Server HA *¹</td>
<td>Switchover and reboot the spare server, when the server OS is hung-up or hardware failure occurs</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

*¹ Function differs from different server type and OS *² VM management software (VMware vCenter, Microsoft SCVMM) is required
Product information
Products

- **FUJITSU Software ServerView Resource Orchestrator Virtual Edition**
  - Simplify server management lifecycle by automating server installation, visualizing multi-platform systems, and server failover

- **FUJITSU Software ServerView Resource Orchestrator Cloud Edition**
  - Manage resource pools and quickly automate the L-Platform deployment based on the users request to improve the system operation efficiency.

<optional products>

- **FUJITSU Software ServerView Resource Orchestrator I/O virtualization option (FJ-WWN16)**
  - Required for server I/O virtualization function. Provides globally unique virtual WWN number for 16 managed servers.

- **FUJITSU Software ServerView Resource Orchestrator I/O virtualization (FJ-MAC16)**
  - Required for server I/O virtualization function. Provides globally unique virtual MAC number for 16 managed servers.
## Functional Differences Between Virtual Edition & Cloud Edition

### Requirement Functionality

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Functionality</th>
<th>Virtual Edition</th>
<th>Cloud Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralized virtual/physical server management</td>
<td>Visualize and monitor virtual and physical servers</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Consistent interface of server management</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Improve server availability</td>
<td>I/O virtualization for flexible connectivity between server/storage</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Auto recovery from server hardware failure</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Detect hardware prefailure to avoid virtual server stop</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Provide platform service</td>
<td>Visualization of resource and resource pool usage</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Auto deploy L-Platform with template</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Manage L-Platform with service portal</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Visualize resource capacity and billing</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Disaster recovery for L-Platform</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>(ServerView Resource Orchestrator DR option is required)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

x: Supported, -: Not supported
Support environment (1)

Windows / Linux / Solaris

<table>
<thead>
<tr>
<th>OS</th>
<th>Function</th>
<th>FUJITSU Software</th>
<th>Virtual Edition</th>
<th>Cloud Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Server 2016</td>
<td>Admin server (Manager)</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Windows Server 2012,2012R2</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 6</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Server 2016</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Windows Server 2012,2012R2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 7</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 6</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Oracle Solaris 11</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Oracle Solaris 10</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

**Browser (web client)**

Microsoft Internet Explorer 8/9/10/11(Desktop) ,
FireFox ESR24/ESR31/ESR38/ESR45/ESR52/ESR60 is supported
## Support environment (2)

### Server

<table>
<thead>
<tr>
<th>Server</th>
<th>Function</th>
<th>FUJITSU Software ServerView Resource Orchestrator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Virtual Edition</td>
</tr>
<tr>
<td>FUJITSU Server PRIMERGY BX/RX/TX</td>
<td>Manager</td>
<td>x</td>
</tr>
<tr>
<td>FUJITSU Server PRIMEQUEST 2000/1000 series</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>FUJITSU Server PRIMERGY BX/RX/TX/CX</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>FUJITSU Server PRIMEQUEST 2000/1000 series</td>
<td>Agent</td>
<td>x</td>
</tr>
<tr>
<td>FUJITSU SPARC Servers</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>IPMI 2.0 compatible 3rd party vendor Server*1</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

*1: Please contact Fujitsu for details about the supported server vendor/models

### Virtual management software

<table>
<thead>
<tr>
<th>Software</th>
<th>Function</th>
<th>FUJITSU Software ServerView Resource Orchestrator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Virtual Edition</td>
</tr>
<tr>
<td>VMware vSphere</td>
<td>Agent</td>
<td>x</td>
</tr>
<tr>
<td>Microsoft Hyper-V</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Linux Kernel-based Virtual Machine (KVM)</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Solaris Zone*2, Oracle VM Server for SPARC</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

*2: Solaris Kernel Zone is not supported.
# Support environment (3)

## Network devices

<table>
<thead>
<tr>
<th>Network device</th>
<th>Function</th>
<th>FUJITSU Software</th>
<th>ServerView Resource Orchestrator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Virtual Edition</td>
<td>Cloud Edition</td>
</tr>
<tr>
<td>FUJITSU Network System SR-X300</td>
<td></td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>FUJITSU Network System SR-X500</td>
<td></td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Cisco Catalyst</td>
<td></td>
<td>X*1</td>
<td>X*2</td>
</tr>
<tr>
<td>FUJITSU Network System IPCOM EX IN series</td>
<td></td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>FUJITSU Network System IPCOM EX SC series</td>
<td>Agent</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Cisco ASA 5500</td>
<td></td>
<td>-</td>
<td>X*3</td>
</tr>
<tr>
<td>Cisco Nexus 5000</td>
<td></td>
<td>-</td>
<td>X*4 *6</td>
</tr>
<tr>
<td>Brocade VDX (6710,6720,6730)</td>
<td></td>
<td>-</td>
<td>X*5</td>
</tr>
<tr>
<td>ExtremeSwitching VDX (6740,6740T,6940 series)</td>
<td></td>
<td>-</td>
<td>X*5</td>
</tr>
<tr>
<td>F5 Networks BIG-IP</td>
<td></td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

*x*: Supported, -: Not supported

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*1: The following series are supported: 2950, 2960, 3560, 3750
*2: The following series are supported: 2900, 2918, 2928, 2940, 2950, 2955, 2960, 2970, 2975, 3500, 3550, 3560, 3750
*3: ASA 5505 is not supported
*4: The following series are supported: 2000, 5000
*5: Support for network device monitor function. For network device auto configuration, the sample script is not provided
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