Introducing
FUJITSU Software
Systemwalker Centric Manager
V15.1.1.1

< Version 1.0 >
Contents

- Integrated Monitoring Required in Virtualization/Server Integration
- Characteristics of Systemwalker Centric Manager
- System Configuration
Integrated Monitoring Required in Virtualization/Server Integration
Complex Operations Management with the advance of Virtualization/Server Integration

Against the backdrop of cost reduction, server integration through virtualization has recently made great advances.

There is an accelerating trend towards integrating the system infrastructure via consolidation of all ICT assets of an entire corporation into a center and virtualization, with the aim of reducing costs.

Factors that increase costs in virtualization and server integration

- **Number factor**: Rapid increase in the number of devices (servers, PCs, network devices)
- **Variety factor**: Mix of physical servers, virtual servers, and network devices
- **Change factor**: Frequent swapping of devices and addition and deletion of virtual servers
### Factors that Increase Costs in Server Integration and Virtualization

<table>
<thead>
<tr>
<th>Number factor</th>
<th>Variety factor</th>
<th>Change factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid increase in the number of devices in centers.</td>
<td>ICT devices that need to be monitored are not just virtual servers.</td>
<td>Frequent swapping of devices and addition and deletion of virtual servers.</td>
</tr>
<tr>
<td>Takes time to check through large volumes of events. Responses to problems are delayed due to the difficulty of checking device information ledgers.</td>
<td>Separate management of virtual and physical environments is costly and troublesome.</td>
<td>Idle assets cannot be used effectively. Unnecessary software purchased.</td>
</tr>
</tbody>
</table>

**Problem**

- Large volumes of error events
- No problems

**Device configuration ledger**
- Middleware
- Software
- OS

**Maintenance contract ledger**
- Middleware
- Software
- OS

When the ICT infrastructure in centers becomes large-scale and complex, this can lead to cost increases due to the hours of administrative tasks required.
Common Customer Issues

Operational issues arising from virtualization/server integration:

**Issue of numbers**
- Need to determine the priority of problems from among a large volume of error events and solve them quickly.
- Need to reduce the burden of managing ICT devices.

**Issue of variety**
- Need to seamlessly monitor environments where the physical and the virtual are mixed.

**Issue of volume of changes**
- Need to understand the operational status of devices to reduce idle assets.
- Need to understand the status of software usage to effectively use software licenses.

Operational efficiency through the centralized management of the entire system, including ICT assets, is necessary to respond to the problems of number, variety, and change in center devices.
The Solution Is Systemwalker Centric Manager

"Visualization of the entire system and ICT assets" is achieved in an environment where virtualization and server integration have been adopted, and changes day by day.

**Solution to issue of numbers**
- Visualize problem status and trends
- Visualize error location and the extent of the impact
- Identify problem causes with just a few operations
- Filter important events from a large volume of events

**Solution to issue of variety**
- Visualize the relationships between physical and virtual servers, networks, storage, business units, and their operational status

**Solution to issue of volume of changes**
- Visualize the latest status through automated inventory of the ICT devices
- Visualize the current usage status of center devices and software

Centralized monitoring of the entire system  
Integrated management of the lifecycle of ICT assets
Centralized Monitoring of the Entire System

Quick response to problems is possible as the error location and the extent of the impact can be seen at a glance

- The status of the entire system cannot be seen
- The problem location and the extent of the impact cannot be determined

Servers/networks/storage/business units are monitored separately

- The operational status of physical/virtual servers, networks, storage devices, and business units can be checked in the same screen
- The location of the problem that occurred and the extent of the impact can be determined at a glance

Common monitoring of the entire system

Microsoft Azure can be monitored concurrently

The person in charge of each monitoring target (server, network etc.) is different and each is managed in a separate monitoring screen

The operational status of physical/virtual servers, networks, storage devices, and business units can be checked in the same screen
- The location of the problem that occurred and the extent of the impact can be determined at a glance
Integrated Management of the Lifecycle of ICT Assets

Efficiently manage changing ICT assets by understanding their status

Before installation

In server integration, the center devices just keep on increasing, so in management using a ledger, support for large volumes of devices isn't possible.

After installation

- **Systemwalker Centric Manager**
  - The daily status for system errors and the operational status etc. are checked together
  - Floor plans and asset information can easily be downloaded so that stocktaking and maintenance tasks can be performed efficiently
  - PC software licenses are recovered by managing the devices to be discarded

- **Purchase/lease plans are formed based on usage of the existing assets**
- **Hardware/software information and management information are collected automatically**
- **Floor plans and asset information can easily be downloaded so that stocktaking and maintenance tasks can be performed efficiently**
- **PC software licenses are recovered by managing the devices to be discarded**

- **Integrated Management of the Lifecycle of ICT Assets**
  - Efficiently manage changing ICT assets by understanding their status

- **Planning, Installation, Operation, Discarding**

- **Management targets**

- **PC, Server, Network devices**

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Characteristics of Systemwalker Centric Manager
Integrated Management of the System Operation and ICT Asset Lifecycles

Planning
(Understand the current status)

Installation
(Collection of the asset information)

Discarding
(Recover the software licenses from among the asset targets)

Operation
(Understand the asset status)

System operation lifecycle

Installation/setup
(Deployment)

Assessment

Monitoring

Recovery

Framework
Management Functions for the System Operation Lifecycle

**Operational Security**
- **Standard Edition**
  - **Installation**
    - Software resource distribution
    - Inventory collection
  - **Monitoring (1)**
    - Operational status monitoring
    - Event monitoring
    - Performance monitoring
    - Auto-notify
  - **Operational Security (1)**
    - Server Access Control
    - Log recording
    - Log collection/archiving
    - Log search
    - Log review (report)

- **Enterprise Edition**
  - **Recovery**
    - Remote operation
    - Remote commands
    - Power on/off
  - **Assessment**
    - Operational assessment
  - **Monitoring (2)**
    - Cluster system monitoring
    - Large-scale multi-layer monitoring
    - High reliability through redundant configuration
  - **Operational Security (2)**
    - Console operation control

**Lifecycle**
- **Install**
- **Monitor**
- **Assess**
- **Recover**
Monitoring of the Entire System

Various environment systems can be monitored in one console

- Monitor entire system in one screen
  - Using the Web GUI, the operational status of servers, networks, storage, and applications are simultaneously monitored on one screen
  - Monitor physical servers and virtual servers by associating them
  - The monitoring menu corresponds to the administrator role
  - Link with third parties’ systems operations management software to achieve fully integrated monitoring regime (adaptor for linkage to third party systems distributed free)
  - Implement both Integrated Monitoring of the data center and individual monitoring of tenants and business systems
Linkage with Other Monitored Products

All problems can be checked in one screen

Systemwalker Centric Manager integrated monitoring screen

Monitoring the physical server image
ServerView Resource Coordinator VE

Performance management
Systemwalker Service Quality Coordinator

Monitoring Oracle
Systemwalker for Oracle
Integrated Monitoring for Multi-vendor Environments

Error messages managed by the products of other vendors can be monitored in one screen

• Various third party products are deployed, but they cannot be integrated.

The operations management products used for respective systems are different, and cannot be integrated.

• Integrated monitoring through linkage with various vendors’ systems operations management products
• Integrated monitoring is added to the existing environment

Integrating multi-vendor monitoring to unify systems operations

Reference 2:
Error messages managed by the products of other vendors can be monitored in one screen

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Centralized Monitoring of Public Cloud Environments

On-premises systems (Windows/Linux/UNIX) and public cloud environments can be monitored centrally with a single console.

Integrated monitoring window **Systemwalker Centric Manager**

- **Monitoring on-premises services**
- **Monitoring Amazon EC2/ Microsoft Azure and other services**
- **Centrally monitoring on-premises/Amazon EC2/ Microsoft Azure and other logs**

**Note:** The IPv6 communication protocol is supported.

**Agent-based Monitoring**
- Fujitsu servers

**Agentless Monitoring**
- Server purchased separately
- Server where jobs are running

**Microsoft Azure Platform**
- FUJITSU Cloud IaaS Trusted Public S5
- FUJITSU Cloud A5 Powered by Microsoft Azure

**Amazon EC2**

**NIFTY Cloud**

* Microsoft Azure monitoring is available only when the monitoring server that directly communicates is Windows.

Reference 3:
Monitoring Immediately after Deployment of a Virtual Server

Monitoring of a deployed virtual server can be automatically started straight away.

Before installation:
- Time and effort are required each time a virtual server is deployed.
- Have to wait for monitoring to start after each deployment.

After installation:
- Can automatically start monitoring straight away simply by deploying a virtual server.
- Simply deploy and monitoring will start.
- Automatically configure monitoring for discovered node.
- Report start of monitoring.
- Report completion.
Individual Monitoring of Business Systems

System users can individually monitor business systems

Before installation

Centrally manage all monitoring from the data center

Apply for business monitoring (new)

Configure monitoring

Report completion

Monitoring test

Apply for business monitoring (modification)

Configure monitoring

Report completion

After installation

Delegate business monitoring to users so data center can focus on infrastructure monitoring

Apply for business monitoring (new)

Authorize users

Report completion

Change settings and run monitoring test

Users can freely customize individual monitoring per business

Business system department

Data center department

Procedure required for each modification

Inundated with applications
Supporting the Problem Response Tasks through Linkage with the ICT Asset Information

The number of problem response tasks can be reduced

Before installation
- A problem has occurred in system A! Must check who is in charge and then contact them.
- Must check the response status for system B.

After installation
- Just by checking the monitored event, the person in charge and response status are obvious.
- The server information is notified by email, therefore the details are checked in the monitoring window then the tasks can be started immediately.

The problem is notified
- The server location and rack key are checked
- A device is operated to check the status on-site
- The maintenance contract is checked
- CE call
- The response status is checked

The problem response is complete, therefore the event status is updated to "Resolved"

The event content, device information, administrator information, location, and contract information are notified to the person in charge automatically.
Gain an Instant Understanding of the Problem, Even in Large-scale Systems

Determine problem priority and quickly identify causes

The event status can be understood in the Web Console

- The event occurrence status (number of occurrences, occurrence trends in a certain period, and occurrence trends per model, etc.) can be understood at a glance
- The display items can be customized according to the administrator's role and extent of responsibility

Understand the error content in a few steps

- Symptoms can be recognized and causes identified easier, by collective notification of similar events, and by notification messages that suggest causes based on event combinations
- The error information is filtered with a click so that only the required information is checked
- Understand the system status together with the asset information

The target device information (inventory information, contract information) is checked

The error information is filtered
Agentless Monitoring

Monitoring is possible without affecting the server

Integrated monitoring, in which various types of computers are monitoring targets

- Installation of Systemwalker agent programs is not required
- Servers on which agent programs cannot be installed can be monitoring targets (for example, 24-hour operational servers, servers whose configurations cannot be changed, old-type OS servers, etc.)
- Cross-platform environments in which there is a mix of different OS are also supported
- Hybrid configurations in which there is a mix of Agentless Monitoring and Agent Monitoring are also supported
- Monitoring of Microsoft Azure Platform and Fujitsu Global Cloud Platform Powered by Microsoft Azure(*1) can be supported with Agentless Monitoring

(*1) Cloud infrastructure provided by Fujitsu
Continuous Monitoring

In 24/7 monitoring, error events are guaranteed to be detected

- Monitoring does not stop, even when systems are down
  - By mirroring the Operation Management Server, monitoring can still continue even if a problem occurs on one of the servers (Up to a quad configuration is possible)
  - Systemwalker has comprehensive self-diagnostics to check its own operational status
  - Event logs that are not sent due to a communication problem are resent automatically after recovery
- Backup without the systems operations being stopped
  - The monitored environment can be backed up while the Operation Management Server is still running
System Operations Security

Illegal operations and problems caused by operation errors can be prevented

**Server access control**

- Access to important files and programs is controlled per user
- Login is controlled per user

**Operation management console access control**

- Permissions for use of the operation management console are assigned according to the administrator role

Note: “Server access control” is supported on Windows/Linux
Internal control is possible by checking the privileged operations log

(1) The logs are collected from the servers
(2) Check the operation content by tracing the log

Operation log search
Simple Installation and System Extension

Installation of Systemwalker and setting monitoring definitions are more efficient

- **Simple installation of Systemwalker**
  - Agent programs and environment definitions are installed silently at the time of the initial installation.
  - Version upgrades are performed automatically by the Resource Distribution function.

- **Monitoring definitions are managed collectively and applied automatically**
  - Monitoring definition information (policies) are managed centrally and remotely applied collectively.
  - These are remotely set in the newly added server from the Management Server.
  - The definition content can easily be checked in a GUI screen.
  - Monitoring policies can be set by granting rights to set monitoring policies to the administrator for each customer/service (tenant) provided (Multi-tenant monitoring).
Management Functions for the ICT Asset Lifecycle

**Planning**
- Understand the ICT asset's current status

**Installation**
- Collection of software/hardware information
- Central management using an Asset Management ledger

**Operation**
- Automatic update of hardware/software information
- Understand the software license usage status
- Device stocktaking

**Discarding**
- Update of the Asset Management ledger when a device is discarded
- Recovery of an assigned software license
Gain an Understanding of the ICT Asset's Current Status

An understanding of the hardware asset operational status, contract status, and inventory status can easily be obtained.

Asset operational status report

List of contract statuses

List of stocktaking statuses

The reports are in Excel format, and can be customized for use in reporting.
All ICT Assets are Automatically Reflected in the Management Ledger

The management ledger can be created quickly by the automatic registration of the inventory information and automatic detection of network devices.

- Collection from the inventory information (Server, PC, Smart device)
- Devices (with network connections) are detected automatically
- A direction for registration is given
- A CSV ledger is downloaded (peripheral devices)
- CSVs are downloaded in batch
- Registered automatically
- Management ledger - device management

Stocktaking can be automated through automatic registration of inventory information and automatic detection of network devices.
The Hardware and Software Information is Managed Centrally

The ICT assets can be managed in the Asset Management ledger that is always the latest.

Central management using an Asset Management ledger

The fluctuating asset information is managed daily, so inappropriate software use is noticed.
Smart Devices are also Managed Centrally

The latest information can also be managed for smart devices (Android)

A range of devices, from smart devices to PCs and servers, can be managed using one Asset Management ledger.

Note: The smart device information can be collected only via a Wi-Fi connection.
Gain an Understanding of the ICT Asset's Status via a Periodic Stocktaking

Stocktaking can be performed for all devices used in the center, such as servers, PCs, printers, and USB devices. Via automatic collection and detection of ICT devices, the time required for stocktaking is reduced, so the task load decreases.

During stocktaking, the asset owner is checked.

The inventory information is collected automatically.

The information is collected via automatic detection of the ICT device.

The information is registered using a barcode.

The information is registered manually.

Through the support of efficient stocktaking, the theft or loss of ICT devices is noticed.

[Stocktaking results]

Number of PCs for which the stocktaking is complete.
Future Support is Assured

**Guaranteed connectivity with previous versions**

- **When extending the system, there is no need to upgrade versions of all the products**
  - Systemwalker guarantees connectivity when there are a mix of versions, and assures server addition and gradual system extension.

Other vendors

<table>
<thead>
<tr>
<th>Monitoring server</th>
<th>Vendor A V5</th>
<th>Vendor A V6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing environment</td>
<td>Vup</td>
<td></td>
</tr>
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Fujitsu (Systemwalker Centric Manager)

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<th>Systemwalker</th>
<th>Vendor A V5</th>
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<tbody>
<tr>
<td>Existing environment</td>
<td>V10</td>
<td></td>
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</table>

- Can be used when there are a mix of versions
- When the monitoring and monitored server versions are different, systems operations using the previous version function range are possible

When products of new versions are installed, existing product versions must be upgraded

In addition to product licenses, SE costs will arise because of migration
System Configuration
*1: When the Operation Management Server is Solaris or Linux, the Asset Management Server and Operation Management Client must be installed on separate PCs.
Installation Configuration (Open Monitoring)

(Standard Edition/Enterprise Edition)

- **Operation Management Server**
  - Systemwalker Centric Manager (Manager)
  - Windows SV or Solaris or Linux

- **Open Monitoring server**
  - Systemwalker Centric Manager (Agent)
  - Linux

- **Section Management server**
  - Systemwalker Centric Manager (Agent)
  - Windows SV or Solaris or Linux

- **Web console**
  - Systemwalker Centric Manager (Client)
  - Windows

- **Operation Management Client**
  - Systemwalker Centric Manager (Client)
  - Windows

- **Open Monitoring proxy**
  - Linux

- **Open Monitoring agent**
  - Systemwalker Centric Manager (Agent)
  - Windows SV or Solaris or Linux

- **Job Server**
  - Windows SV or Solaris or Linux

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