

Integrated Operations Management

Integrated management

Introducing JP1/Integrated Management 3

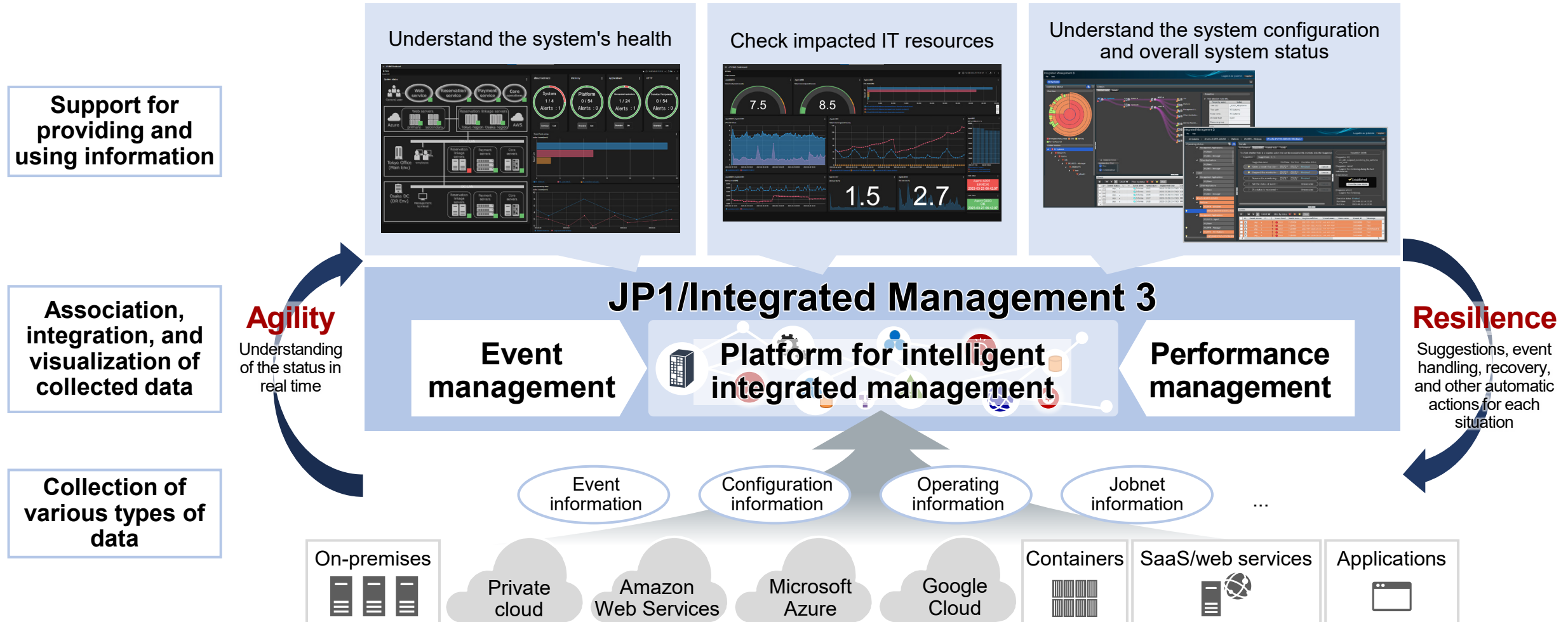
- Integrated management of entire systems for more efficient understanding of the system status and faster response -**

Hitachi, Ltd.

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- **Overview of JP1/Integrated Management 3**
- **What you can do**
- **Example of a system configuration**
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By monitoring services and systems and managing their associations in an integrated manner, JP1/Integrated Management 3 helps you achieve observability, understand the health of your systems and businesses, provide users with the information they need, and make use of that information.



What you can do

- **What you can do with JP1/Integrated Management 3**
- **Visualization of the system status in terms of businesses and services**
- **Visualization of the scope of impact of a problem and the impact on business processes**
- **Centralized management of events and graphical display of statuses**
- **Automatic detection and consolidated display of large numbers of events (event storms)**
- **Monitoring and visualization of complex systems without omission**
- **Collection and monitoring of a wide breadth of data from complex system environments**
- **Automation of the initial response to a failure**
- **Sharing of accumulated know-how on handling events**

1. Understand your system's health

Visualization of the system status in terms of businesses and services

Visualization of the scope of impact of a problem and the impact on business processes



2. Prevent important events from being overlooked

Centralized management of events and graphical display of statuses

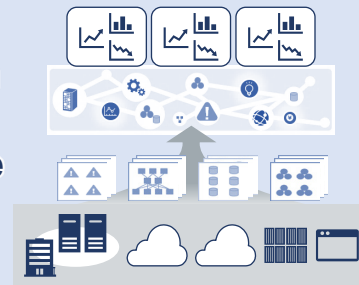
Automatic detection and consolidated display of large numbers of events (event storms)



3. Ensure observability

Monitoring and visualization of complex systems without omission

Collection and monitoring of a wide breadth of data from complex system environments



Integrated management

- Reliable and efficient understanding of the statuses of businesses and services
- Swift response to each situation

4. Swiftly respond to any problems

Automation of the initial response to a failure

Sharing of accumulated know-how on handling events



When a critical failure occurs, you can identify at a glance which businesses and services are impacted. Based on information such as operating rates and trends in important events, you can understand your system's current status and make improvements.

Understand the system's health in real time based on events and information on IT resources

A failure occurred, but the impact on the web reservation system does not require urgent response.



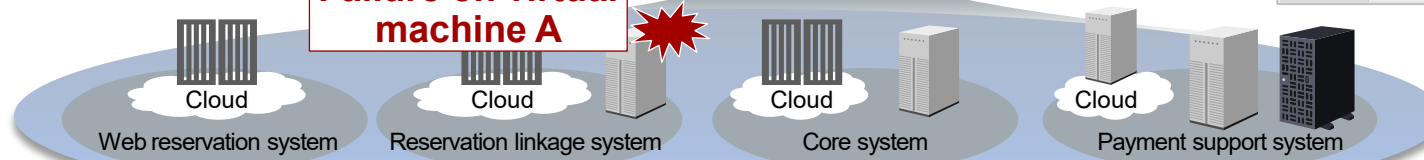
Operations management department



Integrated Operation Viewer dashboard

Integrated Operation Viewer

Failure on virtual machine A



Infrastructure administrator

Storage seems to be the cause of the failure.

A lot of events tend to be generated for the reservation linkage system. Let's improve it!



System administrator

Confirm the status of multiple systems at a glance

You can check a color-coded display of the overall operating status of multiple systems, swiftly identifying any problems that have occurred and their scope of impact.

Understand the status of your systems as a whole, and check in detail any locations where a problem has occurred

Check the overall status of multiple systems

Check details about impacted locations in the tree view

Switch windows

Display only events related to the location of the problem

Drill down to identify the location of the problem

Check details on the scope of impact

Automatic collection

Manage the elements making up the system in a hierarchical structure

Administrator

Event status	Event level	Serial num	Registered time	Event source	User name	Event ID	Message
Unp.	Informa	194241	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004125	KAVS0264-1
Unp.	Informa	194242	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004105	KAVS0278-1
Unp.	Informa	194243	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004106	KAVS0264-1
Unp.	Informa	194244	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004125	KAVS0278-1
Unp.	Informa	194245	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004125	KAVS0278-1
Unp.	Informa	194246	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004101	KAVS0264-1
Unp.	Informa	194247	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004125	KAVS0278-1
Unp.	Informa	194248	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004106	KAVS0264-1
Unp.	Informa	194249	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004125	KAVS0278-1
Unp.	Informa	194250	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004106	KAVS0264-1
Unp.	Informa	194251	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004106	KAVS0264-1
Unp.	Informa	194252	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004106	KAVS0264-1
Unp.	Informa	194253	2023-03-23 16:00:04	ALIASASHOST	jp1admin	00004125	KAVS0278-1
Error	Error	194254	2023-03-23 16:00:14	ALIASASHOST	jp1admin	00004107	KAVS0265-E
Error	Error	194255	2023-03-23 16:00:14	ALIASASHOST	jp1admin	00004104	KAVS0262-E
Error	Error	194256	2023-03-23 16:00:14	ALIASASHOST	jp1admin	00004107	KAVS0265-E
Informa	Informa	194257	2023-03-23 16:00:24	ALIASASHOST	jp1admin	00004105	KAVS0263-1
Error	Error	194258	2023-03-23 16:00:24	ALIASASHOST	jp1admin	00004104	KAVS0262-E
Informa	Informa	194259	2023-03-23 16:00:24	ALIASASHOST	jp1admin	00004105	KAVS0263-1
Informa	Informa	194260	2023-03-23 16:00:24	ALIASASHOST	jp1admin	00004105	KAVS0263-1

Integrated Operation Viewer

You can check the relationship between jobnets spanning different JP1/Automatic Job Management System 3 managers and scheduler services, as well as the impact of such jobnets on one another, helping you take into consideration the impact of job failures or job modifications on your business processes.

Integrated Operation Viewer

2. Identify impacted jobs in related jobnets

JP1/AJS3 Web Console

5. Identify the job's scope of impact and carry out the necessary actions

1. Check the job failure event

3. Identify related units

4. Check the time limit



Because the data refresh processing ended abnormally, the end-of-month processing won't be able to start at 11 p.m. as planned. I'll postpone the start time so a secondary failure doesn't occur.

[Association between jobs for which information can be automatically collected and impact can be assessed]
 Sending and receiving of events, wait conditions, jobnet connectors
 In addition to the above, you can also add associations for jobs and jobnets by creating a definition file.

Centralized management of events and graphical display of statuses Intuitively determine whether urgent response is needed

Events are automatically assigned a severity level based on their description and then color-coded accordingly, allowing you to instantly identify important events that might cause business processes to stop.

Distinguish among events by their severity level, such as "Emergency/Alert/Critical", "Error", "Warning", or "Normal/Resolved"

Filter events by severity level to efficiently check urgent events

Filter by status [Red] [Orange] [Yellow] [Green] [Clear]

Event level	Serial num...	Registered	Event level	Serial num...	Registered	Event level	Serial num...	Registered	Event level	Serial num...	Registered
Informa...	194240	2023-03-23 16:00:04	Informa...	194241	2023-03-23 16:00:04	Informa...	194242	2023-03-23 16:00:04	Informa...	194243	2023-03-23 16:00:04
Informa...	194244	2023-03-23 16:00:04	Informa...	194245	2023-03-23 16:00:04	Informa...	194246	2023-03-23 16:00:04	Informa...	194247	2023-03-23 16:00:04
Informa...	194248	2023-03-23 16:00:04	Informa...	194249	2023-03-23 16:00:04	Unp...	194250	2023-03-23 16:00:04	Unp...	194251	2023-03-23 16:00:04
Unp...	194252	2023-03-23 16:00:04	Unp...	194253	2023-03-23 16:00:04	Error	194254	2023-03-23 16:00:14	Error	194255	2023-03-23 16:00:14
Unp...	194256	2023-03-23 16:00:24	Unp...	194257	2023-03-23 16:00:24	Error	194258	2023-03-23 16:00:24	Informa...	194259	2023-03-23 16:00:24
Unp...	194260	2023-03-23 16:00:24	Unp...	194261	2023-03-23 16:00:24	Unp...	194262	2023-03-23 16:00:24	Unp...	194263	2023-03-23 16:00:24

Color-coded by severity level

[Red]	Emergency/Alert/Critical
[Orange]	Error
[Yellow]	Warning
[Green]	Normal/Resolved



Monitoring operator

Integrated Operation Viewer*

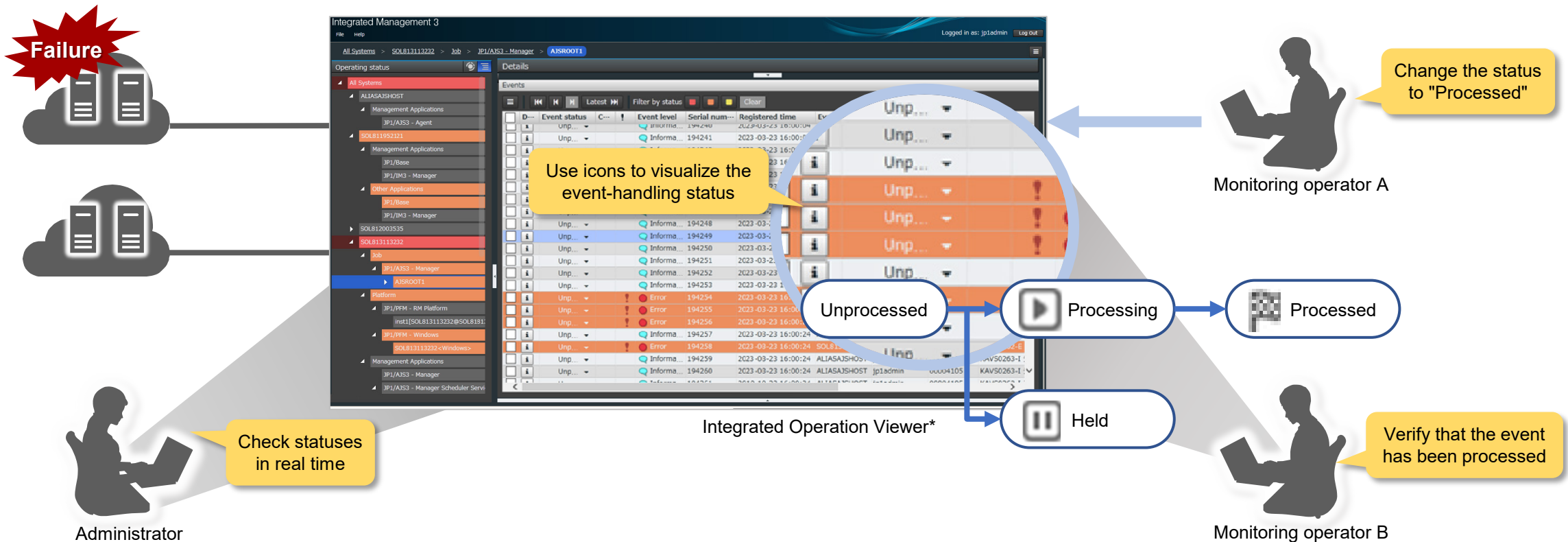
* You can also use the Event Console.

Centralized management of events and graphical display of statuses

Prevent oversight and omission in the handling of events

Screens display icons indicating the status of each event. When a monitoring operator updates the status of an event, the information is shared with other relevant parties in real time.

Instantly identify the event-handling status, such as "Unprocessed", "Processing", "Held", or "Processed"



* You can also use the Event Console.

Prevent events from being overlooked even during an event storm

When large numbers of events are detected, they are automatically consolidated for display based on the host name, log file, etc. Similarly, automatic actions (such as email notifications) are suppressed to prevent repeated execution, thus minimizing the impact on monitoring operations even when an unexpectedly large number of events occur.

Reduce the burden on monitoring operators through the consolidated display of large numbers of events

The diagram illustrates the process of event consolidation and detection. On the left, a graph plots 'Frequency (events per second)' against 'Time'. A red line shows a sharp increase in event frequency, crossing a horizontal 'Threshold' line. A red shaded area highlights the period of high frequency. A blue arrow points from this area to the 'Consolidated display' callout.

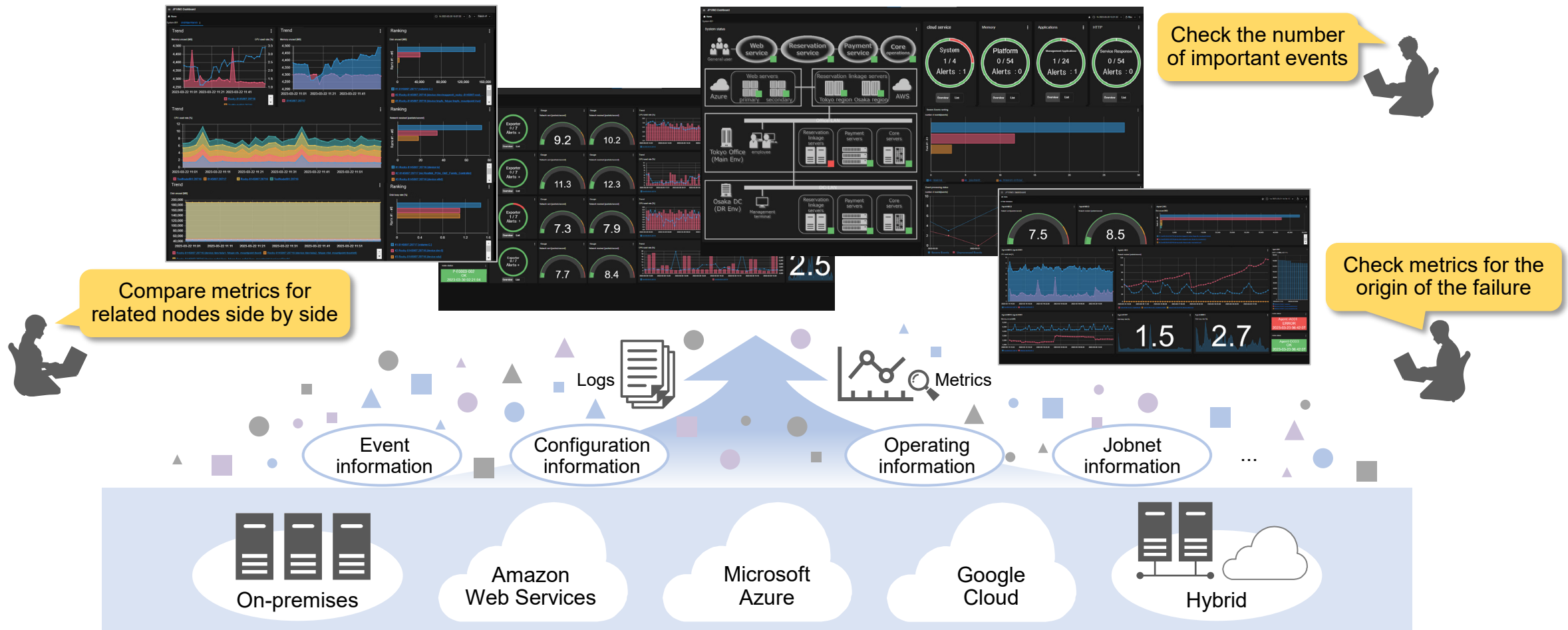
The main part of the diagram shows two screenshots of the 'Integrated Management 3' interface. The top screenshot shows a list of events with a callout: 'Repeated events are consolidated into a single event for display'. A red box highlights a single consolidated event entry. The bottom screenshot shows a 'Reposted event list' with a callout: 'Check the original events that were consolidated into a single event'. A blue oval highlights a single event entry in the list.

Below the screenshots, a 'Monitoring operator' silhouette is shown. A callout 'List of repeated events' points to the 'Reposted event list' screenshot.

Text at the bottom right of the diagram area: 'Integrated Operation Viewer*' and 'Monitoring operator'.




* You can also use the Event Console.







You can monitor and visualize complex systems (such as those that include on-premises, cloud, and hybrid environments) without omission. Information is visualized from the perspective needed for each administrator, allowing them to swiftly identify the locations and causes of problems.




**From on-premises systems to cloud-native systems,
 collect and monitor a wide breadth of data to ensure the observability of your systems.**

Main monitoring targets

 On-premises	Windows Server	Red Hat Enterprise Linux	Oracle Linux	Rocky Linux	SUSE Linux	Amazon Linux	MIRACLE LINUX	AIX	 Containers	Docker	Podman	Kubernetes	OpenShift	 Middleware	Oracle Database	SAP*
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 Cloud	 Compute	Amazon Elastic Compute Cloud (Amazon EC2)	AWS Lambda	Azure Virtual Machine	Azure Functions	 Database	Amazon DynamoDB	Azure DocumentDB	Amazon Relational Database Service (Amazon RDS)
	 Application Integration	AWS Step Functions	Amazon Simple Queue Service (Amazon SQS)	Amazon Simple Notification Service (Amazon SNS)	Azure Service Bus Queue	 Containers	Amazon Elastic Container Service (Amazon ECS)	Azure Container Instance	Azure Kubernetes Service
	 Storage	Amazon Simple Storage Service (Amazon S3)	Amazon Elastic Block Store (Amazon EBS)	Amazon Elastic File System (Amazon EFS)	Amazon FSx	Azure Files	Azure Blob Storage	Azure Queue Storage

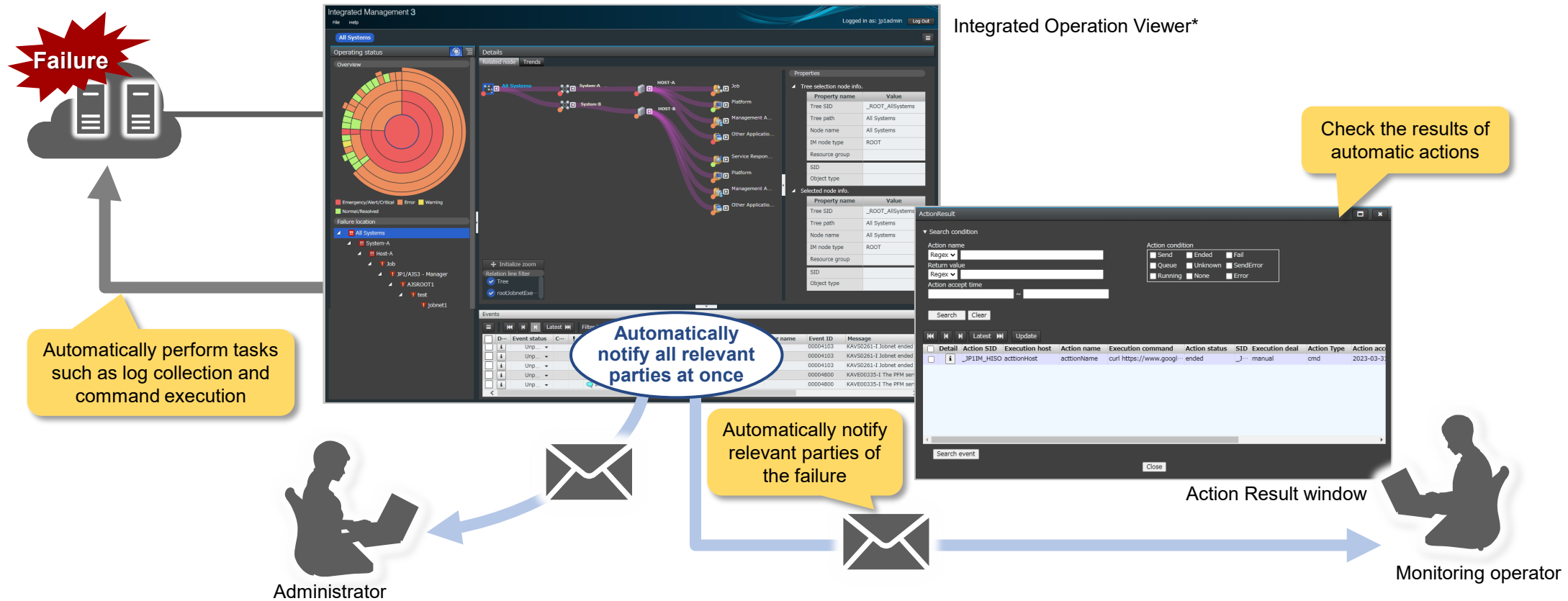
 Metrics	CPU usage rate, amount/percentage of free memory, free disk area, percentage of free disk space, disk busy rate, disk read/write latency, disk I/O latency, network sending/receiving speed, time elapsed, start time, number of processes, service status, number of pods in each status ("Pending", "Failed", and "Unknown"), number of nodes/pods for which execution failed, node abnormalities, memory/disk shortages, PID allocation shortage, number of bytes to read/write, number of calls, event processing time, amount of saved data, number of 5xx server errors, number of read/write capacity units, execution time, number of execution failures, number of delayed/deleted queue messages, memory usage rate, total number of bytes, amount used, free space, ... and much more
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* Log monitoring only

The appropriate initial response (such as the sending of notifications or collection of logs) is automatically performed depending on the event.

By ensuring swift and reliable initial response, JP1 helps you investigate and resolve failures when they occur.

Automatically collect the logs needed to investigate the failure and notify relevant parties



* You can also use the Event Console.

Sharing of accumulated know-how on handling events Identify and carry out the optimal response

Depending on the event description and system status, JP1 provides suggestions on how to handle the event based on accumulated operational rules and knowledge. From these suggestions, the operator can select the optimal response according to the scope of impact on business processes and the urgency.

Select and execute one of the provided suggestions for swift and reliable event handling

Monitoring operator

Get a suggestion

Select an action

Select and execute a suggestion

Check the reason for the suggestion

Integrated Operation Viewer

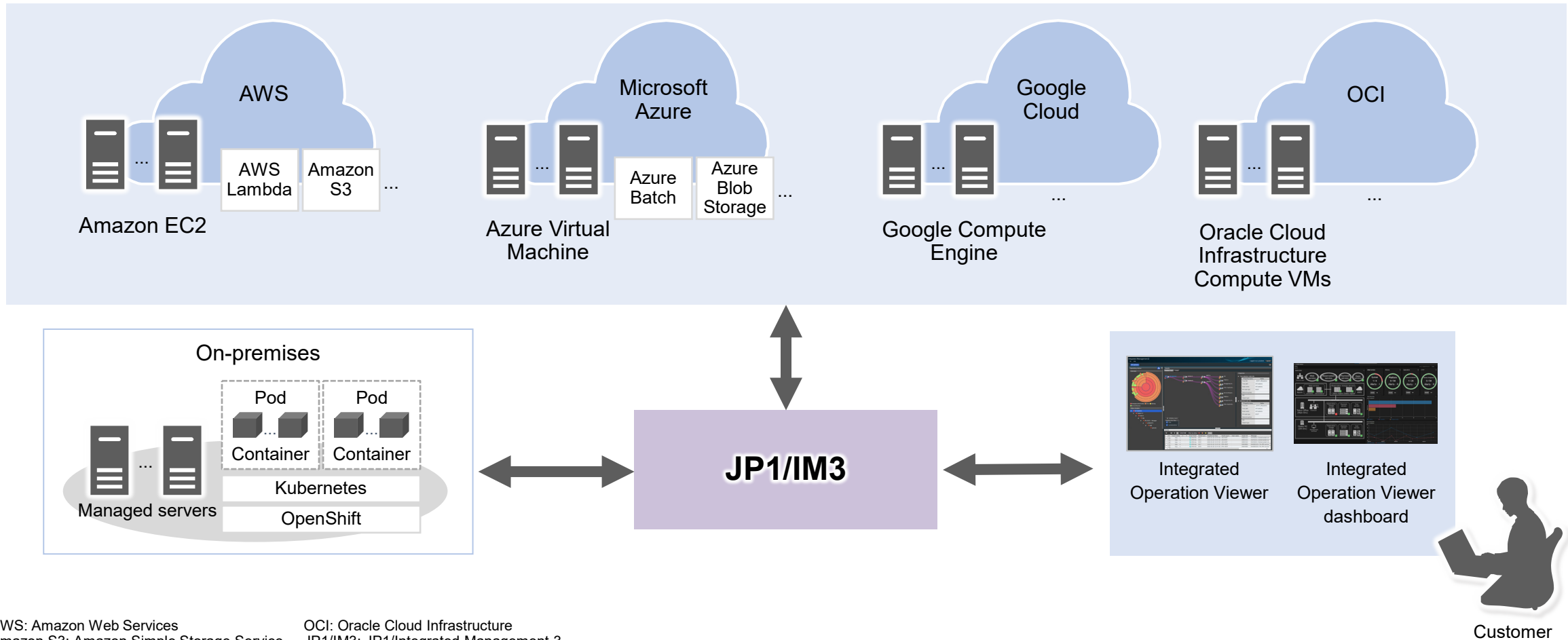
Suggestion name	Start time	End time	Execution status	Execute
Show a report that ide...	2023-09-11 14:32:16	2023-09-11 14:32:16	Finished	Execute
Suspend the monitorin...	2023-09-11 14:32:26	2023-09-11 14:32:30	Finished	Execute
Resume the monitoring...	2023-09-11 14:33:35	2023-09-11 14:33:35	Finished	Execute
Set the status of event...			Inexecuted	Execute
If a status is recovered...			Inexecuted	Execute

Event status	Event level	Serial num...	Registered time	Event sourc...	User name	Event ID	Message
Urp...	Error	7129430	2023-09-11 11:43:00	host		00004840	Test

Example of a system configuration

- **Example of a system configuration**

The following is a system configuration that uses JP1/Integrated Management 3 to manage cloud environments, on-premises environments, and container environments in an integrated manner.







AWS: Amazon Web Services
Amazon S3: Amazon Simple Storage Service
Amazon EC2: Amazon Elastic Compute Cloud
OCI: Oracle Cloud Infrastructure
JP1/IM3: JP1/Integrated Management 3

Support for safe use

- **Support for evolving and diversifying system environments**
- **JP1 professionals assist customers**
- **One-stop problem resolution at an early stage**
- **Long-term use with peace of mind**
- **Global use with peace of mind**
- **Reliable quality for customers**

You can introduce JP1/Integrated Management 3 according to your system environment, such as on-premises or cloud.

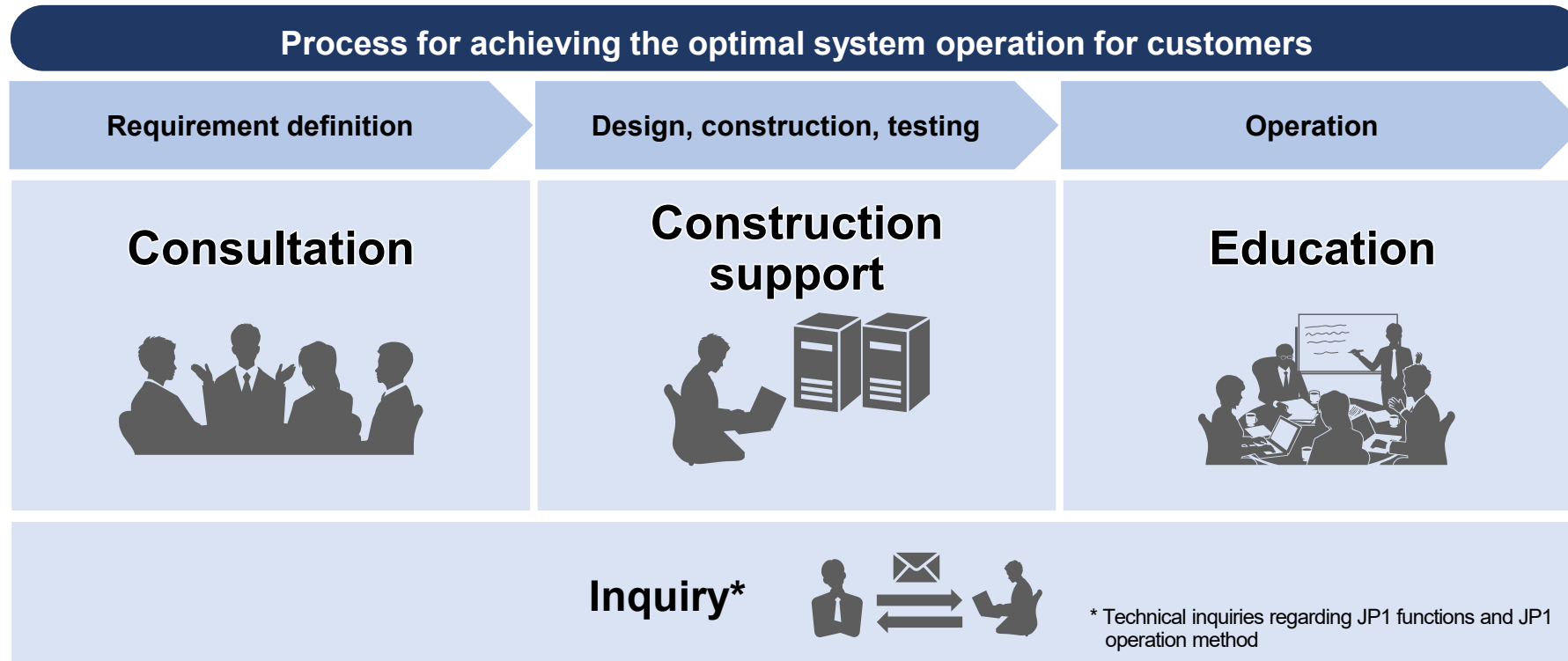
We respond flexibly and quickly to evolving and diversifying environments and your needs.

 OS	Windows Linux AIX
 Cloud	Amazon Web Services Microsoft Azure Oracle Cloud Infrastructure Google Cloud Other clouds are also supported
 Virtualization environment	VMware ESXi Hyper-V Kernel-based Virtual Machine (KVM) Container Docker Podman etc.
 Cluster environment	Windows Server Failover Cluster (WSFC) CLUSTERPRO X Lifekeeper HA monitor etc.

JP1/Integrated Management 3 runs on Japanese, English, and Chinese operating systems.

We can achieve the optimal system operation for our customers.

JP1 professionals can derive a system operation method suitable for the customer's requirements, system scale, and environment, and help achieve a network management system.



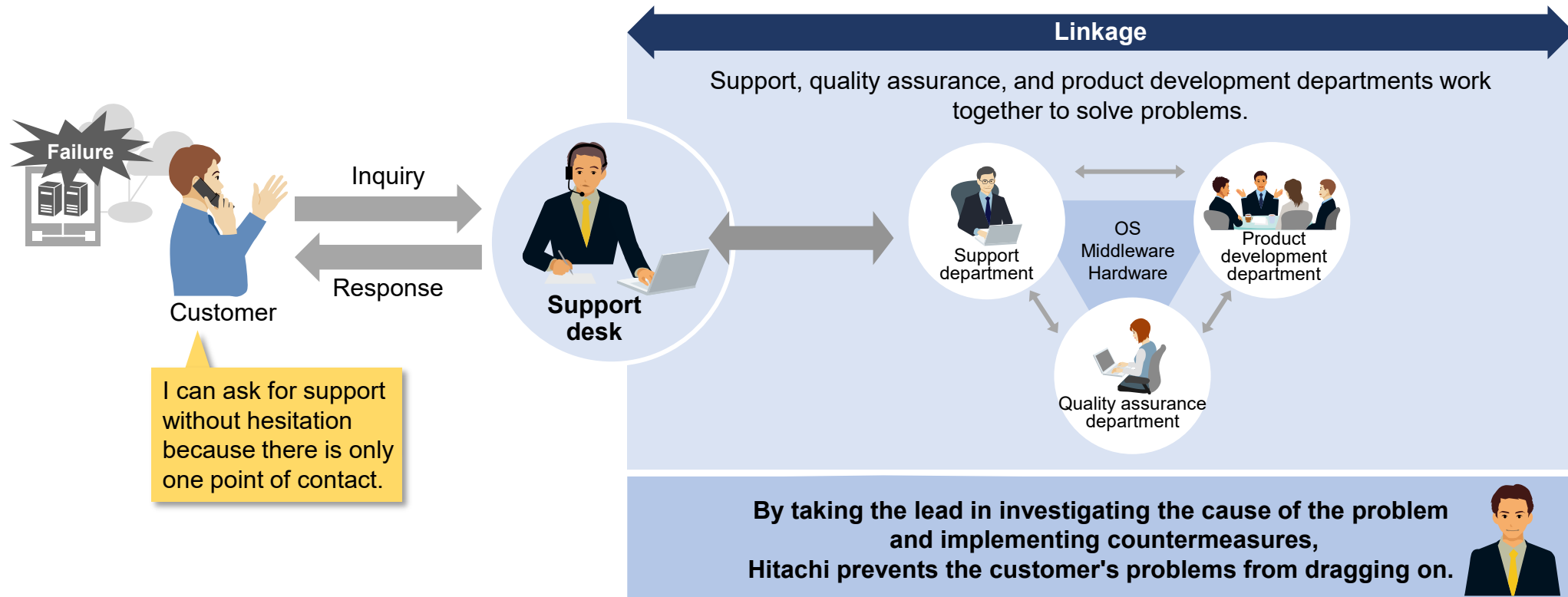
By involving JP1 professionals, you can clarify system operation requirements, shorten the examination and implementation period, and smoothly hand over to the operation team.

JP1 professionals are engineers who have a specified level of JP1 skills and have been certified based on the JP1 Engineer Qualification System.

**We provide one-stop support to solve problems quickly.
This reduces the burden on customers of a problem occurs.**

We provide support for early stage resolution of complex problems, which can involve multiple elements such as operating systems and middleware.

One-stop support resolves problems quickly, prevents recurrence, and ensures stable operation of customer systems



You can use JP1 for a long time and expand your business systems without worry.

We provide continuous support even when the customer's system has a long life cycle.
JP1 ensures compatibility between versions, allowing for gradual system expansion.

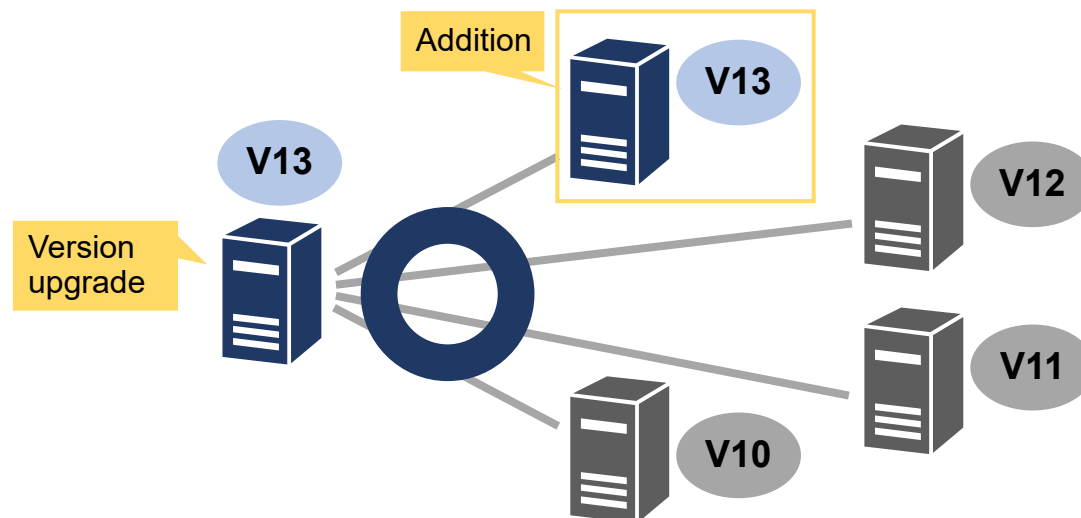
Long-term support for the life cycle of customer systems



At least 10 years of support is guaranteed

with the same version

Flexible support for business system expansion



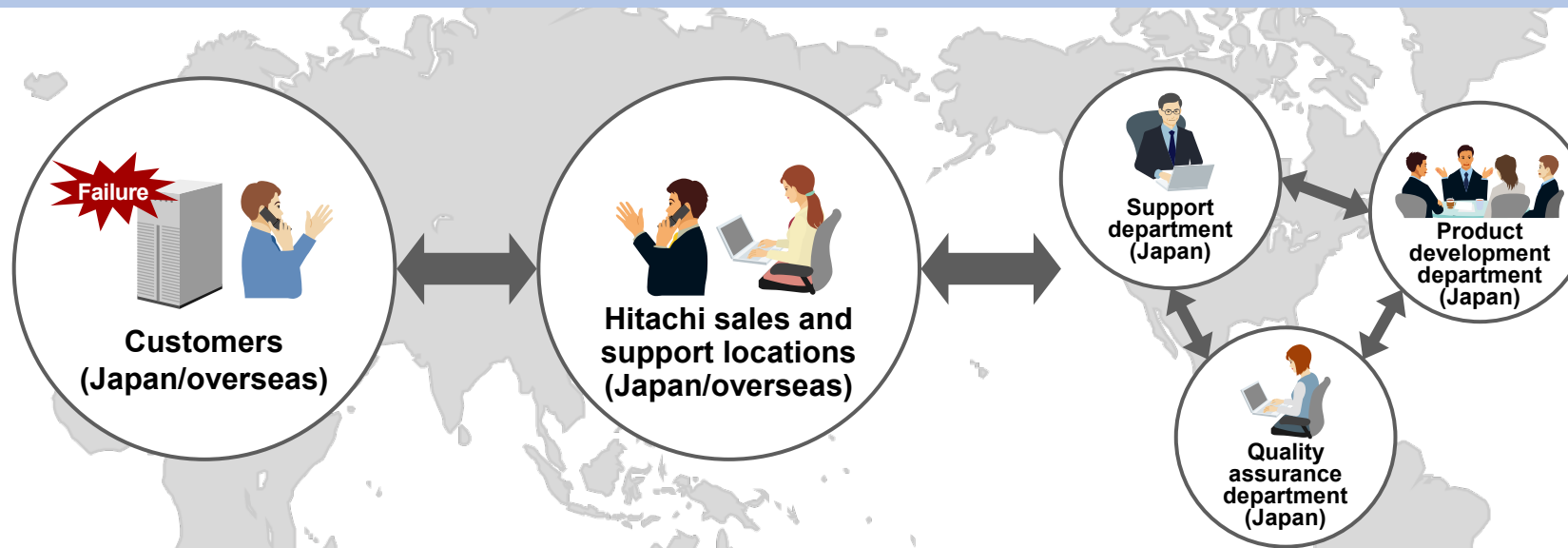
Guaranteed compatibility with the preceding three major versions.
You can operate your system even if it contains different JP1 versions.

Even if you upgrade JP1, interface compatibility is maintained.
Therefore, you can use the linked products, services, user programs without modification.

You can use JP1 with peace of mind around the world.

We support our customers with sales and support locations covering all regions of the world.

Our sales and support locations around the world and in Japan work together to support our customers



We cover all regions of the world including Asia, Oceania, North America, South America, Europe, Middle East and Africa.

Hitachi's sales and support locations support customers in cooperation with the support, quality assurance, and product development departments in Japan.

Achieve stable operation of mission-critical systems!

We have established a system to maintain high quality and high reliability so that customers can use our products with peace of mind.



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- The colors of actual product screens may appear to be slightly different from those in the screenshots shown in this document.
- If you plan to export any of these products, please check all restrictions (for example, those stipulated by Japan's Foreign Exchange and Foreign Trade Law and the export control laws and regulations of the United States), and carry out all required procedures.
If you require more information or clarification, please contact your Hitachi sales representative.
- For the most recent information on the support status of a JP1 product, including supported operating environments, please visit the JP1 website.

END

Integrated Operations Management

Integrated management

Introducing JP1/Integrated Management 3

- Integrated management of entire systems for more efficient understanding of the system status and faster response -

Hitachi, Ltd.

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