

What's Next After Virtualization:

Automating the Adaptive Environment

- The 5 critical benefits of job automation in a virtualized environment
- The 6 key capabilities needed for cost-effective, reliable automation
- The IDC showcase

JP1 SYSTEM
MANAGEMENT
SOFTWARE

What's Next After Virtualization: Automating the Adaptive Environment

Content Page

The 5 critical benefits of job automation in a virtualized environment

- | | | |
|---|---|-----|
| 1 | Improved business operations | P.3 |
| 2 | Efficient and reliable IT services | P.4 |
| 3 | More productive IT staff and end-users | P.4 |
| 4 | Lower administrative burden on IT team | P.5 |
| 5 | Improved job creation, scheduling and status monitoring | P.5 |

The 6 key capabilities needed for cost-effective, reliable automation

- | | | |
|---|---|-----|
| 1 | User-friendly interface for efficient job definitions | P.6 |
| 2 | Flexible job execution for easy adaptation to changes | P.6 |
| 3 | Visual monitoring of job status for reliable execution | P.7 |
| 4 | Multi-platform support for integrated operation of jobs and systems | P.7 |
| 5 | Reliable file transfer for improved efficiency | P.8 |
| 6 | On-the-fly development of complex batch jobs | P.8 |

In a study of more than 600 organizations, IT analyst firm Enterprise Management Associates (EMA) found that 62% of respondents cited reducing downtime while 60% cited improvements to business continuity as critical drivers for their decisions to deploy virtualization. But such improvements require automated tools to monitor the virtualized adaptive environment.

Operationally, batch processing is still a major part of many workloads. Automation that can dynamically balance resource allocation between batch and online/transaction workloads effectively allows servers to pull double duty. EMA's research concluded that organizations with job automation tools were more likely to optimize virtual machine (VM) density and physical resource utilization.

At the same time, server virtualization will change the way that server resources are created and assigned in the enterprise, affecting also backup, disaster recovery and business continuity plans.

Ultimately, job automation tools such as Hitachi's Job Management Partner 1 Version 9 (JP1 V9) reduce cost, increase productivity and provide a highly reliable job operation environment. These are achieved through management capabilities like multiplex job execution control, enhanced support for large-scale systems and automation of repetitive tasks (daily reports, month-end reports, etc.).

The 5 critical benefits of job automation in a virtualized environment

Job automation enables enterprises to get maximum value out of their IT investments, raise business service levels and lower costs while boosting the IT organization's productivity. When the virtual data center grows, IT managers need new ways to perform their usual operations and tools to help them scale up when needed. Here are 5 key critical benefits of job automation that can help enterprises free up precious IT man-hours and derive the full benefits of virtualization.

1 Improved business operations

Job automation results in the stable operation of even a global system. The keys are adaptability to scheduling changes, rapid development of complex batch jobs and round-the-clock job execution supporting a company's need for speed and prioritization of workload.

In addition, job automation tools with linkages to the web browser, ERP applications and mid-range computers enable Administrators to easily operate, monitor and recover jobs across multiple platforms. For instance, Hitachi's JP1/Automatic Job Management System for Enterprise Applications (JP1/AJS for EAP) can be used to execute and control SAP ERP

system jobs from a non-SAP system as part of the overall job management framework. This streamlines business operations and alleviates the need for extra customer resources in learning new software.

To further improve efficiency – especially in supply chain cycles – the JP1/File Transmission Server/FTP tool ensures fast and reliable transfer of transaction documents and data files without the need for time-consuming data reentry or integration. Since the software constantly feeds data into a business scorecard, top management can track key performance indicators in near real-time.

The JP1 Advantage 1

“ [Our quality control and product development teams] organize and tabulate [customer] complaints and repair data, then feed the information back to the relevant departments. We couldn't use the servers during the day for this because they were being used for customer support. With JP1/AJS, all we do is specify the job schedule. The software then processes and tabulates the data automatically, and on the next day, we get the tabulated data from the previous day. On top of that, the data is backed up. The feedback time to the Quality Assurance Department has shortened dramatically. Consequently, if there were a number of complaints about one particular item from the previous day, we can work on corrective measures immediately.”

Takeshi Kimura of the Information Systems Office and Kaoru Ochiai, manager of the Quality Assurance Section, Development Division at Japanese toy maker and general entertainment company, Bandai Co. Ltd.

2 Efficient and reliable IT services

A critical advantage of an automated job management tool is that it removes outdated IT services management concept and integrates with current IT Infrastructure Library (ITIL) concepts.

With Hitachi's JP1/Automatic Job Management System 3 (AJS3) tools, services can be added or deleted without affecting business systems, so it effectively supplements existing IT management services.

Automatic submission, monitoring and management of jobs using predefined scheduling rules enable Administrators to easily execute high volumes of batch jobs, even those with complex pre-conditions, across the network.

Further, the JP1/AJS3 - Manager controls jobnet or complex job sequence execution orders within a single server or between different servers efficiently, resulting in improved overall operational efficiency.

3 More productive IT staff and end-users

Job automation executes and integrates batch jobs with applications across multiple servers. Instead of being triggered manually, these jobs can be scheduled to run automatically even after office hours or during the weekends, eliminating overtime and slashing the man-hours spent on job management significantly.

For some companies, this may help address staff turnover issues. As little as two man-hours, for instance, is needed to define and schedule jobs for a week.

In addition, job automation ensures that job durations are predictable and that jobs will be completed on schedule so that organizations can remove unproductive time buffers.

The JP1 Advantage 2

“Previously, to ensure 24x7 uninterrupted operation, three Administrators had to work on shift around the clock to manage the billing system; by contrast, only one now has full capacity to handle the billing system management since JP1 software deployment, which minimizes the use of manpower.”

Wang Yong, Informationization Department of Enterprise senior manager at China Netcom (Group) Company Ltd, a China state-owned backbone telecommunication carrier.

The JP1 Advantage 3

“With Hitachi JP1/AJS2 and the EAP module, all our SAP tasks are now fully automated. Night operators are no longer needed and we've managed to reduce IT headcount by four persons. The solution is easy to learn and use so every IT staff member is competent in it. Moreover, it's very reliable and we've had zero downtime.”

Tamizarasu N.S., CIO of MIS Department & IT Shared Services at Hitachi Electronic Products (M) Sdn. Bhd., an early adopter of Hitachi's JP1/AJS

4 Lower administrative burden on IT team

The JP1/AJS3 suite of products allows Administrators to add, switch and modify jobnets in the workflow on a specified date without interrupting planned job operations or affecting the conventional operating schedule. Jobnet changes are logged in a release data list for checking. Failed jobs or jobnets can be rerun from any point i.e. starting with failed jobs, before or after failed jobs, or from the beginning.

Through a concise, graphical view of all jobs, IT staff and end users are notified of job completion or failure via auto-generated emails. Therefore, much less time is needed to monitor jobs. Human intervention is needed only when jobs are interrupted by hardware or application software hiccups. And even when these hitches occur, it takes significantly less time to diagnose and resolve them than before.

For instance, by automating mission-critical SAP enterprise resource planning (ERP) jobs or daily database backups using JP1/AJS, the IT team only needs to intervene on rare occasions when they receive alerts about jobs that do not execute as planned. Daily database backups are automated with the JP1/AJS powering down the SAP server at the scheduled time, backing up the Oracle database, and powering up the server automatically.

5 Improved job creation, scheduling and status monitoring

The JP1/AJS's comprehensive job scheduling and management capabilities include support for various types of scheduling, centralized real-time monitoring and proactive error recovery. These functions can be applied to production systems across different platforms.

With a single point-of-control for multi-platform job scheduling, the IT staff no longer needs to create jobs for different user groups using different types of software. Through intuitive ways to check job status – such as using color codes to indicate job status – Administrators easily identify the source of any error that occurs during, for instance, a sequence of batch-processing tasks.



The 6 key capabilities needed for **cost-effective, reliable automation**

Completing jobs on schedule and reliably is a top-of-mind concern for IT Administrators. The Hitachi **JP1/AJS3 Automatic Job Management System 3 (AJS3)** suite of products ensures stable job operations for mission-critical IT operations.

Here are 6 key job automation capabilities to make job durations more predictable and match high-priority jobs with resource availability easily. The aim is to automate job operations cost-effectively and reliably.

1 User-friendly interface for efficient job definitions

Intuitive command screens allow Administrators to define execution orders and relationships between jobs and jobnets easily i.e. by drawing a flowchart on the screen or by defining jobs and jobnets to run only when the preceding job terminates abnormally.

A customizable menu allows functions to be tailored to the role and authority of the user or classified according to user objectives. For example, a menu for system Administrators permits all rights, a menu for developers is used only for definition and execution, or a menu for operators is used only for monitoring. A role-sensitive

menu makes the system more efficient and usable, and prevents incorrect operations.

Hitachi's **JP1/AJS3-View** viewer further enhances such capabilities with functions to specify and save multiple search conditions such as start time and end time of job execution. Administrators can find jobnets quickly and even invoke an editor to define, edit and restart jobnets directly from the search results. With JP1/AJS3, Administrators arrange and refine jobnets from a list, and export that list in CSV format, increasing retrieval performance.

2 Flexible job execution for easy adaptation to changes

Today's business IT requirements are not only fast-changing but also diverse. As a result, the ability to trigger various types of job execution on schedule is crucial.

While a planned execution automatically executes jobs based on a designated time and date of a jobnet and execution cycle, a jobnet that falls on a non-business day can be automatically rescheduled to the next business day.

A *fixed execution* is specified to change a planned execution temporarily. A job execution can also be carried out on a *conditional schedule*, forward or backward from a predefined "base day". This displacement is calculated based on the calendar or schedule rules. At the same time, jobnets that cannot be run on the same day as each other can be assigned *exclusive schedules*.

Whenever required, Administrators can override predefined schedules to allow *immediate execution* of jobs or set *event execution* of jobs – including commands and batch files – the instant files are created or updated, an e-mail is received, or a system or application event occurs.

The **JP1/AJS3 - Manager** includes these scheduling functions and a scalable execution engine which can run for 24 hours.

3 Visual monitoring of job status for reliable execution

Color codes allow Administrators to determine the status of running jobs or even entire jobnets at a glance, and identify any jobnet that is delayed. Icons on a jobnet monitor change color according to job execution status, such as executing, execution completed, start or end delayed. These colors are customizable and help Administrators check job flows and related complex jobnets efficiently.

For instance, when a job terminates abnormally, related jobs can be easily checked and re-executed if they are affected. Recording whether or not jobs are executed correctly ensures business transparency. **JP1/AJS3 - Manager** incorporates functions for monitoring jobnets or capturing detailed job status.

4 Multi-platform support for integrated operation of jobs and systems

With Hitachi's JP1/AJS3, jobs can be set to run on multiple hosts. Its options supporting various interactions and operations help to integrate job and system operations.

The **JP1/AJS3 - WOA** product allows Administrators to monitor and operate all jobs on distributed servers via a web browser. They can search, filter and list status information of jobs being executed. From this list, the Administrator can cancel a registered job; stop execution; and release hold status.

Another option – the **JP1/AJS3 for Enterprise Application (JP1/AS3 for EAP)** – is used to define, register and execute ERP jobs as a part of overall job management and operate ERP applications as a single system image.

The **JP1/Open Job Entry for Midrange Computer**, on the other hand, supports the management of jobs on all systems, including mainframes, in an integrated manner.

These tools are complemented by the **JP1/AJS2 - DA** job definition template which is useful for creating, changing or deleting a large number of jobs in one batch. Apart from simplifying job development or operation, this option is ideal for server migration and version upgrade.

The JP1 Advantage 4

“To effectively manage our IT assets deployed in multiple locations across our network, we implemented the Hitachi JP1/AJS with SAP R/3 linkage. In doing this, we foresee that we will be able to refocus our human resources to even higher value tasks.”

Geodino V. Carpio, CIO of Manila Water which deployed JP1/ Automatic Job Management System and JP1/Application Manager for EAP to integrate critical SAP R/3 jobs across HP UX and NT servers

The JP1 Advantage 5

“With JP1/AJS and JP1/Open Job Entry (OJE) for [our IBM] mid-range computer, we have central control of both native and cross-platform jobs. Previously, jobs were managed individually and synchronized manually. Now, they are managed as part of a constellation, with triggers, start times and other execution details configured into the jobnet.”

Zhu Chun-Ning, information system manager at Singapore Epson Industrial Pte. Ltd. which plans to route more jobs through JP1/ AJS2 when it deploys new business applications while consolidating its applications on fewer serverscritical SAP R/3 jobs across HP UX and NT servers

5 Reliable file transfer for improved efficiency

While it may be convenient to simply use the standard file transfer capability offered by the OS, job operations require more effective and reliable automation functions tied to jobs and the ability to monitor the transfer status and results.

The JP1/File Transmission Server/FTP product automatically links file transfer with the job scheduler. For instance, it handles tasks like transferring reports between various departments each week efficiently by creating rules for assigning file names.

6 On-the-fly development of complex batch jobs

One key productivity booster when it comes to complex batch jobs is the ease-of-use and functionality of the job control scripting language. With commands similar to Basic, the **JP1/Script** tool allows Administrators to create batch jobs easily and take less time to develop complex batch jobs. There are more than 130 different commands, including the “if” statement, “while” statement, and “DeleteFile” command. Scripting is easy because the tool guides users to enter only the necessary parameters for each statement.



IDC Tech Spotlight Jan2010

CIOs today face the challenging task of meeting their organisation's growing business requirements with the same or limited resources. Faced with rapidly changing IT Workloads and limited budgets, IT heads in the Asia/Pacific region are looking to align their IT refresh strategies with the right management tools and best practices as a way to overcome this enterprise IT challenge.

In this IDC Vendor Spotlight, we will discuss continual service improvement concepts in ITIL (IT Infrastructure Library) Version 3 in relation to how best practices can be aligned with emerging system management tools to create the high impact transformational changes to IT service quality. This paper will also discuss Hitachi JP1 Version 9 and its new features such as accurate IT service and resource usage discovery, service quality enhancement and operational workload efficiency improvement.