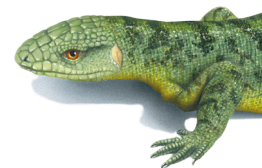


Topic:

How to Avoid the Top Five Most Expensive Disk Issues

Summary:

Identify the critical areas that can lead to expensive disk expense and requirements for resolving them. Plus, establish a bullet proof roadmap to bypass future disk problems.



CCSS develops, markets, and supports performance monitoring, message management and automation solutions for IBM® i servers, including Power Systems™ and System i™. An Advanced IBM Business Partner, CCSS develops powerful solutions to support some of the world's most demanding IBM i environments across many industries including pharmaceutical, insurance, banking, and logistics.

Disk Danger Zones: The Top Five Most Expensive

Why Risk the Disk?

Many IT Managers will be familiar with the 'disk or die' ultimatums that a disgruntled system can issue, and have felt the resulting fallout of poor performance, lost data and most commonly, the additional cost which can quickly run into many thousands of dollars of unplanned expense. A system that is equipped to monitor DASD effectively is one that can avoid the unnecessary expense of purchasing additional disk in a bid to buy extra investigation time to resolve the underlying issues that cause disk related problems. If you've been held hostage to the system's insatiable appetite for disk and are looking for alternative solutions to soothe the savage beast, look no further than your approach to disk monitoring.

Immediately catching instances of runaway DASD and isolating the cause are the two preliminary objectives of optimal disk management.

Hungry Systems with Expensive Taste

"With no solution to pinpoint the cause, we may not know where to begin investigations as there is no apparent chain of events with an evident root cause, only the combined results of multiple problems. Decisions about purchasing extra disk often have to be made quickly and due to the urgency, that proportion of the budget is spent at the expense of other critical projects"

IT Manager, Manufacturing Industry, UK

"In our experience, if problems that affect disk are left unattended, they can escalate quickly and impact many other areas of our system performance so we're under even more pressure to solve a number of issues requiring immediate attention."

Systems Manager, Managed Services Industry, USA

Disk Hit List: Top Five

Potential problems with any system object be it a file, data queue, ASP or spooled file could trigger a situation that will impact DASD resource. The areas that most frequently cause problems are listed below and when left unattended could have the greatest impact on the system and the budget.

Item	Impact
Journal Receivers	Inactive Journal Receiver results in: <ul style="list-style-type: none"> • Degraded performance • Failed High Availability 'switch over' • Lost data • Users productivity compromised • Regulatory compliance breached
Temporary Storage	A sudden spike in temporary storage requires a thorough investigation to identify: <ul style="list-style-type: none"> • Which job? • Submitted by whom? • In which sub system? Meanwhile, disk is being consumed rapidly and could pose a threat to system availability
ASP	A user ASP overflow results in: <ul style="list-style-type: none"> • Risk of lost data if the system fails • Breach of regulatory compliance • Disruption to the user community • Loss of productivity • Additional impact on human and disk resources
Important Files	A sudden surge in the history file results in: <ul style="list-style-type: none"> • Degradation of system performance • Users productivity reduced during an important processing period • Additional DASD required for use before scheduled purge
Looping Jobs	A job begins to loop causing: <ul style="list-style-type: none"> • Job begins to consume vast amounts of temporary storage • Additional disk is required to avert system crash • Investigation is required to find the rogue job

Counting the Cost of Disk

The top five causes of disk issues not only incur the expense of additional disk usage but also demand additional man hours, reduce productivity for the organization's user community, and could even cause potential system downtime. This could generate financial penalties for managed environments where SLAs are not met. In calculating the true cost of disk issues, a company should account for all of these factors.

Any solution for monitoring disk should pay particular attention to these five areas and alert managers to any change in individual size, collective quantity, percentage statistics or status in real-time. Doing so will not only put operators in a pro-active position to manage and respond to DASD threats but will also safeguard against the unnecessary expense of avoidable DASD usage.

Why Real-Time Insight Resolves Issues

Real-time insight into sudden changes in disk and an effective means of pinpointing the cause means unexplained temporary storage spikes no longer require a laborious investigation.

The chance of data being lost following a system crash and overflow of user ASP is eliminated with real-time monitoring. Similarly, IASPs can be carefully monitored and maintained to ensure they do not breach their limits and compromise data.

For System i shops running High Availability software that relies on Journal Receivers, such as the Audit Journal, issues can arise when a looping job causes the receivers to continually fill up. As the availability and audit-ready status of these files are crucial to the overall compliance of Sarbanes-Oxley, or other regulations such as PCI DSS, managers may be obliged to make DASD available to them in such a circumstance. Real-time monitoring means managers have the economical option of running the receivers to tape while the problem is resolved instead.

Commonly, issues impacting disk can form an epicenter of trouble that radiates out to other areas of the system. This is why it is not sufficient to monitor the disk usage in isolation, but rather all the elements that could impact disk.

Roadmap your Requirements for Disk Monitoring

A quick review of your present disk monitoring requirements can help to evaluate just how vulnerable your system is to the top five problem areas. Without the key criteria listed below in place, managers will have little option but to resort to costly additional disk purchases and invest in the additional staff time in order to resolve problems manually.

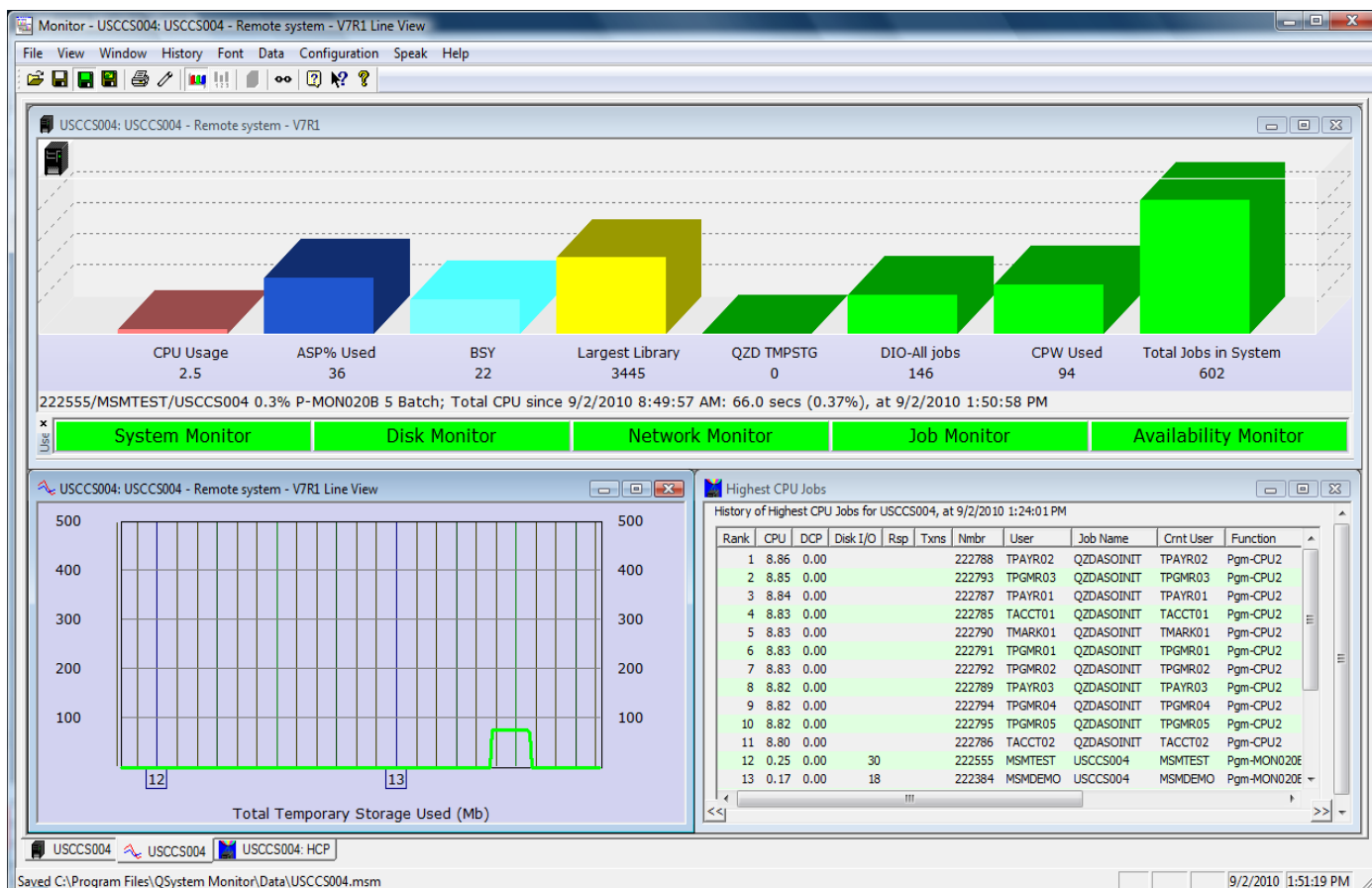
Requirements for Resolving the Top Five Issues Impacting Disk

- Real-time awareness of temporary storage issues, inactive journal receivers, ASP issues, looping jobs and the status of important files
- Detailed information regarding which user, running which job, in what sub-system is responsible
- A fast means of checking all receivers at all times
- The means to automatically save off a looping receiver to tape if necessary in order to spare the DASD
- Alerts and thresholds attached to each ASP/IASP
- An immediate view on the space free and space used for ASP's and IASP's
- Immediate knowledge on number of files that may be building in a particular library at any given time
- Real-time thresholds and alerts for files that are prone to quick growth such as history files and PM400 collection services files
- Real-time identification of looping jobs that eliminates the need for investigation time

How to Buy Time and Save Disk with QSystem Monitor

In addition to fulfilling the requirements that will safeguard against the top five issues, QSystem Monitor offers thresholds to alert managers of impending breach levels giving them 'built in' time safeguards to resolve issues before any impact on users is felt. QSystem Monitor provides a huge range of monitoring metrics that can be applied across the system to protect DASD and its associated cost of 'unnecessary' disk usage. Any system object with a variable parameter can be monitored by size, number or percentage including: data queues, files, records, journal receivers, network files, objects, spooled files and ASP's.

ASP Busy monitors can also keep a check on associated disk issues that impact performance rather than usage alone. Automated tasks can then be put in place to run routine operations that keep DASD resource usage at acceptable levels, such as deleting certain files after they reach a predetermined number, percentage or size.



Real-time awareness of a spike in Temporary Storage showing the sub-system and job responsible can be achieved with QSystem Monitor.