Robot/SPACE®

Disk Storage Management For The IBM® System i®

Robot/SPACE Manages Your System i Disk Space—Automatically

Eliminate Disk Storage Crises—Forever

Have you really looked at what your current disk space tools are doing for you? System administrators have been using the same set of tools and reports for many years. However, the i5/OS disk environment has changed, and older disk space utilities have not evolved. Many systems today have just as much disk space waste in their IFS as they do in their library system. At least half of everyday disk crises are caused by temporary disk space issues, which most current disk space tools do not monitor.

"Where Did All My Disk Space Go?"

If you're not using Robot/SPACE, the disk management tool, to monitor your system disk space, answering this question can be time consuming, difficult, or even impossible. System administrators have very little time or available resources to monitor disk space usage manually, and even less time to find out exactly how their disk space is being used.

Robot/SPACE, a key part of the Robot Automated Operations Solution, handles your disk space monitoring and management so you don't have to. With its easy-to-use graphical interface, you can monitor disk drive usage, view usage history and trends, and diagnose problems on disk drives across your network. Robot/SPACE collects information about the IFS and temporary storage, using the latest APIs for collecting disk storage information. Robot/SPACE warns you when there is a problem, and can actually fix problems for you—automatically. Using Robot/SPACE, you can completely eliminate disk storage crises.

Flexible Monitoring And Notification Options

Runaway jobs can spoil system performance for all of your users. Robot/SPACE constantly monitors your ASP and IASP utilization and active jobs, including temporary storage, QTEMP library storage, and spooled files. Use Robot/SPACE to set up multiple storage thresholds for each monitored ASP or active job. When a threshold is reached, Robot/SPACE can do any of the following: send a message to a message queue; use Robot/ALERT, the system event notification software, to send a text, e-mail, or pager message to any device; send a status to the Robot/NETWORK Status Center; or start a Robot/SCHEDULE job to correct the storage problem.
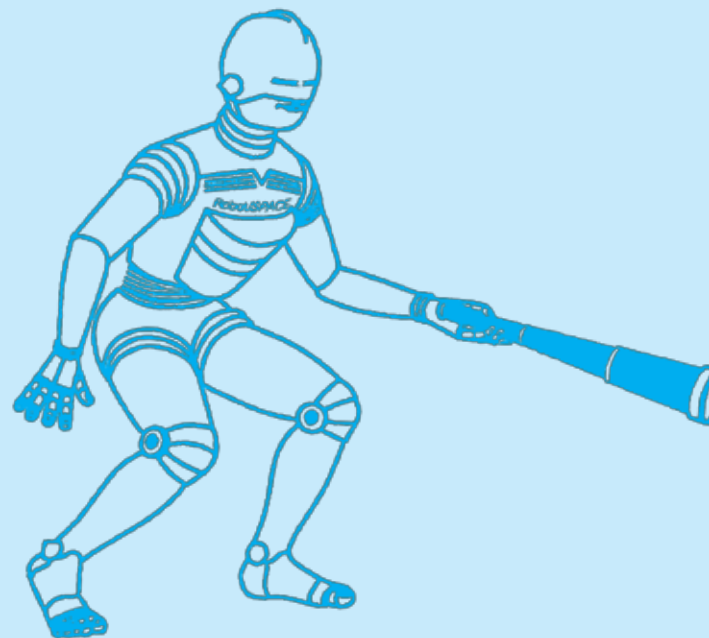
Dig Deep To Find Disk Storage Problems

Finding disk usage problems isn't always as simple as just viewing library sizes. The Critical Storage Investigator (CSI) is a problem-solving tool designed to help you quickly identify who or what is eating away at your disk space.

The CSI uses a logical progression to find the source of disk space problems and displays your overall ASP utilization levels and any sudden growth in real time. Use the CSI to look at job monitor threshold history to see if any out-of-control jobs have been devouring your storage by using large amounts of job temporary storage, QTEMP storage, or spooled file storage, causing ASP usage to spike. In most cases, your search ends here. If not, you can dig deeper by looking at your Collection History.

Collection History allows you to look at a recent collection for the various collection groups (multiple sets of objects) you've defined. By looking at the most recent detailed collection information, you can compare library, IFS, object, or member collections against previous collections. If your most recent collections are not current enough to help you solve your problem, you can dig even deeper and use the CSI Current Storage option to gather more recent information.

The Current Storage option allows you to submit a System Health Report or a collection group. If you have Robot/SCHEDULE, the job scheduler and batch management system, you can schedule the System Health Report or a collection group to run regularly. When these are complete, you can see the most recent information about disk usage on your system.

Robot/SPACE Explorer™

View and manage ASP utilization monitors.

Monitor the amount of temporary, QTEMP, and spooled file storage used by active jobs.

Collect system statistics for libraries, objects, members, and the IFS.

Configure Robot/SPACE security, user preferences, and system settings.

View reports, including the System Health, Library Growth, and IFS Growth reports.

Analyze libraries and IFS directories for cleanup—automatically.

Display ASP utilization statistics, collection summaries, and object growth history and trends graphically.

Add, maintain, or run a library or IFS query.

Robot/SPACE Explorer

System   View   Robot/GUIDE   Tools   Help

Address: Cybrking

- Cybrking
  - Monitors
    - ASP Utilization
    - Active Job Storage Monitors
  - Storage Audits
  - Storage Collections
    - Collection Groups
    - Collection Classifications
    - Collection Event Thresholds
  - Graphs/Trends
  - Robot/QUERY
    - Library Queries
    - IFS Queries
  - Reports
    - System Reports
    - Monitor Reports
    - Audit Reports
    - Collection Reports
    - Query Reports
  - Setup

Name	Description
ASP Utilization	Monitor process for ASP utilization and growth
Active Job Storage Monitors	Processes that monitor storage for Active Jobs

ASP Monitor enabled: Yes
ASP Monitor status: Active
Monitor Interval: 10 Minutes
Collect statistics for: All ASPs

Monitor Job Status: ASP   JTS   QTEMP   SPLF

You're only a menu item, tool bar icon, or click away from complete disk space management.
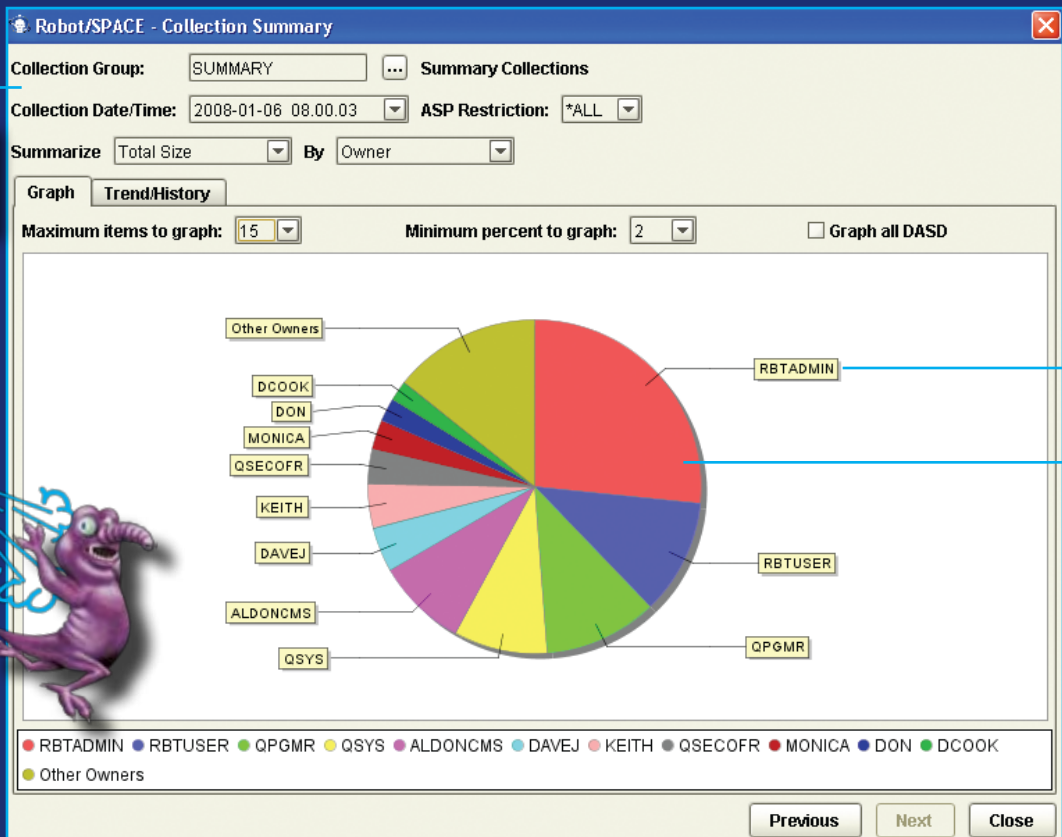
Critical Storage Investigator™ (CSI™)

Select an ASP to see its storage status in real time.

The Storage Overview helps you quickly identify and solve disk storage problems. Most surges in disk use are caused by active jobs. For example, a server communication job can devour a large amount of your unprotected storage space. And, these jobs can be hard to find.

Use the ASP Threshold History and Job Temp Storage History buttons to display the ASPs and jobs that have exceeded their thresholds. Use the Active Jobs Status button to find and hold or end the job(s) causing a disk storage problem.

Check ASP and job threshold history.

Display all active jobs and find out which ones are devouring temporary storage.

Check permanent and temporary disk usage history.

Robot/SPACE - Critical Storage Investigator

Storage Overview
Collection History
Current Storage

ASP Information
Work With ASP 001 (*SYSBAS)
ASP Threshold History
Refresh ASP Utilization

Job Information
Job Monitor Threshold History
Active Jobs Status

Current ASP Utilization - ASP 001

Unprotected Storage
Available
Available = 83,662
Used

- ASP Detail ASP Utilization History

% Used
100
75
50
25
0

14-Dec   21-Dec   28-Dec   4-Jan

Monitor Time

Unprotected Used — Actual

Previous   Next   Close

Everything you need for real-time ASP storage status and active job monitoring and control.

Collection Summary Graph

Robot/SPACE - Collection Summary
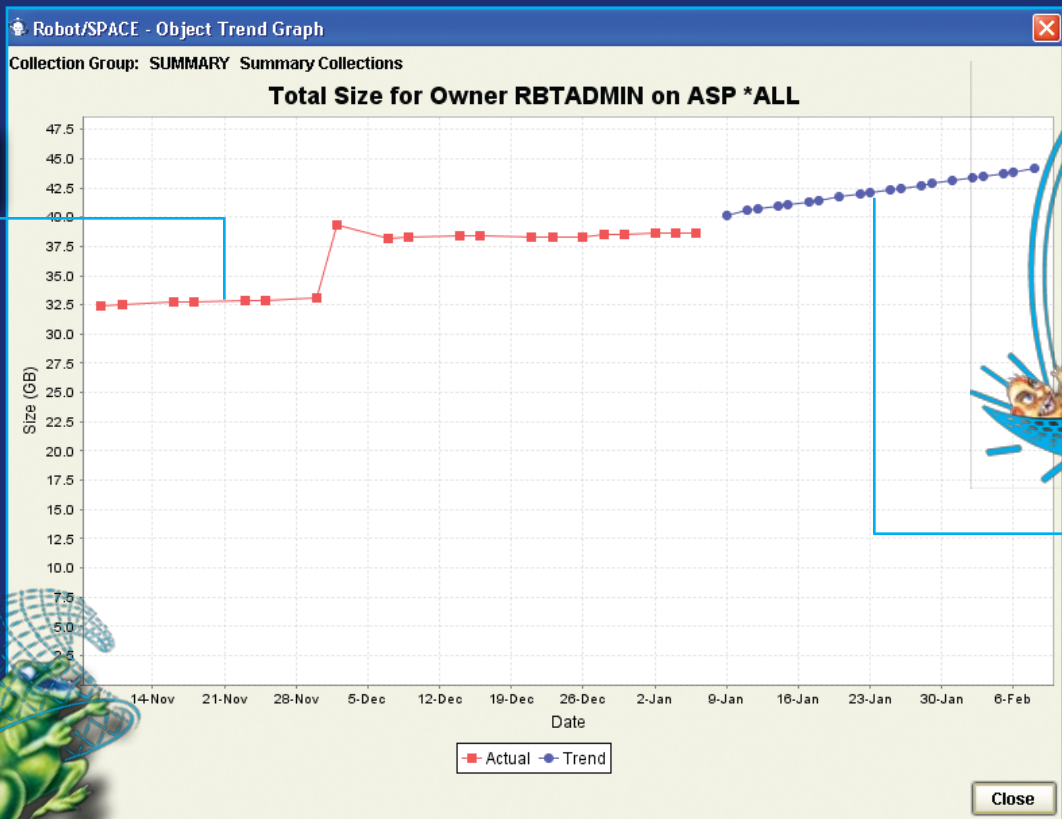
Collection Group: [SUMMARY] [...] **Summary Collections**

Collection Date/Time: [2008-01-06 08.00.03 ▼] ASP Restriction: [*ALL ▼]

Summarize [Total Size ▼] By [Owner ▼]

| Graph | Trend/History |

Maximum items to graph: [15 ▼] Minimum percent to graph: [2 ▼] ☐ Graph all DASD

Pie chart labels:
- Other Owners
- DCOOK
- DON
- MONICA
- QSECOFR
- KEITH
- DAVEJ
- ALDONCMS
- QSYS
- QPGMR
- RBTUSER
- RBTADMIN

Legend: ● RBTADMIN ● RBTUSER ● QPGMR ● QSYS ● ALDONCMS ● DAVEJ ● KEITH ● QSECOFR ● MONICA ● DON ● DCOOK ● Other Owners

[Previous] [Next] [Close]

Set your collection information and display options.

Recognize the largest users in a collection group.

Save full color graphs to your PC.

Summarize collected statistics by owner, application, department, location, or accounting code.

Object Trend Graph

Robot/SPACE - Object Trend Graph

Collection Group: SUMMARY Summary Collections

Total Size for Owner RBTADMIN on ASP *ALL

Y-axis: Size (GB) — 47.5, 45.0, 42.5, 40.0, 37.5, 35.0, 32.5, 30.0, 27.5, 25.0, 22.5, 20.0, 17.5, 15.0, 12.5, 10.0, 7.5, 5.0, 2.5

X-axis: Date — 14-Nov, 21-Nov, 28-Nov, 5-Dec, 12-Dec, 19-Dec, 26-Dec, 2-Jan, 9-Jan, 16-Jan, 23-Jan, 30-Jan, 6-Feb

Legend: ■ Actual ● Trend

[Close]

View recent growth statistics.

Anticipate future disk storage needs. See today what your objects will look like next month or next year.

Display a growth trend graph, based on growth history, for any object, or set of objects, on the system.

Catch Pesky Disk Space Eaters
Before It's Too Late

Clean Up Your Disk Space
With Storage Audits

Do you have time to sort through thousands of files, just to figure out which ones you need to keep and which ones can be deleted? To keep your disk space use to a minimum, take advantage of Robot/SPACE storage audits. Robot/SPACE can perform over 20 disk space cleanup duties, so you can save time and effort in disk space management.

Storage audits are disk cleanup utilities that analyze the libraries and IFS directories you specify for objects that meet the criteria you define. You can schedule audits for regular cleanup or run them on demand to check for exceptions in managing your disk space. Some of the audits simply list objects that meet the criteria you specify (damaged or duplicate objects, for example). Other audits, at your option, can perform a corrective action, such as deleting unused history files, aging files in the IFS, listing duplicate and damaged objects, clearing message queues, or reorganizing file data.

Robot/SPACE includes safeguards to prevent the audit from deleting selected files. You can tailor the storage audits to perform tasks on specific ASP groups and use filters to target only the libraries and objects you want cleaned up. You also can use the Global Library Exclusion List to automatically exclude your critical libraries from being affected by storage audits.

Work With
Storage Collections

You need up-to-date information on critical, fast-growing objects. To solve this problem, Robot/SPACE uses storage collection groups, classifications, and event thresholds.

Collection groups collect statistics for native System i libraries, objects, file members, IFS directories, IFS files, and output queues. You can set up a collection group for all libraries and objects on your system and run it on a daily or weekly basis.

Growth trend graphs display long-term trends and predict future usage. You can see predictions of space requirements by user, application, accounting code, individual files, libraries, or directories. You can even save these full color graphs to your PC, or print and use them for department discussions.

A collection classification is a logical group of system objects. You can use a classification with Robot/CPA, the System i usage reporting and chargeback software, to charge users for disk space use and for disk usage reports.

A Robot/SPACE collection event threshold performs an action when a collection object reaches a threshold you've specified. If Robot/ALERT is installed, you can send a pager, e-mail, or text message to an operator. Or, if you use Robot/NETWORK, send a message to the Robot/NETWORK Status Center. And, if you use Robot/SCHEDULE, you can kick off a Robot/SCHEDULE job to remedy the problem.

Get The Critical Details You Need,
Any Way You Want Them

Are you the kind of person who wants to know details—all of the details? Robot/QUERY, Robot/SPACE's built-in querying tool, allows you to create queries for your collection groups. Use these queries to select, sort, group, and summarize collection statistics. You can display query results graphically, in a PC list, in a trend graph, or in a report. Queries can be as simple or as complex as you need them to be. Robot/SPACE ships with predefined queries to make this task even easier.

In addition, the Robot/SPACE Data Filter Manager allows you to create, save, import, and export filters that allow you to view collections (such as libraries, objects, or IFS directories) that match conditions you specify. You also can share filters across systems by importing and exporting filters.

Comprehensive Reports
Provide Information You Need

Robot/SPACE uses system APIs to create multiple reports that assist you in monitoring your System i disk space. These include system reports, such as the Good Morning Report and the System Health Report, that give you feedback on the largest objects on your system. In addition, collection reports detail library and IFS growth. Whether you want a high-level summary or a comprehensive analysis of your disk space usage, Robot/SPACE can accommodate your needs.

In addition, Robot/SPACE On-Demand Reporting allows you to create custom reports in PDF, HTML, or text format for single or multiple libraries, objects, output queues, IFS directories, or clients. You can save these reports to your PC and easily share them with team members or use them in presentations.

Easy, Guided Setup
Of Robot/SPACE

To help you get started, Robot/SPACE includes Robot/GUIDE, automated setup that provides step-by-step instructions for setting up ASP monitors, job monitoring, storage audits, and collection groups. You can use the ASP Monitor Guide, Job Monitor Guide, Storage Audit Guide, and the Collection Group Guide to begin using Robot/SPACE quickly.

Join The 21,000 Customers
Using Our Automated Operations Solution

Build A Solution Set To Manage
Your System i Disk Space

When you buy any Robot product from Help/Systems, you're also buying the opportunity to integrate other Robot products to create a solution set to solve your System i operations problems. You'll save money, simplify tasks, eliminate bottlenecks, improve processing, reduce errors, and satisfy your auditors. The benefits and possibilities are unlimited. Here are just a few of the ways you can make Robot/SPACE a part of an automation solution set.

Automate Disk Space
Management And Notification

Monitoring disk space usage is a repetitive and never-ending task. Use Robot/SPACE's seamless interface to Robot/SCHEDULE,® our job scheduler and batch management system, to run jobs that collect and monitor disk space information, perform storage cleanup tasks, purge old disk space statistics, and print reports. You can schedule jobs to run on specific dates, at specified intervals, or based on schedule exceptions that override the regular schedule. You also can start a Robot/SCHEDULE job automatically when a monitored ASP exceeds its storage threshold.

If Robot/SCHEDULE encounters a problem during a job, it uses Robot/ALERT,® the system event notification software, to send a message to any device—cell phone, laptop, PDA, or pager. If a critical storage condition exists, Robot/SPACE uses Robot/ALERT to send a message to the designated expert.

Retrieve Disk Storage Information
Across Your Network

Your network may consist of multiple systems, each with multiple disk drives. Managing disk space across your network might seem very time-consuming, or even impossible. Robot/SPACE works with Robot/NETWORK® to give you a central graphic display from which you can monitor the disk drive status of all of your System i servers. If a storage threshold is exceeded, you can send an informational, warning, or attention status message to the Robot/NETWORK Status Center, which highlights the system in trouble. If the Host operator does not acknowledge the problem, Robot/NETWORK uses Robot/ALERT to send a message.

Monitor And Bill For System i
Resource Usage—Automatically

Integrate Robot/CPA,® Robot/SPACE, and Robot/SCHEDULE to automate your billing process. Robot/CPA, the device and job accounting software, automates statistics collection, reporting, and billing for your System i. Use it to collect system usage statistics, such as the amount of CPU time used by account code, to let you monitor and manage system resource usage. You can price each category of statistic collected and bill your users automatically for their resource use.
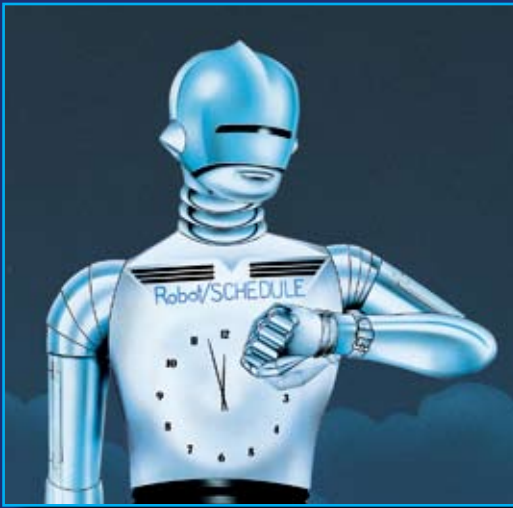
Use Robot/SPACE to monitor and bill for disk space usage. At billing time, Robot/SPACE tells Robot/CPA the amount of disk space used, by accounting code, during the billing period. The result—you can track and charge users or departments for the disk space they've used.

Combine Robot/CPA and Robot/SPACE with Robot/SCHEDULE to schedule daily, weekly, and end-of-period procedures to run automatically as Robot/SCHEDULE jobs. Robot/SCHEDULE ensures that Robot/CPA tasks run according to schedule, so you can be sure that statistics are collected, reports are printed, and end-of-period tasks run in the correct order, at the correct time.

Award-Winning Robot
Automated Operations Solution

Whether you have a single System i, or a network of them, Help/Systems is committed to providing you with products that automate their operation. The products of the Robot Automated Operations Solution look and act the same. All of the Help/Systems products talk to each other through the Solution's common component interface. This integration makes all the products powerful, yet easy to learn and use.

Our product expertise has won us many awards from numerous publications. And, our customers have awarded us 60,000 times with product purchases.

Commitment
To Excellence

Help/Systems became America's first ISO 9001-certified software company in 1992. Since then, we have maintained our certification under the updated 9001:2000 standard. This international quality standard covers software design, development, marketing, product support, and training. Help/Systems continues to demonstrate that it has an excellent software quality assurance system in place, full management commitment to quality, and a well-trained and motivated staff. This certification applies to all company procedures for ensuring customer satisfaction—from those done by the receptionist to the duties of the CEO.

Complete Dedication
To Quality And Success

It's no accident that Help/Systems creates the world's best software for the System i. When you combine committed development, marketing, sales, support, and administrative people with strong management, processes that really work, a powerful drive to succeed, and a complete dedication to quality, the results speak for themselves. Since 1982, Help/Systems has focused successfully on one goal: To deliver the highest quality software, training, and support possible to help you make your System i the best system for your business needs.

help/systems

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Software Solutions*

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ISO 9001
BUREAU VERITAS
Certification

BUREAU VERITAS
1828

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