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Product Review- *S4i DASD-Plus*

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Practical Solutions

We never seem to let up on the fact that the iSeries needs to be managed properly, and in the same breath, hail it has one of the few platforms that has the ability to constantly manage itself. So, just to drive it home once again, sometimes even the best needs a helping hand. . .

This month's helping hand feature spotlights S4i DASD-Plus from S4i Systems, Inc. In short, S4i DASD-Plus offers a superb collection of easy to use functions that concentrate on optimizing the whole machine bundle of operating system, application software and disk utilization.

And why should this appeal? When managing iSeries resources, the big problem is not what to optimize (what to optimize is documented in the main), but more of a "how do I get all this done in the meager time slot that is allocated to me within production schedule?" Trying to best guess, analyze and implement necessary housekeeping tasks can be a nightmare from start to finish often with a lot of risky trial and error involved. So, with S4i DASD-Plus, it's not so much what it can do, but how it can help you to do it. When choosing your optimization plan, S4i DASD-Plus addresses two distinct problems by providing two realistic solutions, the Tactical and the Strategic solution.

Strategically Positioned

The Strategic solution attempts to ensure that operations continue, uninterrupted by failure due to unmonitored growth, and without the associated additional cost of unnecessary upgrade. As part of the Strategic solution S4i DASD-Plus will:

- Track every object that is resident on disk.
- Provide the ability to analyze disk usage by a number of product and user defined criteria.
- Provide over 20 standard reports, not including customizable reports, that can be tailored to meet specific needs, providing comprehensive utilization data to assist in forecasting and predictive decision-making.
- Provide tools for Variance reporting, that can pinpoint the location and time of "unusual" events.

In addition, S4i DASD-Plus provides the ability to centrally manage the housekeeping of additional remote machines, providing the same easy to use configurations across the Enterprise.

Box Clever

In its Tactical solution, S4i DASD-Plus builds on many of the OS400 native functions, but gives them the edge by granting the power to predict. With its "What If?" reporting mechanism to run through all of the housekeeping functions without making any physical changes status reports are generated to highlight just what would be salvaged from the unmanaged disk. And there always is something there that you didn't know that you had. . .

It also provides a simple yet comprehensive Disk Management function consisting of a number of tasks, which will allow provision for:

- Physical files to be reorganized based upon the percentage value of the number of deleted records
- Output queue contents to be managed automatically based on status and age
- Log and journal automatically reclaimed based on age
- Deletion of reclaimed/replaced objects
- Save files cleared
- Documents reorganized

The areas of disk where resource eating "junk" can begin to store up, are spread throughout the system, from system logs and observable program data to spool files and undeleted journals. The trick to keeping a lean system is to know where it all lies and then how to get it under control.

Another problem that you may already have is that existing housekeeping procedures that may be in place may be a mixture of both standard and programmer defined routines, some which may be instantly obvious, others which may be extremely obscure or even ambiguous.

S4i-DASD Plus hits these problems square on the jaw with a simple to use collection of just comprehensive set of commands/functions, all of which can be used to string together a multitude of system and bespoke commands, without any programming knowledge. The reasoning behind this is that the people at S4i believe that with S4i-Dasd Plus you install it, configure it and then leave it to work its magic on its own! The result is an highly visible and configurable work plan, with no source/objects to manage, that provides standard, useful historical logging.

Proposed Aim

By utilizing S4i DASD-Plus, you are expected to noticeably reduce the amount of time manually managing system resources, whilst at the same time avoiding any surprise purchasing requirements to upgrade. And it's not rocket science to be able to understand that the leaner the system the more available it becomes as backups begin to require less run-time, and overall performance begins to increase.

Small Windows, Big Jobs

One of the biggest problems that any system administrator faces is the short windows that are available for system maintenance. In some cases, only "really essential" maintenance ever gets done a reclaim storage here and there, a reorganization of physical files when someone shouts loud enough, etc.. All the time, the other stuff grows and grows and rarely enters into maintenance scope.

To combat this, S4i DASD-Plus is resplendent with its own job control application, which will allow you to create streams of commands to be used as steps within a job without programming! The job stream that you create is able to execute a mix of steps comprising any command be it an OS400, S4i DASD-Plus or a bespoke command.

Job Strings

Stringing jobs together to prepare your housekeeping schedule is extremely easy. From within a single maintenance option, the user is able to create a new list. S4i DASD-Plus contains a default master list, which can be used to copy as a basis for creating specific lists.
Specific functions or commands are then added to the list to build up the housekeeping runs.

And the features keep coming. When you are creating the job strings, you will be conscious of

your own maintenance window, and therefore will not want any jobs to overrun and "monkey up" the production stuff. To get you through this, S4i DASD-Plus provides a DURATION parameter that will allow you to specify a preferred runtime for the job. This means that, in addition to whatever job scheduling mechanisms you may be using, the job execution manager will add the value of the duration to the job start time, and calculate a job end time. Each time the job execution manager prepares to start a step, it checks to see if the job end time has been exceeded. If the job end time is deemed to have been passed, then the next step is not started and the job is ended. A job duration can be anything from 1 minute to 99 hours and 59 minutes.

Another parameter of the job string specifies what action to take when the S4i DASD-Plus job string is restarted. Two options are available, either start at *JOB level or restart at the *STEP after the last one to complete successfully.

I found this particular useful in running the same housekeeping thread each night, but limiting the duration to only three hours each night, with a *STEP restart. This meant that on every second iteration the full complement of tasks spanning a total of 6 hours were completed without me having to provide any additional intervention.

Job Steps

Job Steps are added by specifying the command to be run, plus a number of interesting parameters to aid the big picture.

In my simple example, I use a simple command to print a WRKACTJOB listing at the start of process, so that I may record what was active overnight when my maintenance started.

Apart from the obvious scheduling options, there are options to record the duration of the step, either by the runtime of the LAST time it was run, the AVERAGE runtime or the LONGEST recorded runtime.

These recordable attributes are then used within the main job string to determine how long a string will run.

The method for adding these steps is the same regardless of whether the command is native OS400, bespoke or a S4i DASD-Plus command.

Clean Up Incorporated

So now we have a complete set of maintenance tasks, that have built up some run history, and we can now rest assured that our system will be lean, will be safe from overrun, and will complete in stages optimizing our maintenance window.

Just how will we schedule it though?

There are a number of options available, depending on your preferred method. S4i DASD-Plus can be configured to work seamlessly with either:

- The OS/400 Job Scheduler
- The IBM Advanced Job Scheduler
- A number of versions of Robot Job Scheduler

This is specified from the S4i DASD-Plus configuration panel (figure 4), ensuring that all S4i DASD-Plus jobs are submitted via the same job scheduling mechanism. Job scheduling is then activated from the main jobs list with the Submit/Schedule option. If Schedule is specified (figure 5), then the parameter hooks directly into the job scheduler of choice are displayed, and when completed correctly will be incorporated into your schedule.

Summary

The configurable and flexible nature of S4i DASD-Plus leaves no doubt that even systems with the most burdened workload would not benefit from its usefulness in someway. The majority of users, however, will simply benefit from being directed to areas of costly disk usage via the plethora of predictive and analytical reports that S4i DASD-Plus provides.

Once in use, the benefits of having a cleaner platform will start to become apparent, and will probably beat, or at least match expectations.

To find out how much you need to review your housekeeping requirements, a free analysis only version of S4i DASD-Plus can be obtained by visiting http://www.solution400.com