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Cheryl Watson's
Tuning Letter

The following is excerpted from Cheryl Watson's Tuning Letter 2011 No. 3. See below for subscription information.

IPL Avoidance

When I was doing a residency in Poughkeepsie helping to create the *System z Mean Time to Recovery Best Practices* Redbook (SG24-7816-00), the team used another Redbook as a wonderful reference. It's SG24-7328-00 - *z/OS Planned Outage Avoidance Checklist*, and it contains many, many best practices to help you avoid IPLs. The Redbook discusses features added in each release (up through z/OS 1.7) that can be exploited. If you haven't spent time with this Redbook, you should definitely put it on your schedule.

At SHARE in Anaheim, **Frank Kyne**, the project leader for both Redbooks, gave session 9038 (*z/OS Planned Outage Avoidance*), which highlights some of the items from the Redbook, plus adds new features since z/OS 1.8 that can be exploited in order to make system changes dynamically rather than through an IPL. I consider both the Redbook and Frank's presentation to be required reading for any installation that wants to provide better availability for their users.

Here are a few tips from the Redbook that I think are worthy of repeating:

- ITSO used to provide a program called SYMUPDTE to dynamically update system symbols. This is now available in SYS1.SAMPLIB(IEASYMUP), but you'll find the documentation only in the Planned Outage Avoidance Redbook above.
- SA22-7505-16 (*z/OS V1R12 Summary of Message and Interface Changes*) is an excellent source for finding all changes made in a release. In addition to changes in messages, it lists changes, deletions, or additions of SAMPLIB, PARMLIB, and PROCLIB members.
- Frank noted that there is a product called Image Focus from New Era Software that monitors changes between IPLs to ensure that parameters used to IPL reflect the current configuration and are syntactically correct. I hadn't heard of Image Focus before but found this post from IBM-Main to be very helpful:

Image Focus is very different from the IBM Health Checker. Image Focus does a virtual IPL of your system. It will find problems in SYS1.IPLPARM, SYS1.PARMLIB and IPL volumes, which is critical if you have a small window to implement your maintenance on the weekends. Image Focus also has the ability to spot deficiencies in your parmlib due to changed parameters between releases of z/OS. I have also used the Image Focus reporting to do SYS1.PARMLIB cleanup. Image Focus can also track parmlib updates so you can have a back-out if necessary. We have been very pleased with Image Focus. It is software that works as marketed.

Before including this software product in the Tuning Letter, we queried the IBM-Main list to find out about the product. Out of twenty replies (online and offline), all twenty said it was a great product. Frank also listed a few IBM tools to check for valid LOADxx, LE, IKJTSOxx, and BPXPRMxx parameters.

The last third of Frank's presentation includes enhancements after z/OS 1.7 that can reduce outages. That's why you'll want both the Redbook and his presentation. As a bonus, Frank added a preview of some additional features coming in z/OS 1.13:

- Ability to stop a JES2 job at the end of the current step
- Ability to dynamically add spool volumes to JES3
- Ability to change spool-related JES3 parms without an IPL
- DADSM and CVAF support for concurrent service
- Dynamic support for IGGPRE00 and IGGPOST0 exits
- DEVMAN address space added to list of address spaces that exploit REUSEASID(YES)
- New FORCE option of CMDS command
- New UNALLOC parameter for the SPIN keyword on the DD statement, to allow you to specify that output data set should be spun off without stopping and starting address space

This is all pretty neat stuff!

Let me add Frank's request at the end of his presentation:

If you know of any other enhancements in this area that I have missed, please come and talk to me, or send me an email (kyne@us.ibm.com). Also, I am trying to compile a list of items that still require an IPL, so if you would like, please send me that list as well. ■