

**Performance Tuning Tips**  
**Compiled by Critical Path Software Inc.**

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All of these JCL Tuning TIPS were submitted from various sources and should be tested prior to use.

**JCL TUNING TIPS**

- Place the REGION size on the JOB card and not on STEPS.
- Be very careful to not over allocate buffers. This is just as bad as not enough buffers.
- Let the system determine BLOCKSIZE, but check the BLOCKSIZE, which it creates for DASD files. About 1/3 of the time it will pick a size to save DASD space and will not be the best for saving CPU or SPEED.
- Always release unused SPACE (except for SAS datasets, MOD files and SORTWKs).
- Always allocate large files in CYLINDERS and use the ROUND parameter.
- Always allocate sufficient Primary Space to contain the entire contents of the file. This will reduce Secondary Extents.
- Always specify a reasonable amount of Secondary Space.
- Never use CONTIG unless absolutely necessary (it is too restrictive).
- Eliminate redundant/unnecessary tasks.
- Reduce TAPE mounts by using RETAIN if you use the same TAPE or FILE more than once in the same Job.
- Limit the number of Tape Drives allocated in one step by sharing (where possible).
- WHEN SCRATCHING FILES - ALWAYS REPLACE IEFBR14 WITH IDCAMS H DELETE. THIS WORKS BEST WHEN FILES HAVE BEEN MIGRATED TO TAPE. FILES DO NOT HAVE TO BE RESTORED BEFORE BEING DELETED. THIS SAVES TIME AND QUITE OFTEN A VERY GREAT NUMBER OF PHYSICAL I/OS.

- REPLACE ALL IEBCGENER'S WITH IBM DFSORT OR SYNCSORT, USING FIELDS=COPY COMMAND. THIS RUNS SUBSTANTIALLY FASTER THAN GENNER DOES. THIS CAN ALSO BE USED TO SEND FILES TO PRINT.
- ALWAYS USE DCB=BUFNO=15 OR MORE ON LARGER SEQUENTIAL FILES INCLUDING SORTWORK AND PRINT OUTPUT FILES. FOR VERY LARGE SEQUENTIAL FILES USE DCB=BUFNO=39. USING MORE THAN 39 BUFFERS BEGINS TO DEGRADE PERFORMANCE. ALWAYS USE AN ODD NUMBER OF BUFFERS WITH THE BUFNO PARAMETER, IE, 15, 17, 19, 21, ETC.
- ALWAYS USE IBM DFSORT OR SYNCSORT WITH FIELDS = COPY INSTEAD OF IDCAMS REPRO. THIS IS FOR VSAM TO TAPE, VSAM TO SEQUENTIAL, SEQUENTIAL TO VSAM, VSAM TO VSAM, AND TAPE TO VSAM. ALWAYS PLACE THE REGION SIZE ON THE JOB CARD AND REMOVE THE REGION SIZE FROM THE STEP CARD. ONCE MEMORY IS RELEASED, THE JOB MUST WAIT UNTIL CONTIGUOUS MEMORY BECOMES AVAILABLE, ALSO SORTS AND REPRO'S RUN FASTER WITH MORE MEMORY RATHER THAN LESS MEMORY.
- ALWAYS PLACE BMSG PARM ON IBM DFSORT AND SYNCSORTS, AND CORE=MAX. SORTS RUN FASTER WHEN MORE MEMORY IS ALLOCATED. THIS IS TRUE UP TO 6 MEG. AT THIS POINT SORTS BEGIN TO DEGRADE AFTER MORE THAN 6 MEG IS ALLOCATED. BMSG WILL GIVE A REPORT AS TO HOW EFFICIENT THE SORT IS RUNNING.
- WHEN LOOKING AT VSAM DELETE/DEFINES, ALWAYS REMOVE THE (ERASE) PARAMETER FROM THE DELETE AND DEFINE STATEMENT AND REMOVE THE (BUFFERSPACE) PARAMETER FROM THE DEFINE STATEMENT.
- ALWAYS PLACE AN AMP= PARAMETER ON ALL VSAM FILES.
- ALWAYS PLACE BLKSIZE=0 IN THE DCB OF ALL SEQUENTIAL FILES.
- WHEN ALLOCATING REGION SIZE ON THE JOB CARD, NEVER USE SIZES LIKE 700K, 800K, 900K, ETC. REGION SIZE'S SHOULD ALWAYS BE ON BOUNDARY ALIGNMENT. THAT IS ON MULTIPLE'S OF 4K. 4,000K IS NOT 4 MEG. 4096K IS 4 MEG. MAINFRAME COMPUTERS WORK ON A BASE 16 NUMBERING SYSTEM CALLED HEXADECIMAL. 2,000K IS NOT 2 MEG, 2048K IS 2 MEG.
- AS WITH ALL RECOMENDATIONS AND STANDARDS, THERE ARE ALWAYS EXCEPTIONS TO THE RULES. ALL OF THESE TIPS HAVE BEEN COLLECTED FROM MANY SOURCES AND ALL SHOULD BE TESTED BEFORE PUTTING INTO PRODUCTION. THE ABOVE ARE MENT AS GENERAL GUIDELINES ONLY. FINE TUNING IS AN ART, WHICH TAKES MANY YEARS OF EXPERIENCE AND TESTING TO PERFECT.

- ADDITIONAL GREAT JCL TUNING TIPS CAN BE FOUND AT:  
[HTTP://WWW.LASCON.CO.UK/D002003.HTM](http://WWW.LASCON.CO.UK/D002003.HTM)

**Do you have a JCL TUNING TIP that we can put here?  
Please send us an e-mail. It will help others.**

**Send to: [Ralph@cpsigroup.com](mailto:Ralph@cpsigroup.com)**

**Additional TIPS are posted on <http://www.linkedin.com/pub/ralph-bertrum/b/24a/471>**

**If you send your e-mail address I will send them to you every time they are updated. The JCL, COBOL, DB2, CICS, VSAM, SMS, and TSO TIPS will all be sent. All of the TIPS have been sent in from donors so please test them. If you ever have a performance problem give me a call. We do a free no charge no obligation analysis.**

**Very Best Regards,  
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**To get free lists of Mainframe Tuning TIPS for JCL, COBOL, DB2, CICS, VSAM, SMS, and TSO ask for them by e-mailing [ralph@cpsigroup.com](mailto:ralph@cpsigroup.com) or on LinkedIn at <http://www.linkedin.com/pub/ralph-bertrum/b/24a/471>**

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