

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

www.cpsigroup.com

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

COBOL TUNING TIPS

- We just found a program that was opening and closing the file on every record it read. Every time this program ran all other jobs that were running slowed down to a crawl. When a strobe was placed on the job it showed a 60% wait on catalog condition was occurring. We changed the program to open the file just once at the beginning and close at the end and every job using that catalog ran faster.
- Always remove test compile options such as “Displays”, before implementing into production.
- Exploit efficient coding techniques. No spaghetti code.
- Avoid opening or closing a file more than once in the same program.
- Avoid referencing the system date more than once in a program.
- DO NOT USE OVERLAYS EVER.
- Be very wary of the verb INITIALIZE. It generates a move for every non-filler elementary data item, especially on very long records or large files. If you need to use INITIALIZE do it once in housekeeping and save in working-storage. Then move the group from working storage wherever you would code the INITIALIZE.
- Instead of using COMP-5, it is better to use COMP-3. When we use any variables with an attribute of comp-5, the overhead increases and hence in turn CPU used will be more. If we replace comp-5 with comp-3 the CPU time will be drastically reduced.

- Always use a "BLOCK CONTAINS 0" clause for all sequential files.
- Use STROBE to maximize efficiencies prior to moving new programs to production.
- In MVS COBOL all numerics are converted to comp-3 for calculations and moves with the exception of a few system fields in comp. Store all working storage items in comp-3 to prevent converting to comp-3 and back repeatedly.
- They would use the INITIALIZE verb to initialize a 01 data description containing hundreds, perhaps thousands of variables. In those cases, INITIALIZE generates thousands of instructions to move the appropriate initialize value to each and every variable. Avoid doing this where ever possible.
- They would code the INITIALIZE statement immediately before the READ... INTO... statement, essentially initializing the area that was immediately overlaid by the record. Avoid doing this where ever possible. When removing we saw in most cases a 90+ percent of the CPU time and many times, we saw as much as 99.5% of the CPU time was saved. Also, SPACES can do the same thing to a lesser extent, if the work areas are large enough, especially if an MVCL instruction is used. We also saw a lot of tables being initialized unnecessarily costing much CPU.
- Always place the File Open and EOJ routines at the very end of the program.
- Additional Great COBOL Tuning Tips can be found at:
<http://www.lascon.co.uk/d002003.htm>

All of these TIPS have been sent to us and we take no responsibility for their correctness. All of these TIPS should be tested before ever being placed into production.

If you have any COBOL Tuning TIPS, please e-mail them to us at Ralph@cpsigroup.com so we can inform others.

To get free lists of Mainframe Tuning TIPS for JCL, DB2, CICS, VSAM, COBOL, etc., ask for them by e-mailing ralph@cpsigroup.com

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.

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

Send to: 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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