



Product Update Bulletin 2011-2

This product update forwards changes to both software and documentation. The software update is Release 21.2 of CPEXPERT. The release number indicates that it is the second release of 2011.

With Release 21.2, CPEXPERT has been updated to: (1) support z/OS Version 1 Release 13; (2) support CICS/Transaction Server Version 4 Release 2 and provide additional analysis and features in the CICS Component; (3) support DB2 Version 10.1 and provide additional analysis and features in the DB2 Component; (4) provide updated documentation on CD; and (5) correct errors that have been reported.

- **Support z/OS Version 1 Release 13 (z/OS V1R13).** z/OS V1R13 was made Generally Available (GA) by IBM in September 2011. Since Computer Management Sciences is a Partner in Development with IBM, I normally can provide support for new IBM releases within 30 days of General Availability of the new IBM release.
 - All CPEXPERT components have been updated to provide support for z/OS V1R13.
 - All CPEXPERT documentation has been updated with references to applicable z/OS V1R13 documents from IBM.
- **Updates to the WLM Component.** Changes to the WLM Component with CPEXPERT Release 21.2 were to correct minor errors reported by users.
- **Updates to the CICS Component.** The following rules and features have been added to the CICS Component:
 - **Support CICS/Transaction Server Version 4 Release 2 (CICS/TS 4.2).** All CICS Component source modules have been updated to provide support for CICS/TS 4.2. All CICS Component documentation has been updated with references to applicable CICS/TS 4.2 documents from IBM.
 - **Added new rules.** The following rules have been added to the CICS Component:

Rule CIC111 (*CICS encountered a Short-on-Storage condition, above bar*) reports that the CICS region encountered a short-on-storage condition, above the bar. This finding applies with CICS/TS Release 4.2.

Rule CIC115 (*CICS encountered a Critical Storage condition, above the bar*) reports that the CICS region encountered a critical storage condition, above the bar. This finding applies with CICS/TS Release 4.2.

Rule CIC116 (*IARV64 macro with CONVERT=FROMGUARD failed*) reports that a request for 64-bit storage failed, where the request used the z/OS IARV64 macro with the REQUEST=CHANGE GUARD, CONVERT=FROMGUARD parameters. This finding applies with CICS/TS Release 4.2.

Rule CIC197 (*Main temporary storage use approached TSMMAINLIMIT*) reports that the main temporary storage in use approached the amount of main temporary storage allowed by the TSMMAINLIMIT value. This finding applies with CICS/TS Release 4.2.

Rule CIC198 (*Main temporary storage use reached TSMMAINLIMIT*) reports that an application attempted to write an item of data that would make the main temporary storage in use to be more than allowed by the TSMMAINLIMIT value. This finding applies with CICS/TS Release 4.2.

Rule CIC283 (*CICS-DB2 thread REUSELIMIT was reached for pool thread*) reports that the number of times a DB2 pool thread was reused reached the limit set by the REUSELIMIT parameter value in the DB2CONN definition. This finding applies with CICS/TS Release 4.2.

Rule CIC284 (*CICS-DB2 thread REUSELIMIT was reached for DB2ENTRY*) reports that the number of times a DB2ENTRY thread was reused reached the limit set by the REUSELIMIT parameter value in the DB2CONN definition. This finding applies with CICS/TS Release 4.2.

Rule CIC610 (*Attempt was made to route unsupported function across IPIC*) reports that an attempt has been made to route an API request to a back level system that is unable to support this request over the IPIC connection. This finding applies with CICS/TS Release 4.2.

- **Modified rules.** The following CICS Component rules have been modified:

Rule CIC110 (*CICS encountered a Short-on-Storage condition*) has been modified to CIC110 (*CICS encountered a Short-on-Storage condition, below bar*), to reflect that this rule applies only to short-on-storage condition below the bar.

Rule CIC114 (*CICS encountered a Critical Storage condition*) has been modified to CIC114 (*CICS encountered a Critical Storage condition, below the bar*), to reflect that this rule applies only to a critical storage condition below the bar.

- **Updates to the DB2 Component.** The following rules and features have been added to the DB2 Component:

- **Support DB2 Version 10.** All DB2 Component source modules have been updated to provide support for DB2 Version 10. All DB2 Component documentation has been updated with references to applicable DB2 Version 10 documents from IBM.
- **Added new rules.** The following rules have been added to the DB2 Component:

Rule DB2-172 (*Rate of data set OPENS exceeded guidance*) reports that the rate of data set OPENS exceeded guidance provided to CPEXpert.

Rule DB2-275 (*Consider using a different page stealing algorithm*)¹ reports that the page stealing algorithm defined to DB2 was not optimal, and a different page stealing algorithm could result in better DB2 performance.

Rule DB2-276 (*Percent buffer pool fixed storage exceeds guidance*) reports that the total percent buffer pool fixed storage relative to defined real storage exceeded guidance provided to CPEXpert.

Rule DB2-277 (*Consider specifying PGFIX(NO) for buffer pool*) reports that although PGFIX(YES) was specified for a buffer pool, PGFIX(NO) might be a better specification for the buffer pool.

Rule DB2-278 (*Consider specifying PGFIX(YES) for buffer pool*) reports that although PGFIX(NO) was specified for a buffer pool, PGFIX(YES) might be a better specification for the buffer pool.

Rule DB2-279 (*Percent buffer pool fixed storage exceeded guidance*) reports that the percent of memory allocated to the LPAR that buffer pools with the PGFIX(YES) attribute used, exceeded the guidance provided to CPEXpert.

Rule DB2-280 (*Total percent system DB2 pages fixed exceeded guidance*) reports that the total amount of buffer pool storage for buffer pools with the PGFIX(YES) attribute, summed for all DB2 subsystems operating on the LPAR computed as a percent of memory allocated to the LPAR, exceeded the guidance provided to CPEXpert.

NOTE: Rule DB2-279 and Rule DB2-280 require access to SMF Type 71 data. The SMF71TFC variable describes the total available memory allocated to the LPAR in which the DB2 subsystem is operating.

- **Updates to the DASD Component.** Changes to the DASD Component with CPEXpert Release 21.2 were to correct minor errors reported by users.
- **Updates to the WebSphere MQ Component.** Changes to the WebSphere MQ Component with CPEXpert Release 21.2 were to correct minor errors reported by users.

¹Thanks to **Glenn Bowman** (Wakefern Food Corporation, NJ) for suggestion this analysis.

- **Updated documentation on CD.** This release provides all updated documentation to reflect new or revised rules. The CPEXpert documentation is accessible via Adobe Acrobat Reader. A free version of Adobe Acrobat Reader is available at <http://www.adobe.com/products/acrobat/readstep2.html>.
- **Add a log of changes to code.** A log of changes to the CPEXpert code for Release 21.2 has been included, and additions or changes to USOURCE members are included in the changes log. This log is titled CHANGES and shows each module changed (except when the change is minor). Interested users can review the CHANGES log to see what code changes have been made, and can easily identify new guidance variables. CPEXpert follows the MXG model for releases (that is, the CHANGES log shows changes in the new release, while the CHANGES log is an accumulation of changes).

FTP download

CPEXpert Release 21.2 (both code and documentation) is available via ftp download from the CPEXpert ftp server. If you prefer this method of obtaining the update, please send an email to Don_Deese@cpexpert.com to obtain instructions for ftp download, obtain your user id, and obtain your password. **If you have requested ftp download in past, the ftp download instructions will automatically be sent to you.**

Installation

I suggest that you use the following steps to install Release 21.2:

- Create a new PDS titled "prefix.CPEXPERT.V212.SOURCE".
- Create a new PDS titled "prefix.CPEXPERT.V212.USOURCE".
- Install CPEXpert into the "prefix.CPEXPERT.V212.SOURCE" using the normal installation procedures described in the *CPEXpert Installation Guide*.
- Install CPEXpert into the "prefix.CPEXPERT.V212.USOURCE" using the normal installation procedures described in the *CPEXpert Installation Guide*. This step will cause the email macros to be loaded into USOURCE.
- Copy your **old** USOURCE members into "prefix.CPEXPERT.V212.USOURCE". This step should be done so you do not have to recreate all of your unique parameters².

²The exception to this statement is if you chose to use the "yesterday" option in selecting data. The "yesterday" calculation is done by a PREVIOUS macro contained in USOURCE(GENGUIDE). The PREVIOUS macro is placed in USOURCE so you can select "yesterday" as the immediate previous day, or can define "yesterday" as any other previous day you chose. Placing the PREVIOUS macro in USOURCE(GENGUIDE) allows you to make such a modification, without altering a SOURCE member. Consequently, if you copy your old USOURCE(GENGUIDE) member to CPEXPERT.V212.USOURCE, you may wish to append the PREVIOUS macro from your old USOURCE(GENGUIDE) into your new USOURCE(GENGUIDE).

- If you elected to receive updates to CPEXpert on CD, the software is distributed on the CD that contains the CPEXpert user documentation.
 - **Installing CPEXpert from CD to MVS.** Copy the *source.212.ebc* file from `cd:\software\` as binary, to CPEXPRT.TAPE.RELV212, allocated as `DSORG=PS,RECFM=FB,LRECL=80,BLKSIZE=0,AVGREC=K,SPACE(80,(150,50))`, `DSN=CPEXPRT.RELV212.IEBUPDTE`. The *source.212.ebc* file is in standard IEBUPDTE format.

Use the JCL described in Exhibit 2-1 of the *CPEXpert Installation Guide* to install the CPEXpert software. Copy your old USOURCE members as described above.

- **Installing CPEXpert from CD to PC:** Copy the `cd:\software\source\` on the CD to `prefix\cpexpert\rel212\source`. Copy the `cd:\software\usource\` on the CD to `prefix.cpexpert\rel212\usource` using the normal installation procedures as described in the *CPEXpert Installation Guide*. This step will cause the email macros to be loaded into usource. Copy your old usource members as described above. Make sure that you update your usource(genguide) member to specify **%LET SOURCE =user_directory;** statement to point to the new SOURCE directory.
- **Downloading via ftp:** If you elected to download updates from my ftp server, you can copy the *source.212.ebc* file to CPEXPRT.TAPE.RELV212, allocated as `DSORG=PS,RECFM=FB,LRECL=80,BLKSIZE=0,AVGREC=K,SPACE(80,(150,50))`, `DSN=CPEXPRT.RELV212.IEBUPDTE`. The *source.212.ebc* file is in standard IEBUPDTE format.

The updated CPEXpert user documentation also will be available on the ftp site. It is your option whether you wish to download only the manuals, or also download the individual rule documents. If you wish to download the individual rule documents, they will be available as pdf files in the *Individual_Rule_Documentation.zip* on the ftp site.

- If you have implemented the CPEXpert option to produce output to the SAS Output Delivery System (ODS) and if you have exercised the LINKPDF option so you can “click” on a rule in the html output to see the documentation, **please remember to load the new individual rule documentation onto your system.**
- If you chose to implement the xxxHTML option (e.g., WLMHTML) to provide your own SAS ODS HTML statement parameters, please place your own macros into USOURCE and concatenate the USOURCE pds ahead of the SOURCE pds.
- If you chose to implement the CPEXpert email option, please update the xxxEMAIL modules in USOURCE to reflect your unique email requirements.

Special note for SAS/ITRM users of CPEXpert running the DB2 Component: With CPEXpert Release 21.2, you must have the following MXG file structure in your performance data base.

TYPE71 RMF PAGING ACTIVITY

SAS gives an invalid return to the %sysfunc(exist(file)) macro with SAS/ITRM, so the above file must be in your pdb, even if it is a null file.

Thanks

I would like to say "**Thank you**" to the following individuals. These folks have proposed new features, graciously sent me test data, suggested documentation changes since the last Update Bulletin, or discovered errors :

Markus Bansemir (HUK-Coburg, Germany)
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Harald Seifert (HUK-Coburg, Germany)
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Bruce Widlund (Merrill Consultants, TX)

Please send me an email if you have suggestions, you want new features, or you would like to see more or different reporting done by CPEXpert.

Best regards,

Don Deese

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