

## Product Update Bulletin 2002-2

This product update forwards updates to both software and documentation. The software update is Release 12.2 of CPEXpert. The release number indicates that it is the second release of 2002.

This release (1) provides support for z/OS Version 1 Release 4 (V1R4), (2) provides updates to the WLM Component, (3) provides updates to the DB2 Component, (4) provides updates to the CICS Component including providing support for CICS/TS for z/OS Release 2.2, (5) provides updates to the DASD Component including analysis of VSAM performance problems, (6) provides updates to the *CPEXpert Installation Guide*, (7) provides updated documentation on CD-ROM, and (7) corrects errors that have been reported.

- **z/OS Version 1 Release 4 (V1R4).** z/OS V1R4 was made Generally Available (GA) by IBM in September 2002. Since Computer Management Sciences is a Business Partner with IBM, I normally can provide support for new IBM releases within 30 days of GA of the new IBM release.
  - All CPEXpert components have been updated to provide support for z/OS V1R4.
  - All CPEXpert documentation has been updated with references to applicable z/OS V1R4 documents from IBM.

Please note that z/OS Version 1 Release 4 is the last release in which IBM will issue a new z/OS release every six months.

For the past 11 years, CPEXpert releases have been timed to coincide with the March and September releases of new versions of MVS by IBM. This timing has, of course, resulted in a new release of CPEXpert being issued every six months. I plan to continue the "every six months" release schedule for CPEXpert, even though IBM plans to move to an annual release schedule. I think that this update schedule will provide a more continual enhancement to CPEXpert, and these enhancements will be available to users on a regular basis.

Also, note that with z/OS V1R4, RMF now correctly computes the percentages for the State Samples Breakdown in the WLMGL Report. Until z/OS V1R4, state samples were reported as a percentage of average transaction response time. The response time is calculated when a transaction completes. This method of calculating samples can result in RMF-reported values substantially greater than 100% when samples are included for long running transactions which have not completed in the RMF recording interval, and

can result very small RMF-reported values when transactions end near an RMF recording interval.

Since 1995, I have recommended to IBM (and in presentations at SHARE, CMG, IBM EXPO, and international conferences) that the state samples should be summed by RMF interval, and that the distribution of states should be a function of the number of samples taken by Work Managers (such as CICS or IMS) during processing of transactions. CPEXpert has always used this method of reporting delays to CICS or IMS transactions. Finally, with z/OS V1R4, RMF has been enhanced to use the correct method of computing transaction delays. This feature is available as SPE and needs to be installed as APAR OW52227.

- **Provides updates to the WLM Component.** With Release 12.2, CPEXpert analyzes additional problems or potential problems that occur with Service Definition specifications. The WLM Component analyzes such areas as:
  - Conflicts between Dynamic Alias Management specifications for Parallel Access Volume (PAV) and specifications for I/O Priority Management.
  - Conflicts between CPU Critical specifications for transaction service classes and their associated CICS or IMS region service classes.

Additionally, the WLM Component has been updated to provide an introductory listing of significant analysis that cannot be done by CPEXpert because (1) files are missing in the performance data base being evaluated or (2) analysis options have not directed the WLM Component to perform the analysis<sup>1</sup>.

- **Provides updates to the DB2 Component.** With Release 12.2, CPEXpert provides the option for DB2 users of CPEXpert to analyze all DB2 subsystems with a single execution of the DB2 Component<sup>2</sup>. This option will be helpful for those CPEXpert users who have a large number of DB2 subsystems.
- **Provides updates to the CICS Component.** With Release 12.2, the CICS Component has been updated to provide support for CICS/TS for z/OS Release 2.2. Additionally, code has been added to allow non-standard CICS statistics interval data to be used with a SAS/ITSV (renamed SAS/ITRM) performance data base.

**PLEASE NOTE:** As mentioned in Update 2002-1, I have designed the logic and much of the coding to analyze performance problems with CICS Coupling Facility Data Tables (CFDT) and CICS Named Counters. I need test data from users to incorporate this analysis into CPEXpert. If any user is using CFDT or Named Counters, please send test data to me and I will make that analysis available in the next release of CPEXpert.

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<sup>1</sup>Thanks to **Harald Seifert** (HUK-Coburg, Germany) for suggesting this enhancement to the CPEXpert WLM Component (and also to the DASD Component)!

<sup>2</sup>Thanks to **Michel Tordion** (Royal Canadian Mounted Police, Canada) for suggesting this enhancement to CPEXpert!

- **Provides updates to the DASD Component.** With CPEXpert Release 12.2, the DASD Component optionally evaluates SMF Type 42(Data Set Statistics) and Type 64(VSAM Statistics) records to provide an evaluation of common VSAM problems<sup>3</sup>. This initial analysis examines VSAM problems in such areas as:
  - Excessive Control Area (CA) splits occurred.
  - Excessive allocation of secondary extents were required.
  - The primary or secondary allocation unit was too small and should be increased.
  - The Control Interval (CI) size was too small for sequential accesses.
  - The Control Interval (CI) size was too large for random accesses.
  - The Control Interval (CI) size was too large for mixed (sequential and random) accesses.
  - The data buffer allocation was too low and should be increased .
  - The index buffer allocation was too low and should be increased.
  - Conflicts existed between (1) the non-shared resources (NSR) and local shared resources (LSR) specifications and (2) the type of access to the data.

This new VSAM analysis automates part of the analysis described in IBM's "VSAM Demystified" Redbook (SG24-6105), and as augmented by IBM's dfSMS manuals. Future enhancements to the DASD Component will extend this initial analysis.

Additionally, the DASD Component has been updated to provide an introductory listing of significant analysis that cannot be done by CPEXpert because (1) files are missing in the performance data base being evaluated or (2) analysis options have not directed the DASD Component to perform the analysis.

- **Provide updates to the *CPEXpert Installation Guide*.** The *CPEXpert Installation Guide* has been updated to provide guidance on how to ensure that optional MXG files are present in your MXG performance data base.

Some users wish to access the SAS ODS output created by CPEXpert on their IBM mainframe in a PDSE file, some users wish to access the SAS ODS output in an HFS directory, some users wish to download the SAS ODS output to a web server, some users wish to download the SAS ODS output to a PC, and some users will create and access the SAS ODS output on a PC under Windows. The *CPEXpert Installation Guide* has been updated to discuss these options, and to provide a table that shows the

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<sup>3</sup>Thanks to **Glenn Bowman** (Wakefood Corporation, NJ) for providing SMF Type 42(DS) and SMF64 records for testing purposes!

various settings that should be specified for CPEXpert guidance variables, depending on where the SAS ODS output was created and where it will be accessed.

- **Provide documentation on CD-ROM.** This release provides all updated documentation to reflect references for z/OS V1R4. The CPEXpert documentation is accessible via Adobe Acrobat Reader, and the CD-ROM contains a free copy of Adobe Acrobat Reader. The Adobe Acrobat Reader should be installed on your PC under Windows<sup>4</sup>.

There is no additional charge for the CD-ROM versions of CPEXpert documentation. If any user does not have the capability to access documentation on CD-ROM (or simply prefers to have hard-copy documentation), please send me a note.

If you have installed the CPEXpert option to produce output to SAS Output Delivery System (ODS) and if you have exercised the LINKPDF option so you can "click" on the rule to see the documentation, **please remember to load the new documentation onto your system.**

- **Correct errors that have been reported.** I've added a new member titled SOURCE(GENER121) which contains a listing of the errors that were discovered in CPEXpert code for Release 12.1, and an acknowledgment of the user who found the error.

I **really** appreciate calls from users reporting problems or simply asking questions. As I said in the original delivery letter for CPEXpert, if errors occur with your installation, please don't waste your time trying to solve the error. Just send me an email and I will quickly fix the problem!

## Installation

I suggest that you use the following steps to install Release 12.2:

- Create a new PDS titled "prefix.CPEXPRT.V122.SOURCE".
- Create a new PDS titled "prefix.CPEXPRT.V122.USOURCE".
- Install CPEXpert into the "prefix.CPEXPRT.V122.SOURCE" using the normal installation procedures described in the *CPEXpert Installation Guide*.
- Copy your **old** USOURCE members into "prefix.CPEXPRT.V122.USOURCE". This step should be done so you do not have to recreate all of your unique parameters.

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<sup>4</sup>Other free versions of Adobe Acrobat Reader are available (for example, a UNIX version is available). I believe that all CPEXpert users have access to Windows, and it did not seem worthwhile cluttering up the CD-ROM with the other versions of Adobe Acrobat Reader. Please call me if you require other versions.

- If you elected to receive updates to CPExpert on diskette, the software is distributed on the CD-ROM that contains the CPExpert user documentation. I have created a BAT file for you so that you can easily upload the new software. This file is titled "UPLOAD.BAT" and will be located in the SOFTWARE directory of the CD-ROM. The BAT file was created per your instructions (i.e., using SEND, etc.).

## Thanks

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

**Jim Barton** (Department of Veterans Affairs, TX)  
**Tom Bubnash** (Social Security Administration, MD)  
**Hemanth Buchireddy** (Lexis-Nexis, OH)  
**Glenn Bowman** (Wakefern Food Corporation, NJ)  
**David Ehresman** (University of Louisville, KY)  
**Darrell Faulkner** (Computer Associates, VA)  
**Paul Gordon** (Bank of America, VA)  
**Niek Greuter** (ABN-AMRO, The Netherlands)  
**Yaohua Hu** (Insurance Services Office, NJ)  
**Mike Jacques** (Branch Bank and Trust, NC)  
**Barry Merrill** (Merrill Consultants, TX)  
**Alex Torben Nielsen** (TELE DANMARK A/S, Denmark)  
**Bryant Osborn** (Bank of America, VA)  
**Harald Seifert** (HUK-Coburg, Germany)  
**Michel Tordion** (Royal Canadian Mounted Police, Canada)  
**Carl Tungli-Giese** (Insurance Services Office, NJ)

Please call, fax, or 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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