CA Database Management for Db2 for z/OS 20.0 (Db2 Tools) Customer Community Update

Team Product Owners

September 13th, 2021

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Agenda

Sysview for Db2

- History Browsing Mode
- Data Sharing Group wide reports for IFCID 369 data
- Update of the SYSVIEW for Db2 Archive Tables

Detector

- Collection of Autonomous NSP activity

Plan Analyzer

- Choose which Strategy HVersion to Compare against

Level Set 20.0.01

- What's new

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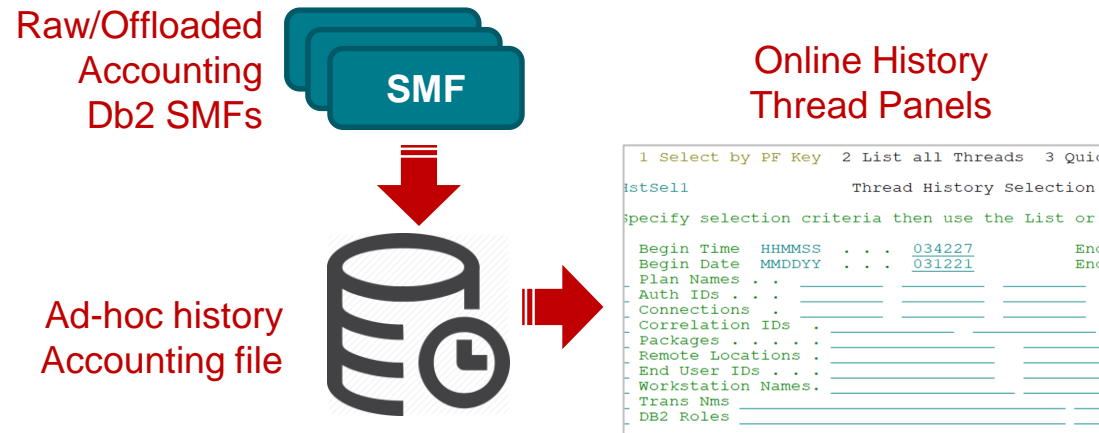# Please Provide Feedback…

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SYSVIEW for Db2 History Browsing Mode

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SYSVIEW for Db2 History Browsing Mode

Raw/Offloaded Accounting Db2 SMFs

SMF

Online History Thread Panels

Ad-hoc history Accounting file

```
1 Select by PF Key   2 List all Threads   3 Quic
IstSel1                    Thread History Selection

Specify selection criteria then use the List or

Begin Time  HHMMSS . . . 034227        End
Begin Date  MMDDYY . . . 031221        End
Plan Names . .
Auth IDs . . .    _____  _____  _____
Connections   .   _____  _____  _____
Correlation IDs .
Packages . . . . .   _____  _____
Remote Locations .   _____  _____
End User IDs . . .   _____  _____
Workstation Names.   _____  _____
Trans Nms           _____  _____
DB2 Roles           _____
```

- In Db2 environments with high transactional workload, the near-time history keeps a short time period of accounting data, when further history analysis is required, users cannot take the advantage of available online history reports in SYSVIEW for Db2 .

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SYSVIEW for Db2 History Browsing Mode

We introduced a specialized data collector mode as an online alternative to batch reports for analysis of history data (PTF **LU02118**).

Users can designate a data collector for history access only using the new system parameter **DC-HISTORY-MODE,** and dynamically switch between the allocated SYSVIEW for DB2 history files.

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SYSVIEW for Db2 History Browsing Mode

To get started, simply submit a job that executes the following steps:

1. Allocates new history files.
2. Loads the history files with Db2 statististics from an SMF file.
3. Starts the data collector in History-Only DC mode.

New sample JCLs that include all these steps are available in the SOURCE library.

Submit IDB2HDCJ (job) or IDB2HDCS (started task) to start the data collector in History-Only mode.

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History-Only Data Collector Mode - Main Menu

History-Only Data Collector Mode - Manage history files


```
  Menu   Print   Tools   Help      CA SYSVIEW for DB2   HIST CA31      07/28/21 03:43:37
                                          20.0          HISTDV20                 JIRAN01


                                  Manage History Datasets


                                                                Location HISTDV20


  Accounting . . : TSPROD.IDB2.DEV200.HIST.HSTACCT
  Statistics . . : TSPROD.IDB2.DEV200.HIST.HSTSTAT
  SQL Database . :

  Specify a fully qualified name with no quotation marks.
  This command immediately reallocates history datasets for all users.




  Command ===>
    F1=Help                             3=End         4=End         5=RFind       6=RChange
    F7=Up         8=Down
```

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History-Only Data Collector Mode - Thread History List

Please Provide Feedback…

PTF: LU02118

For further readings, please check:
- [Using History-Only DC Mode](#)
- [History-Only DC Mode](#)
- [Load Online History Files (IDB2UIFI REQ=LOADHIST)](#)

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SYSVIEW for Db2 for z/OS: Data sharing group wide reports for IFCID 369 data (aggregated accounting).

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Data sharing group wide reports for IFCID 369 data (aggregated accounting).

- SYSVIEW for Db2 provides a real time report for aggregated accounting data aggregated by connection type. So a user can quickly identify what kind of workload (CICS, Batch, Utilities, etc.) is taking most of resources. This report is limited a single subsystem view only – while it is important to get a similar information for the whole data sharing group.

- We extended SYSVIEW for Db2 navigation and introduce new reports that display aggregated accounting information for both a single member and the data sharing group.

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Data sharing group wide reports for IFCID 369 data (aggregated accounting).

- The following new SYSVIEW for Db2 real-time reports are introduced:

  - CSACCTSG – displays accounting statistics that are aggregated by connection type summarized across the members of a data sharing group

  - CSACCTDG – displays the detailed accounting statistics aggregated for the selected connection type across all members of a data sharing group.

  - CSACCTSL – displays accounting statistics aggregated for the selected connection type and split by group members

- Existing CSACCTS and CSACCTD reports are updated to retrieve information from other members of a data sharing group

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Data sharing group wide reports for IFCID 369 data (aggregated accounting).

- The system menu navigation is expanded to include new reports. Selecting the Data Sharing Group Summary ("*" row in the "DB2 Group Members" SYSPLEX report) now navigates to other two menu choices:

    - 1."SnapShot" GRPSTATS report (original)
    - 2."Acct Sum" CSACCTSG report (new)

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"1" System Statistics -> "Select Db2 subsystem" ->"5" Acct Sum


```
Menu   Print   Tools   Help      CA SYSVIEW for DB2   DT11 CA11        07/26/21 11:43:09
                                      20.0             DTGPENDK3                  SNOOL01
_    1 SnapShot   2 Buffer Pool   3 EDM Pool   4 Logs   5 Acct Sum   6 More...

R/CSACCTS           Acct Stats by Conn Type - Accum                        Item 1/8
SORT OFF                                                             Accum
Actions: S=Select for more detail
    Connection DB2      Trans      Commits    App Elap    DB2 Elap    DB2 CPU     DB2 CP      DB2 zIIP
        Type   DT11     Count      + Aborts   HHHH:MM:SS  HHHH:MM:SS  HHHH:MM:SS  HHHH:MM:SS  HHHH:MM:SS

_   ALL        DT11      7496         56707   32:59:17     2:52:08       17:05       13:06        3:59
_   IMS        DT11         0             0          0           0           0           0           0
_   CICS       DT11         0             0          0           0           0           0           0
_   RRSAF      DT11         0             0          0           0           0           0           0
_   UTILITY    DT11       601         31825    5:11:14     1:59:58       13:53       10:05        3:47
_   BATCH      DT11      4707         22676   27:34:33       47:05        2:51        2:51           0
_   DISTRIB    DT11      2188          2206      13:29        5:03          20           8          11
_   REST API   DT11         0             0          0           0           0           0           0
```

"1" System Statistics -> "Select Db2 subsystem" ->"5" Acct Sum -> "S=Select for more details"

```
 Menu   Print   Tools   Help      CA SYSVIEW for DB2   DT11 CA11      07/26/21 11:15:49
                                        20.0          DTGPENDK3                  SNOOL01


 R/CSACCTD          Acct Stats by Conn Detail - Accum                        Row 1/29
 SORT N/A                                                         Accum
 Data collection enabled since  07/26/21 10:56:14
 Connection          CICS Commits              0 Log Recs Write              0
 Transactions           0 Aborts               0 Log Bytes Write             0
 Child Rollup           0                        Savepoint Requests          0
 Subsystem           DT31                        Savepoint Rel Req           0
                                                 Savepoint Rolb Req          0


 Application Times     --- Total --- - Avg Trans -
 (Class 1)            HHHH:MM:SS.TT HHHH:MM:SS.TT  % App    1   3   5   7   9
 Elapsed Time App              0.00         0.00  Elpsd  ..0...0...0...0...0..
```

"1" System Statistics -> "Selecting the Data Sharing Group Summary"


```
Menu    Print   Tools   Help        CA SYSVIEW for DB2   DT31 CA31        07/26/21 11:22:23
                                          20.0            DTGPENDK3                  SNOOL01
 _   1 SnapShot   2 Acct Sum

R/GRPSTATS          System Snapshot - DS Group - Accumulate                    Row 1/26
                                                                           Accum
DATA SHARING ( 2 )
 DB2 Group: DSNDTGP  DC Group: SNOLDTGP
 Members:    DT11 DT31

EXCEPTIONS Crit Warn Info     BUFFERS              EDM POOL
 Subsystem    0    0    0     Warnings     11104    DBD Lds 22763K    % Rqsts   97.4
 Database     0    0    2     Act Pools       19    CT  Lds     71    % Rqsts    0.8
 Applicatn    0    0    0     % Act Pgs      0.4    PT  Lds    297    % Rqsts    0.3
             Pct  Max StIn    Getpages     1947M    Dyn Ins   2865    % Rqsts    2.4
LIMITS Current Max HWM  HWM   Sync Rds    41110K
 Users        21   1   22   14 Read Eff      47.4
 TSO           3   0    2    2 Buf Updts    144M    LOCKING           LOGGING
 Batch        18   1   22   12 Pg Writes  63012K    Suspend   177K   Dlyd Wrts     71
 DDF Actv      5   0   10    4 Write I/O   7838K    Escalate    33   Arch Read     4M
 DDF Inac     46   4   35                            Timeout     0   Min/Chkpt    21
 Dataset     939   2                                 Deadlock    0   Warnings      0

SQL                    ADDRESS SPACES              THREADS         Active   Actv+Cmplt
 Dynamic        95968   DB2 Pct CPU   0.3           Count            21         14386
 Ins+Upd+Dlt    4220K   DB2 WSS (K)       2911504   Commits           8        109819
 Open+Select    2073K   DB2 Up Time   38:23:05      Aborts            0           944
 Accelerator        0                               DB2 CPU     239.976

                       POOL FAILURES
STORED PROCEDURES       RID             0
 SQL CALLs       153    EDM             0
 Failures          0    Starjoin        0
```

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"1" System Statistics -> "Selecting the Data Sharing Group Summary" -> "2 Acct Sum"


```
Menu   Print   Tools   Help      CA SYSVIEW for DB2   DT31 CA31      07/26/21 11:24:35
                                        20.0           DTGPENDK3                SNOOL01
 _    1 SnapShot   2 Acct Sum

R/CSACCTSG        DSG Acct Stats by Conn Type - Accum                      Item 1/8
SORT OFF                                                              Accum
Actions: S=Select for details, L=List by member
   Connection    Trans     Commits  App Elap    DB2 Elap    DB2 CPU     DB2 CP    DB2 zIIP   DB2 Other
      Type       Count    + Aborts HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS

 _  ALL          19902     174418  141:30:29   13:03:53      40:00      33:46       6:14    1:43:15
 _  IMS              0          0          0          0          0          0          0          0
 _  CICS             0          0          0          0          0          0          0          0
 _  RRSAF          462       1319       3:18       1:15         22         21          0         20
 _  UTILITY       2385      78195    8:59:32    3:34:05      25:23      19:42       5:40      51:33
 _  BATCH        13166      90949  131:25:57    8:45:26      13:21      13:21          0      13:12
 _  DISTRIB       3889       3955    1:01:41      43:05         53         20         32      38:09
 _  REST API         0          0          0          0          0          0          0          0
```

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"1" System Statistics -> "Selecting the Data Sharing Group Summary" -> "2 Acct Sum" -> "S=Select for details"

"1" System Statistics -> "Selecting the Data Sharing Group Summary" -> "2 Acct Sum" -> "L=List by member"

```
Menu   Print   Tools   Help      CA SYSVIEW for DB2   DT31 CA31      07/26/21 11:30:47
                                         20.0          DTGPENDK3                SNOOL01


R/CSACCTSL          DSG Acct Stats for Conn Type - Accum                      Item 1/2
SORT OFF                                                        Accum
Actions: S=Select for more detail
   Connection DB2      Trans     Commits    App Elap    DB2 Elap    DB2 CPU    DB2 CP     DB2 zIIP    DB2 Other
      Type     *       Count    + Aborts HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS HHHH:MM:SS

_  BATCH      DT11     4651       22589    27:31:12       46:08       2:51       2:51          0          3:45
_  BATCH      DT31     8591       68498   104:19:18     8:02:07      10:30      10:30          0          9:52
```

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"1" System Statistics -> "Selecting the Data Sharing Group Summary" -> "2 Acct Sum" -> "L=List by member" -> "S=Select for more detail"

Please Provide Feedback…

PTF: **LU02303**

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Update of the SYSVIEW for Db2 Archive Tables

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Context

- Previously, the documentation was only showing Db2 column names and IQL field names for each archive table.

- We received feedback from several customers who wanted to see the content of the fields in the archive tables.

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Solution

- We matched IQL fields with the descriptions from our help panels.

- The output also includes Db2 field names.

- We prepared a sample table, for which we got a positive feedback from the customer.

- The data was moved to the doc, making sure that display and readability are fine.

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Before

Columns with Common IQL Field Names

The following table lists the DB2 column name in the SUBSYS_BP_PARMS table with the corresponding common IQL field name:

DB2 Column Name	Characteristics	Common IQL Field Name
RECORD_DATE_TIME	TIMESTAMP	EVENT-TIME
SYSTEM_ID	CHAR(4)	MVS-SMF-ID
SUBSYSTEM	CHAR(4)	SUBSYS

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After

Columns with Common IQL Field Data

The following table lists the Db2 column name in the SUBSYS_BP_PARMS table, with the corresponding IQL field name and Db2 field name.

Db2 Column Name	Characteristics	IQL Field Name	Db2 Field Name	Field Description
RECORD_DATE_TIME	TIMESTAMP	EVENT-TIME	QWHSSTCK	The store clock time when the trace record was produced.
RELEASE	CHAR(4)	DB2-RLSE-NUM	N/A	The Db2 version and release in the vv.r format.
SUBSYSTEM	CHAR(4)	SUBSYS	QWHSSSID	The Db2 subsystem name as defined in SYS1.PARMLIB(IEFSSNxx).

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Outcome and Follow-up

- The Subsystem archive tables were fully updated (21 tables).

- Half of the Application archive tables were updated (6/12).

- All remaining archive tables will be updated in the next Quarter.

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Please Provide Feedback…

- SYSVIEW for DB2
  https://techdocs.broadcom.com/us/en/ca-mainframe-software/database-management/ca-sysview-performance-management-option-for-db2/20-0.html

- Subsystem Archive Tables
  https://techdocs.broadcom.com/us/en/ca-mainframe-software/database-management/ca-sysview-performance-management-option-for-db2/20-0/reference/archive-tables/subsystem-archive-tables.html

TIP: If you are on a small screen, minimize the left menu for the best possible display.

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Collection of Autonomous NSP activity

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ANSPs

- Autonomous Native Stored Procedures (ANSPs) were added in Db2 11

- ANSPs execute under their own units of work, separate from the calling program, and commit when they finish without committing the work of the calling program.

- Because ANSPs run under their own unit of work their activity is not being collected by Detector

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PDT ANSP Collection

- Detector® for DB2 for z/OS now supports autonomous native stored procedures (ANSPs).

- Specify Triggered SQL=Y on the Start Collection panel or TRG(Y) in your START(DTR) command when you start the collection.

- This option collects statistics from native stored procedures (including ANSPs), triggered SQL, and native SQL UDFs.

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ANSP Collection


```
20.0    ---------- DETECTOR Start Collection Display ---------- 21/09/10 15:20
Command ==>

DB2 SSID ==> D12A

Specify collection options:
 Triggered SQL              ==> Y   (Y/N)  Plan Excl/Incl List  ==> Y (Y/N)

SQL collection options:
 Standard Activity          ==> Y (Y/N)
   Dynamic SQL Stats        ==> Y (Y/N)     (Requires profile)
   View By Keys             ==> Y (Y/N)     (Requires profile)
   Dynamic Exceptions       ==> Y (Y/N)     (Requires profile)
   Static Exceptions        ==> Y (Y/N)     (Requires profile)
 SQL Errors                 ==> Y (Y/N/A) (Requires profile)
   SQL Error Text           ==> Y (Y/N)
 Host variables             ==> Y (Y/N)     (applies to all options)

Collection Profile          ==> COLLALL_  Exception cache size MB ==> 0020 (1-20)
```

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Please Provide Feedback…

Collection of Autonomous NSP activity
PTF: LU02554

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Choose which Strategy HVersion to Compare against

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Can only use prior Strategy version

- When comparing Strategy versions in Plan Analyzer's Explain Strategy Services the Strategy version used is always the prior one.

- There is no way to create a Baseline Strategy version and run multiple compares against it..

- Running your second compare would will compare against the previous compare's HVersion.

- This behavior is specific to Strategy HVersions.

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Select Historical Stratey Version

Plan Analyzer® for DB2 for z/OS now allows you to choose which historical strategy version of an explain strategy to compare against your SQL source version.

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Select Historical Stratey Version

```
-------- PPA Compare Versions Report Options ------- 2021/09/10 15:49
COMMAND ===> _

Report Inclusion Options
Change Level      ===> E    B - Changed/Unchanged    S - SQL changed
                            E - Either changed       A - Access changed
                            N - SQL unchanged and Access changed
Paired stmts      ===> P    B - Paired/Unpaired      P - Paired      U - Unpaired
Comparison Options
Compare Creator ===> N    Cost Margin (ms) =>      (su) =>      (tc) =>

Formatting Options
SQL/Access Path ===> B    B - Show SQL and Access   S - Show SQL only
                          C - Show the change only   A - Show Access only
SQL version      ===> E    E - Show once if equal    O - Show OLD version
Access version   ===> E    B - Show both versions    N - Show NEW version
Host Variables   ===> N    B - Show Changed/Unchanged  C - Show Change Only
                           N - Do not show
Suppress Report ===> Y    Y - No SQL and/or Access changes    N - Show report

Old HVersion      ===> AAAATEST  Level => V00033
Options          ===> Y    Y - Save N - Use
```

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Select Historical Stratey Version

```
Old HVersion       ===> AAAATEST   Level => ?
Options            ===> Y      Y - Save N - Use
```

```
              ---- PPA Strategy HVersion Level Selection List ---- 2021/09/10 15:53
COMMAND ===>  _                                              SCROLL ===> PAGE
                                                                 LINE 1 OF 6


Strategy ===> AAAATEST          DB2 SSID ===> D12A        Version ===> 121M500
----------------------------------------------------------------------- BADANA2


                                         TDC S +----- LAST UPDATE -----+
CMD VERSION   DESCRIPTION              CREATOR PBH O USER     DATE        TIME
    V00033    VERSION AUTO CREATED     STERY01 CS  U CARDOA9  2020-11-02  17.47
    V00034    VERSION AUTO CREATED     STERY01 CSY U CARDOA9  2020-11-02  17.48
    V00037    VERSION AUTO CREATED     STERY01 CSY U STERYA1  2020-11-16  14.14
    V00038    VERSION AUTO CREATED     STERY01 CSY U STERYA1  2020-11-16  14.17
    V00039    VERSION AUTO CREATED     STERY01 CSY U STERY01  2020-11-16  16.12
    V00040    VERSION AUTO CREATED     STERY01 CSY U STERY01  2020-11-16  16.14
****************************** BOTTOM OF DATA ******************************
```

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Please Provide Feedback…

Choose which Strategy HVersion to Compare against
PTF: LU01891

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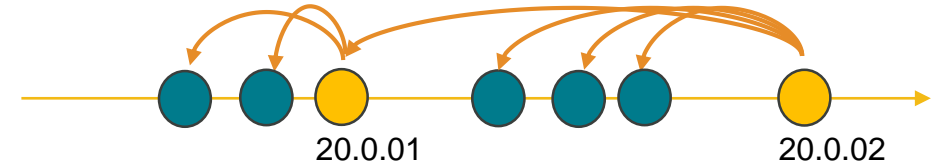**BROADCOM**®

Db2 Tools Level Set 20.0.01

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What is a Level Set?

- Level Set PTF ⬤
  - Introduced as part of Continuous Delivery
  - Prereqs all PTFs ⬤ since previous Level Set PTF
  - Applying this PTF ensures that all maintenance is current to that point
  - Product version string expanded – 20.0.*mm*
  - May introduce new functionality once the Level Set is activated

- Level Set 20.0.01 now available (LU01290)
  - PPA - Collection of Compare History Records by the Compare Reports
  - Xmanager - Maintenance Rollout Independence

20.0.01   20.0.02

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PPA - Collection of Compare History Records by the Compare Reports

- PTF LU00440 introduced a new Compare Summary Report in Plan Analyzer.

- When introduced this new report required a Compare History report to be generated so that the necessary Compare information was available for the Compare Summary Report.

- Activation of Level Set 20.0.01 modifies the existing Compare and Compare Version Cost reports to collect the necessary Compare information for the Compare Summary Report.

- More information on the Compare Summary Report:
  - Documentation
  - April's Community Update

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Xmanager - Maintenance Rollout Independence

- Until now Xmanager Maintenance Rollout required that all Xmanagers have their maintenance updated at the same time.

- For large shops with multiple Xmanagers the coordination required can be complicated

- Activation of Level Set 20.0.01 allows you the flexibility, if you choose, to rollout Xmanager maintenance one Xmanager at a time as long as the Xmanagers are using separate runtime libraries.

- More information on Maintenance Rollout Independence
  - March's Community Update

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Level Set 20.0.01 Activation

- How do I activate Level Set 20.0.01?
    - [Documentation](#)
    - [March's Community Update](#)
    - [October's MTE Event](#) – [Session DM02-S](#)

Please Provide Feedback…

Level Set 20.0.01
PTF: LU01290

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In Closing…

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When is the next Community Update call?

The 2nd Monday of each month

Our next call will be October 11th, 2021

Did you miss our last call (in July)?

The replay is available here.

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CA Db2 Tools 20.0 Validation Project

https://validate.broadcom.com/key/DB2Tools200

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Check out our new education offerings

As an *active maintenance customer*, you can consume our **web-based training** courses and **digital badges** at **no cost** to you.

What's New

Course Code	Title
06RCQ20010	CA RC/Query® for DB2 for z/OS Database Administration Tasks Command Overview 200
06SYS2026E	CA SYSVIEW® Performance Management Option for DB2 for z/OS - Intermediate - Digital Badge Assessment
06DBT2058E	Log Analyzer™ for Db2 for z/OS: Fundamentals Digital Badge Assessment

- For more information about how to access this training and the digital badge assessment, watch this two-minute video.

- Search for courses and digital badges by course name, product name, or course code in our Mainframe Course Catalog.

To learn more about these courses, visit the following Learning Paths:
- CA Database Administration for DB2
- CA Database Backup and Recovery for DB2
- CA Database Performance Management for DB2
- CA Database Tuning Optimizing and Testing for DB2

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Mainframe Technical Exchange October 5-7, 2021

We're gearing up for the Mainframe Technical Exchange and looking forward to connecting with you October 5 - 7! With over **140 interactive sessions** across 7 tracks, there's sure to be something for everyone.

Here are a few not-to-miss **Database Management for Db2** sessions:

An Exploration of Db2 DevOps Use Cases
Tuesday, October 5 | 12:00 PM ET

Data Recoverability, Risk Management and Necessary Compliance with Fast Recover and Recovery Estimator
Thursday, October 7 | 11:00 AM ET

Restart Enabling Your Business-Critical Applications
Thursday, October 7 | 12:00 PM ET

Save your spot to connect with technical experts and peers:
http://bit.ly/2021TechExchange

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Thank You

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