



BROADCOM[®]

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

**TEAM PRODUCT OWNERS
SEPTEMBER 29, 2020**

Product Owners

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Agenda

- CA Fast Load:
 - Performance improvement when loading data into a Db2 table
- Sysview for Db2:
 - XManager Requirement for Data Collector
 - Support for new Db2 Sysparms
- Administration Suite:
 - Exploitation to ALTER PAGENUM of PBR2
- Log Analyzer:
 - Support for identity columns in Dropped Object Recovery

Please Ask Questions...



CA Fast Load

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zIIP Performance Enhancements



1.19.2020

Improvement results

Compared to previous load jobs, you can*:

- Save up to 55% of CPU
- Get up to 60% processing offloaded to zIIP
- Improve Elapsed Time (up to 50% faster)

Available for you to download now

- CA Fast Load zIIP: SO14773
- CA Utility Sort: SO12585, SO13098, SO11848.

*IMPORTANT: your results may vary

zIIP exploitation processing break down

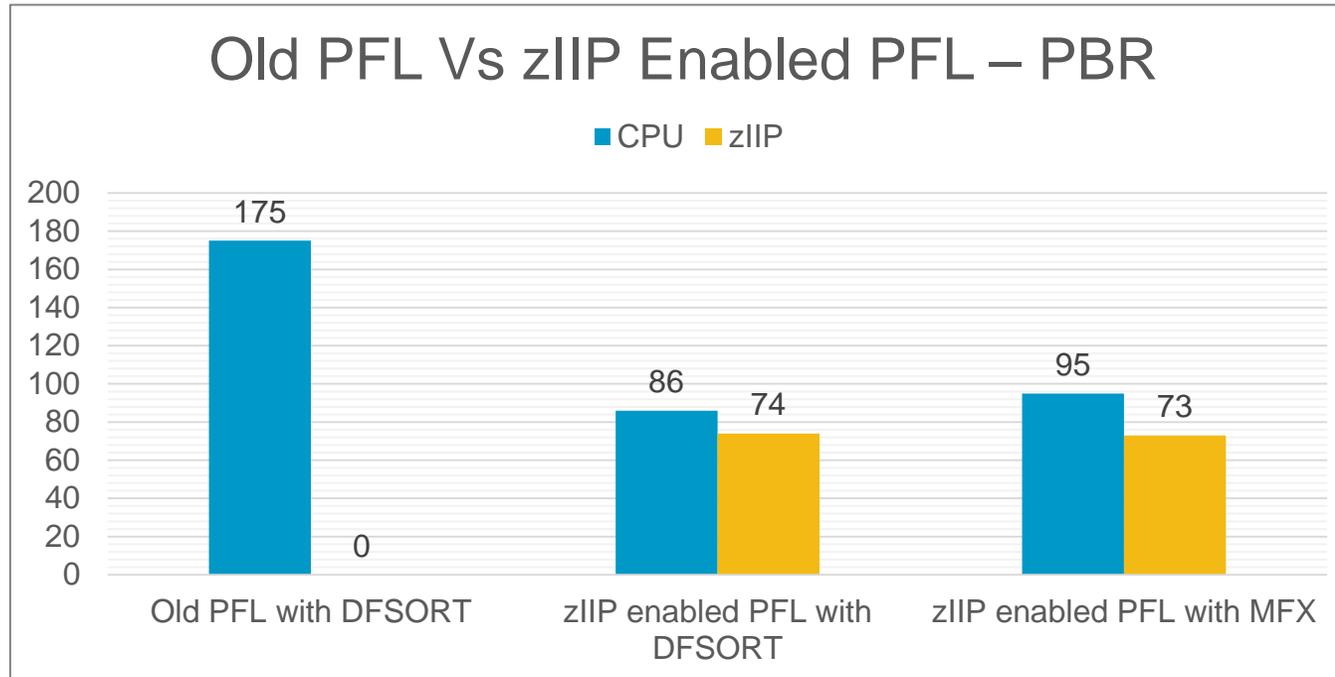
- **OUTPUT CONTROL-BUILD**

- Newly developed and introduced zIIP support;
- new SYSIN control statement ZIIP YES/NO;
- new PARMLIB option PFL-ZIIP YES/NO.

- **CAUTILITY SORT**

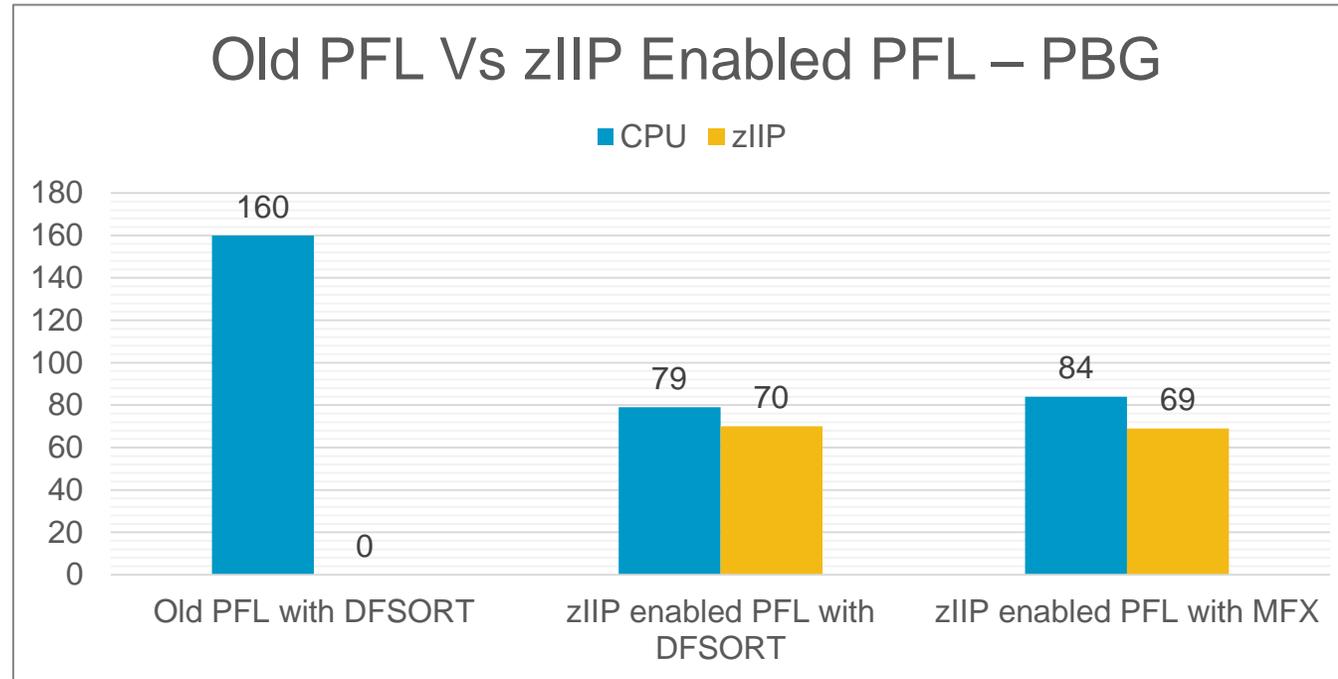
- Already in production for some time;
- LOAD_UTILITY_SORT (YES|NO) parameter in hlq.CDBAPARM(ENABLExx)
- let us know, if you are interested in trying this sort processing.

Old PFL Vs New PFL – PBR



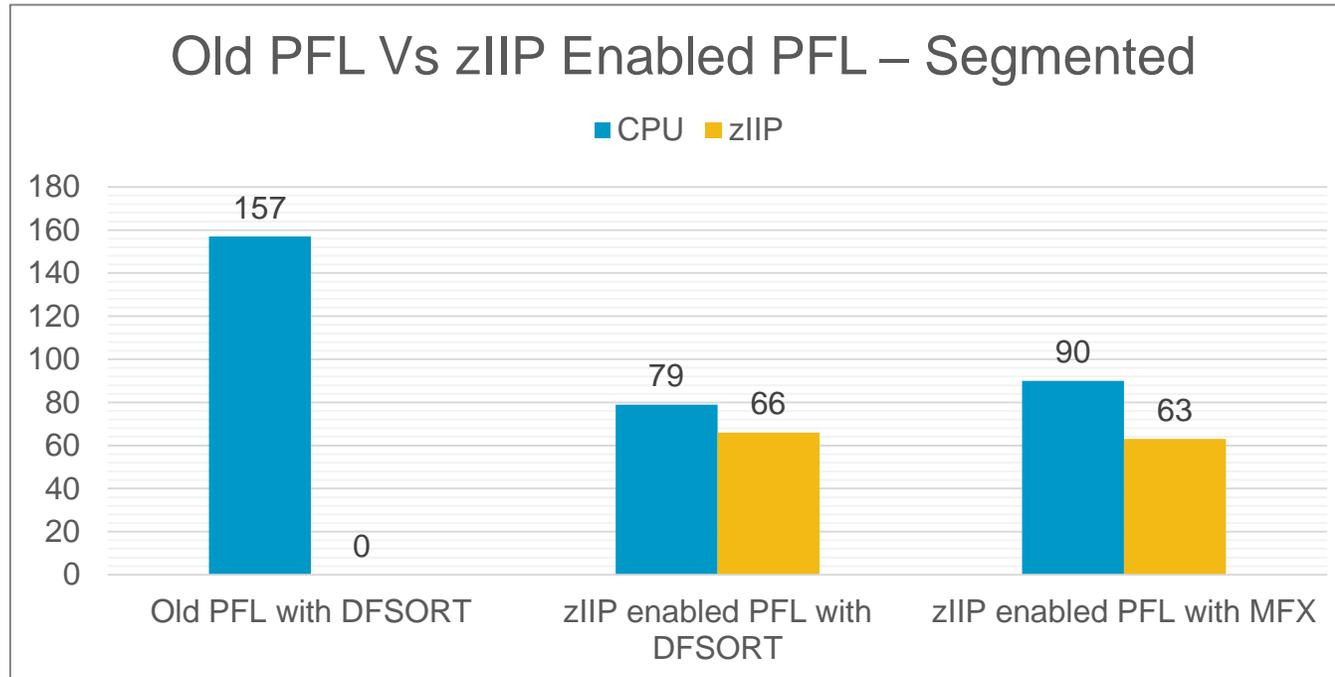
Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

Old PFL Vs New PFL – PBG



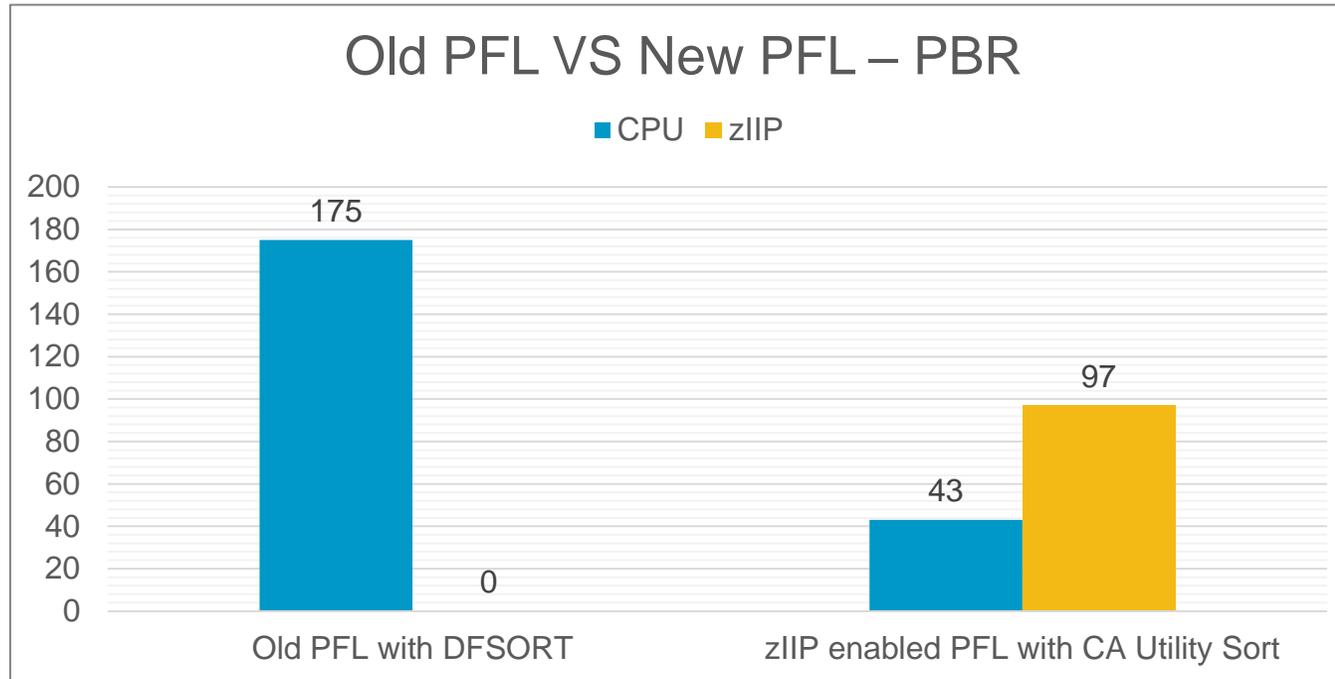
Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

Old PFL Vs New PFL – Classic Segmented



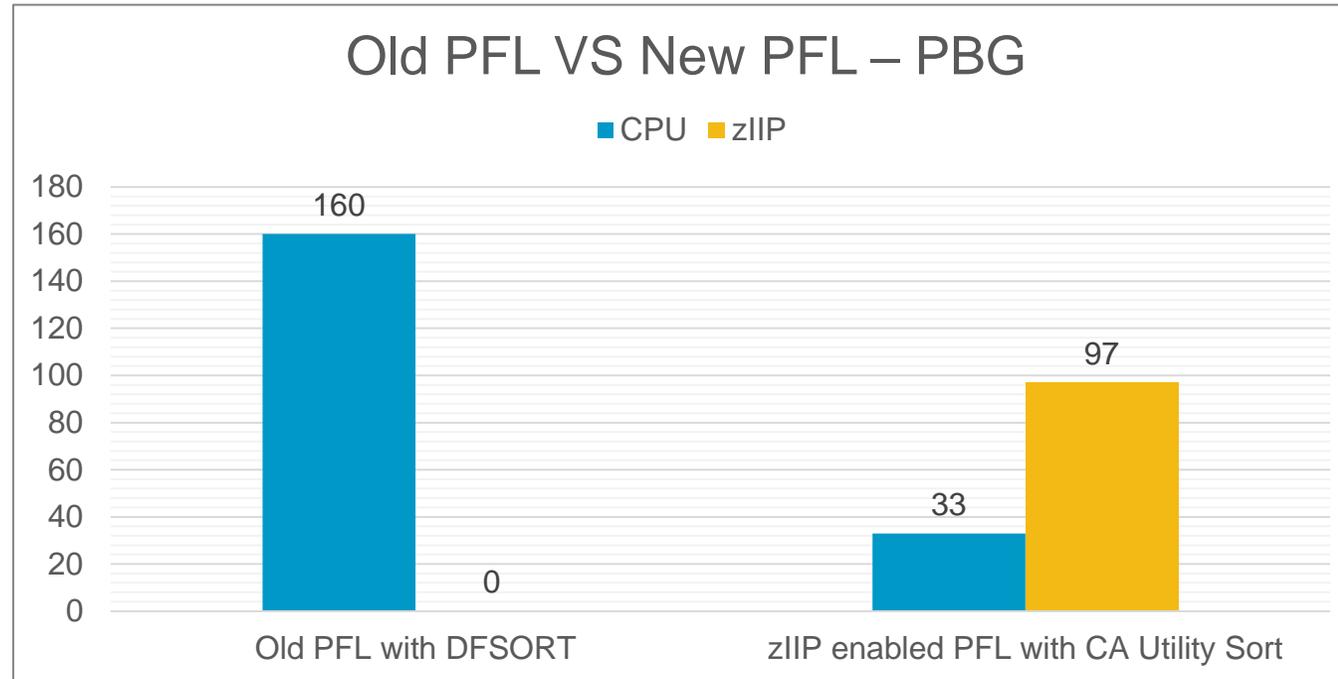
Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

Old PFL Vs New PFL – PBR



Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

Old PFL Vs New PFL – PBG



Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

Any Questions...



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Sysview for Db2

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Xmanager Requirement



New Sysparm for CA XMANAGER Connection: XMANAGER-CHECK

XMANAGER-CHECK=[QUIET|WARN|FAIL] - controls the data collector behavior for cases when the connection to CA XMANAGER can not be established.

QUIET A new message is issued to the DBGPRINT destination and operation continues:

DBG02195I FAILED TO CONNECT TO XMANID=XXXX, OPERATION CONTINUES DUE TO XMANAGER-CHECK=QUIET

WARN A new warning message is issued to both JESLOG and DBGPRINT destinations and operation continues:

DBG02196W FAILED TO CONNECT TO XMANID=XXXX, OPERATION CONTINUES DUE TO XMANAGER-CHECK=WARN **This is the default parameter setting**

FAIL A new error message is issued to both JESLOG and DBGPRINT destinations and the data collector is terminated:

DBG02197E FAILED TO CONNECT TO XMANAGER, PARMLIB XMANID=XXXX

There are two connection attempts with a 10 seconds delay to let Xmanager initialization complete when it is started along with the data collector

Informational Message for Successful Connection

New informational message introduced to DBGPRINT to report successful connection to the Xmanager:

```
DBG02194I DATA COLLECTOR SUCCESSFULLY CONNECTED TO XMANAGER.  
PARMLIB XMANID=XXXX
```

How does it operate?

- ✓ During the start up SYSVIEW for Db2 tries to connect Xmanager
- ✓ If it can connect to Xmanager, the start completes successful and **DBG02194I** message is printed to DBGPRINT
- !! If it can't connect to Xmanager, it behaves according to XMANAGER-CHECK :

QUIET:Print DBG02195I, Operation continues

WARN:Print DBG02196W, Operation continues

FAIL: Print DBG02197E, Data Collector does not start

If Xmanager goes down while SYV4DB2 is already executing NO ERROR is Returned

FAIL will be the default!

If your automation system starts SYSVIEW for Db2 before starting XManager
!! You need to change this order

Enhanced Support for Subsystem Parameters



Enhanced Support for Subsystem Parameters

New zParms

STATIME-MAIN	Main statistics trace collection interval.
DISALLOW-SSARAUTH	Block setting DB2 as secondary address space.
UTILS-BLOCK-FOR-CDC	Block certain utilities for Change data Capture.

New Options for zParms

QUERY-ACCEL-OPTIONS	<ul style="list-style-type: none">Offload balances workload between versions.Offload uses only new accelerator type.
INDEX-MEMORY-CONTROL	Index Memory Control Storage Limit (INDEX-MEM-CONTROL-STORAGE)

Enhanced Support for Subsystem Parameters

- Online report:

R/SYSPARMS	DB2 Subsystem Parameters	Row 107-138/430
Statistics trace collection interval time	STATIME	5
Main statistics trace collection interval	STATIME MAIN	60
Synchronize stats on minutes after the hour	SYNCVAL	-1

R/SYSPARMS	DB2 Subsystem Parameters	Row 262-293/430
PAGE-LEVEL sampling	STATPGSAMP	SYSTEM
Block certain utilities for CDC	UTILS_BLOCK_FOR_CDC	NO

R/SYSPARMS	DB2 Subsystem Parameters	Row 405-430/430
Block setting DB2 as secondary address space	DISALLOW_SSARAUTH	NO
Internal DB checking of data/index records	DBCHK	NO
SQL Interrupt processing for remote client	SQLINTRP	ENABLE

R/SYSPARMS	DB2 Subsystem Parameters	Row 203-234/430
Query options enabled for accelerator	QUERY_ACCEL_OPTIONS	(10,11)
Default QUERY_ACCELERATION special reg value	QUERY_ACCELERATION	NONE
Modeling of query workloads	ACCELMODEL	YES

R/SYSPARMS	DB2 Subsystem Parameters	Row 67-98/430
Memory for fast traversing of DB2 indexes	INDEX_MEMORY_CONTROL	(SELECTED,AUTO)
Default algorithm for inserting data into TS	DEFAULT_INSERT_ALGORI+	NONE

Enhanced Support for Subsystem Parameters

- Batch report:

```
JobName  Jobid   Queue   DDName   StepName ProcStep ExecSys
#BATCHRW JOB29918 OUTPUT  BTSYSPRM IDB2RWJ          CALL
-----
...+....10...+....20...+....30...+....40...+....50...+....60...+....70...+....80
Statistics trace collection interval time          STATIME          5
Main statistics trace collection interval          STATIME_MAIN    60
```

```
..+....10...+....20...+....30...+....40...+....50...+....60...+....70...+....80|
PAGE-LEVEL sampling          STATPGSAMP          SYSTEM
Block certain utilities for CDC  UTILS_BLOCK_FOR_CDC  NO
```

```
...+....10...+....20...+....30...+....40...+....50...+....60...+....70...+....80
Query options enabled for accelerator  QUERY_ACCEL_OPTIONS  (10,11)
Default QUERY_ACCELERATION special reg value  QUERY_ACCELERATION  NONE
```

```
...+....10...+....20...+....30...+....40...+....50...+....60...+....70...+....80
Block setting DB2 as secondary address space  DISALLOW_SSARAUTH  NO
Internal DB checking of data/index records  DBCHK  NO
```

```
...+....10...+....20...+....30...+....40...+....50...+....60...+....70...+....80...+....
Memory for fast traversing of DB2 indexes  INDEX_MEMORY_CONTROL  (SELECTED,AUTO)
Default algorithm for inserting data into TS  DEFAULT_INSERT_ALGORITHM  NONE
Compression algorithm used for compression TS  TS_COMPRESSION_TYPE  FIXED_LENGTH
```

Any Questions...



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Admin Suite

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PAGENUM Exploitation (Db2 12)



PAGENUM Exploitation

- Alter PAGENUM of PBR tablespaces in Db2 12
- Alter(RCO) panels are going to show PAGENUM attribute
- **PTF # SO14832, SO14833**

Enhanced areas of product(s):

1. Syntax Checker
2. RCQ
3. RC/Migrator (Migrate Strategy)
4. RC/Update or Alter strategy
5. RC/Compare (or compare strategy)
6. ICL

PAGENUM Exploitation – Syntax Checker

- Added support to ALTER TABLESPACE ... PAGENUM RELATIVE

Sample INPUT:

```
ADUSR01.PUBLIC.TEST.PDS (A) - 01.03
| ==>
***** Top of Data *****
ALTER TABLESPACE MYDB001.MYTS002 PAGENUM RELATIVE;
***** Bottom of Data *****
```

OUTPUT:

```
JobName   Jobid      Queue      DDName      StepName  ProcStep  ExecSys
ADUSR01X  JOB38851  OUTPUT     DDLOUT      STEP1     CA31
-----
...+...10...+...20...+...30...+...40...+...50...+...60...
ALTER TABLESPACE MYDB001.MYTS002
      PAGENUM RELATIVE;
***** End of Data *****
```

PAGENUM Exploitation – RC/Update (Alter Strategy)

- Panels show PAGENUM
- Added support to ALTER TABLESPACE ... PAGENUM RELATIVE
- Changing PAGENUM from ABS.. to REL... generates ALTER statement

```
ROPTSALX ----- CA - Tablespace Alter ----- 2020/09/28 16:08:59
COMMAND ==>>> SCROLL ==>>> CSR

Table Space => SPBRRPNE Creator => ADUSR01 Close Dataset => YES
Database => SRIDB12 Buffer Pool => BP2 GBP Cache => CHANGED
Partitions => YES PAGENUM => ABSOLUTE Segment Size => 32
TS Type => RANGE Lock Size => ROW Lockmax => SYSTEM
CCSID => EBCDIC Rows/Page => 200 Lockpart => N
Logged => YES DSSIZE (G) => 2 Mbr Cluster => NO
Define => YES

EXPLICIT/IMPLICIT-----+
CMD PART VCAT STOGROUP PRIQTY SECQTY ERASE FRPAGE %FR COMP TRKMOD
```

PAGENUM Exploitation – RC/Migrator (Migrate Strategy)

- Generates PAGENUM in CREATE TABLESPACE DDL
- Change of PAGENUM is possible from:
 ABSOLUTE to RELATIVE
 RELATIVE to ABSOLUTE

```

ROPTSALX ----- CA - Tablespace Alter ----- 2020/09/28 16:08:59
COMMAND ==>>> SCROLL ==>> CSR

Table Space => SPBRRPNE Creator => ADUSR01 Close Dataset => YES
Database => SRIDB12 Buffer Pool => BP2 GBP Cache => CHANGED
Partitions => YES PAGENUM => ABSOLUTE Segment Size => 32
TS Type => RANGE Lock Size => ROW Lockmax => SYSTEM
CCSID => EBCDIC Rows/Page => 200 Lockpart => N
Logged => YES DSSIZE (G) => 2 Mbr Cluster => NO
Define => YES

EXPLICIT/IMPLICIT-----+
CMD PART VCAT STOGROUP PRIQTY SECQTY ERASE FRPAGE %FR COMP TRKMOD
  
```

PAGENUM Exploitation – RC/Compare

- Ability to compare PAGENUM
- Change of PAGENUM

from ABS... to REL...

generates ALTER TABLESPACE... PAGENUM RELATIVE;

from REL... to ABS...

generates CREATE TABLESPACE... PAGENUM ABSOLUTE;

PAGENUM Exploitation – ICL

- Supports PAGENUM alters

```
PAGENA2~CHUJAA5~CHUJAA5~20200814~14410589          Columns 00
===>                                               Scroll
--  ***
--  *
--  * TABLESPACE CREATE AND ALTER STATEMENTS
--  *
--  ***
--  AUG1020.AUG1020 WILL BE ALTERED VIA THESE NATIVE DB2 COMMANDS
. AUTH QARCM6
ALTER TABLESPACE AUG1020.AUG1020
      PAGENUM RELATIVE;
```

Any Questions...



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Log Analyzer

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Recovering Dropped Object in CA Log Analyzer

Recovering Dropped Objects in CA Log Analyzer

We're always enhancing and extending our support to protect you from challenging recoveries:

This is a short summary of previous enhancements in Dropped Object Recovery:

- We covered enhancements in LOB objects.
- We simplified the process of the resulting JCL.
- We reduced the elapsed time.

What about identity columns? What happens when I recover a dropped object that contained identity columns?

Identity columns and common challenges

Working with identity columns is a very typical case, but every time we run a utility, we need to make a pause and check what happens:

- Every time we run a Load utility
- Every time we need to replicate changes
- Every time we recover an object

Do you want to see SQL -803 errors? **Nobody wants.**

It's quite straightforward to fix it manually if needed, but *quite a hassle if it's for many objects.*

Recovering dropped objects with Log Analyzer

As you know, if the object was dropped, we no longer know what was the value in the column MAXASSIGNEDVAL in the catalog table SYSIBM.SYSSEQUENCES.

It'll take some time to fix this manually when recovering a dropped object..... But fear not, because in Log Analyzer we do it for you 😊

With PTF **SO14613** applied, CA Log Analyzer will identify if your objects to recovered contain identity columns, and take care of the rest.

Let's see what happens...

Any Questions...



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In Closing...

Update to Tech Docs 'New Features' information

- When a new feature is added to the 'New Features' section of our 'Release Notes' the title of that feature will include the PTF # that delivers the new feature.
- The 'New Features' section can be found [here](#).
- Here is a list of some of our recent new features:
 - [Support for Unload from Remote Db2 \(LUW\) RDBMS \(SO14382\)](#)
 - [SQLCODE Reporting and Chart Support \(SO14491\)](#)
 - [Single Sign-On Support for an API Service in the Zowe API Mediation Layer \(SO14401\)](#)
 - [Capture Threshold Values \(CTV\) of objects selected by RTOS \(SO14174\)](#)
 - [Post-Install Enhancement to Support Non-Db2 for z/OS Binds \(SO14028\)](#)

When is the next Community Update call?

- The last Tuesday of each month
- Our next call will be Tuesday October 27th, 2020

When is the next CA Db2 Suite Product Roadmap Webcast?

- Wednesday October 21st, 2020

Mainframe Technical Exchange Digital Experience

October 13 - 15, 2020

- Join our technical experts for education sessions, product strategy & ideation
- Registration is FREE and coming soon
- More details at <http://bit.ly/2020TechExchange>



**AI Ops and
Automation**



DevOps



**Infrastructure
Management**



Security

MTE Digital Experience – Db2 Tools Presentations

- DBM01 - CA Database Management Solutions for Db2 for z/OS Trends and Direction: DevOps, AIOps, and Data Protection
- DBM02 - Sort Out Your Db2 Utilities: Tuning Sort Packages to Optimize Workload Throughput
CA Fast Load for Db2 for z/OS,
CA Rapid Reorg for Db2 for z/OS
- DBM03 - Augmented Db2 Performance and Administration for New Developers Using Mainframe Team Center - Database Management for Db2 for z/OS
- DBM04 - DevOps: Automate Db2 Schema Management
- DBM05 - CA Db2 Tools and Db2 12 Continuous Delivery: What You Need to Know & CA Db2 Tools Maintenance and Configuration Hints and Tips
- DBM06 - CA Database Analyzer for Db2 for z/OS: Something Old, Something New, and Something Different
- DBM07 - What You Might or Might Not Know You Can Do With Db2 Backup and Recovery Tools: CA Log Analyzer for Db2 for z/OS & CA Fast Recover for Db2 for z/OS
- DBM08 - Archive Tables in CA SYSVIEW Performance Management Option for DB2
- DBM09 - Exploiting CA RC/Migrator for DB2 for z/OS: Tips and Tricks
- DBM10/DBM11 - CA Database Management for Db2 Customer Roundtables



Thank You