



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

TEAM PRODUCT OWNERS  
SEPTEMBER 29, 2020

---

# Product Owners

Andrew Badgley – [andrew.badgley@broadcom.com](mailto:andrew.badgley@broadcom.com)

Aysen Solak – [aysen.solak@broadcom.com](mailto:aysen.solak@broadcom.com)

Emil Kotrc – [emil.kotrc@broadcom.com](mailto:emil.kotrc@broadcom.com)

Jakub Hofman – [jakub.hofman@broadcom.com](mailto:jakub.hofman@broadcom.com)

Javier Estrada Benavides – [javier.estradabenavides@broadcom.com](mailto:javier.estradabenavides@broadcom.com)

Rabah Beggar – [rabah.beggar@broadcom.com](mailto:rabah.beggar@broadcom.com)

Srinivas Adupa – [srinivas.adupa@broadcom.com](mailto:srinivas.adupa@broadcom.com)

# 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

**Jakub Hofman**

*[jakub.hofman@broadcom.com](mailto:jakub.hofman@broadcom.com)*

# zIIP Performance Enhancements

# 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**

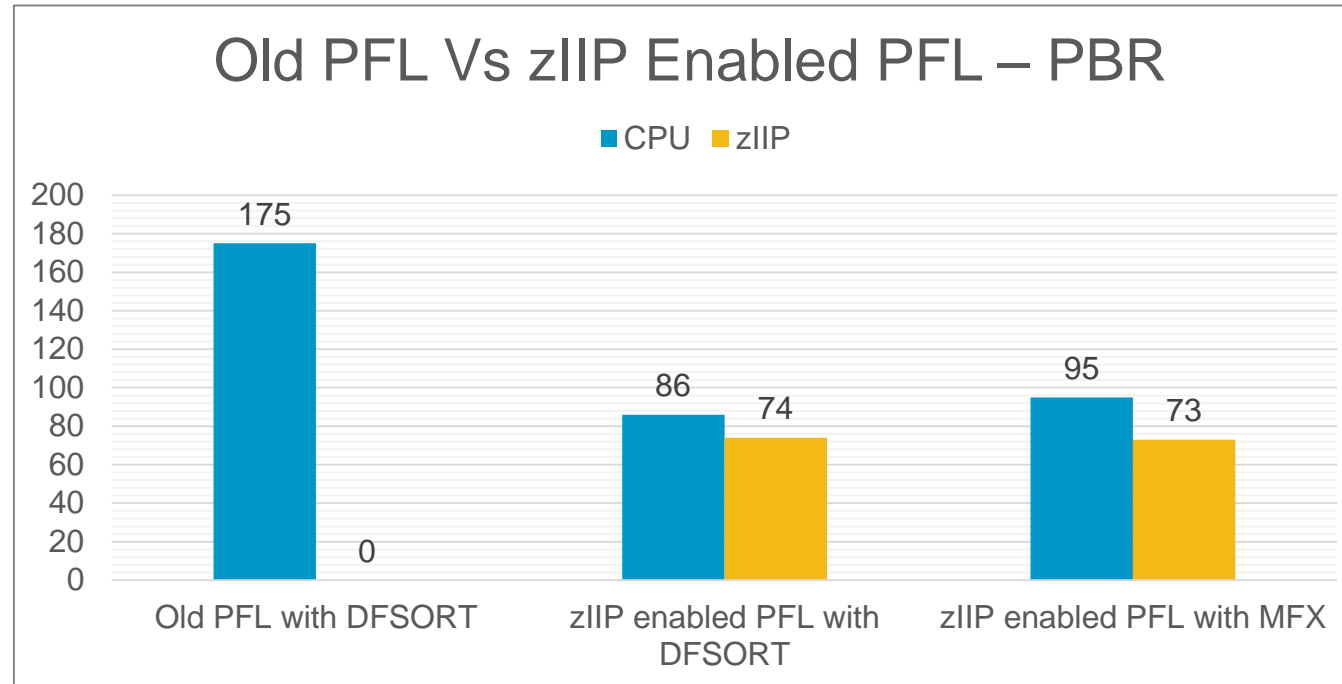
- Newly developed and introduced zIIP support;
- new SYSIN control statement ZIIP YES/NO;
- new PARMLIB option PFL-ZIIP YES/NO.

- **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.

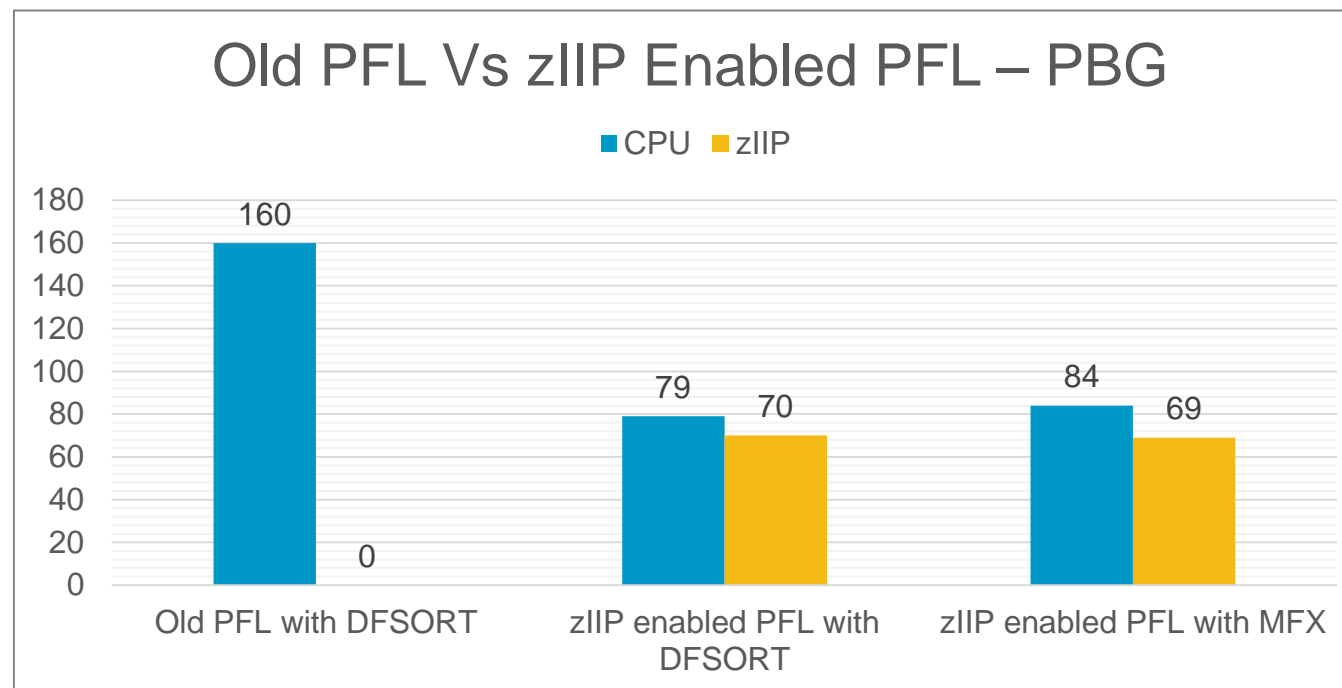


# Old PFL Vs New PFL – PBR



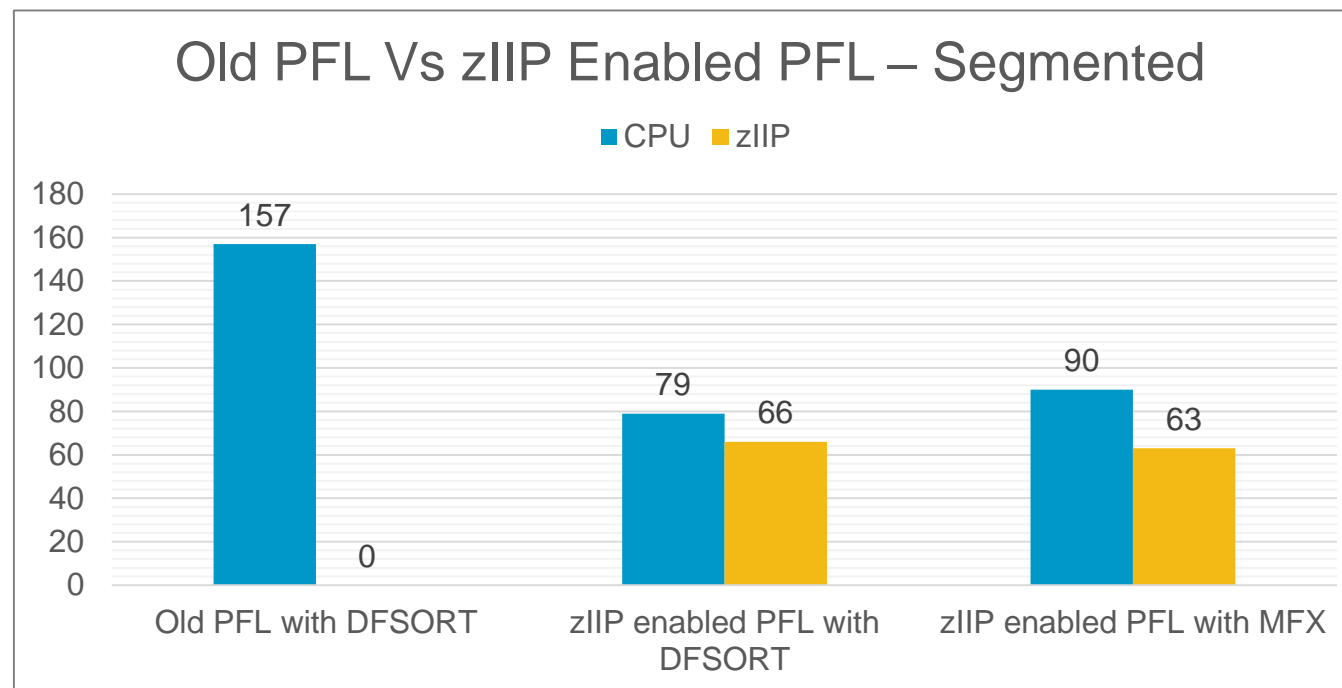
Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

# Old PFL Vs New PFL – PBG



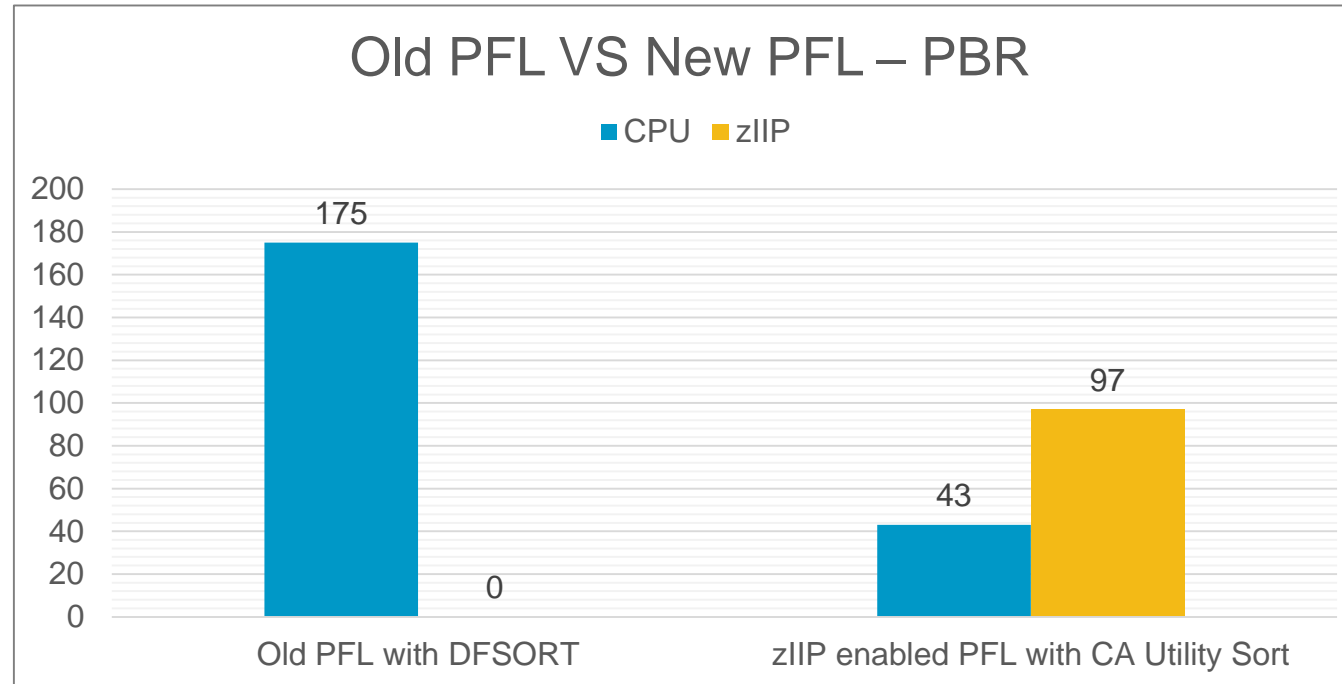
Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

# Old PFL Vs New PFL – Classic Segmented



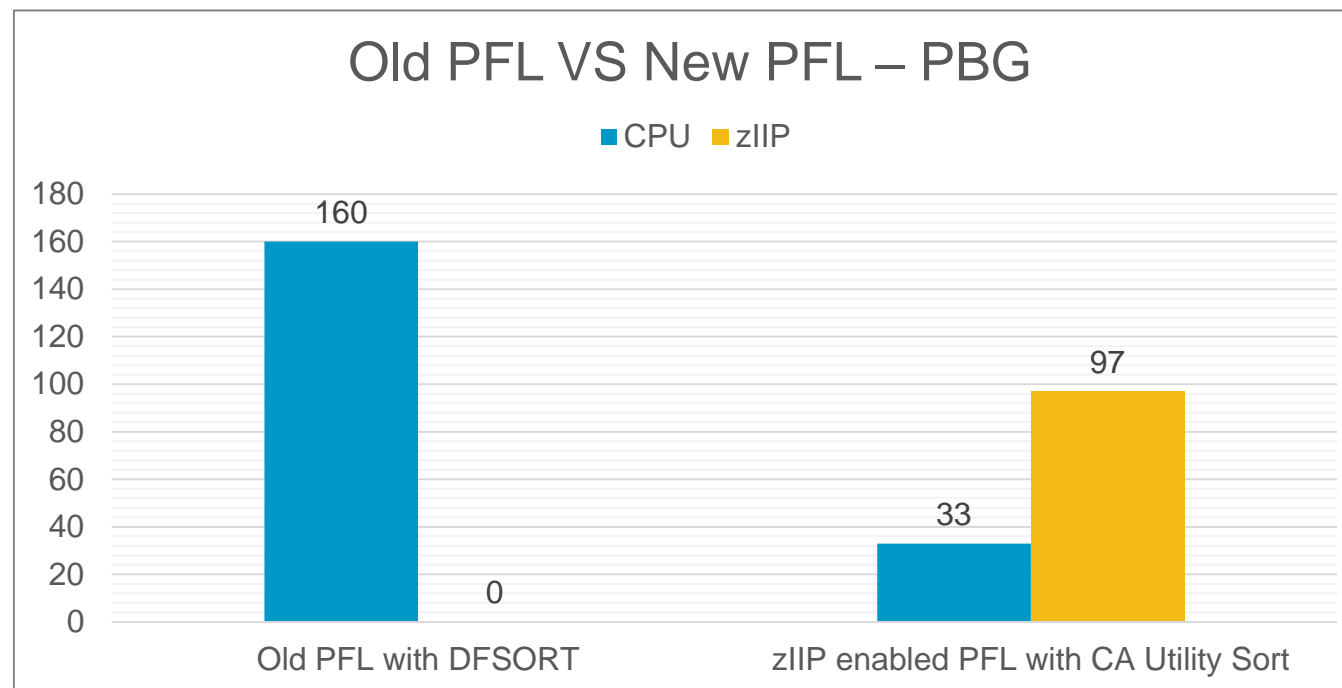
Db2 V12, UTS 12-way compressed partitioned with clustering index and 4 NPIs with total TS data 2.1G and total IX sort data 2.1G.

# 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...



**Jakub Hofman**  
jakub.hofman@broadcom.com

# Sysview for Db2

**Aysen Solak**

*[aysen.solak@broadcom.com](mailto:aysen.solak@broadcom.com)*

# 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"><li>Offload balances workload between versions.</li><li>Offload uses only new accelerator type.</li></ul>
	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		CA11
-----						
...+....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...



**Aysen Solak**  
aysen.solak@broadcom.com



# Admin Suite

**Srinivas Adupa**

*srinivas.adupa@broadcom.com*

# 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...



**Srinivas Adupa**  
srinivas.adupa@broadcom.com

# Log Analyzer

**Javier Estrada Benavides**

*javier.estradabenavides@broadcom.com*

# 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...

# Recovering dropped tables with identity columns

What you would see before dropping the table


```
SEQ.SEQTYPE = 'I' AND  
SEQ.SEQUENCEID = SEDQ.BSEQUENCEID;
```

START	MAXASSIGNEDVAL
1.	160.



What you'll see when recovering the dropped object

```
LAE90199 Identity column sequence for column ID  
of table ESTJA02.TBEST05  
has been recovered to 161.  
LAE90160 SYSINBLD completed successfully.
```



What you'll see after recovering the dropped table

```
SEQ.SEQTYPE = 'I' AND  
SEQ.SEQUENCEID = SEDQ.BSEQUENCEID;
```

START	MAXASSIGNEDVAL	RESTARTWITH
1.		161.

NEGATIVE NUMBER OF ROWS DISPLAYED IS 1

As always, *no additional info will be required from you*. CA Log Analyzer will find identity columns and do the work for you.

# Any Questions...



**Javier Estrada Benavides**

javier.estradabenavides@broadcom.com



# 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 27<sup>th</sup>, 2020

## When is the next CA Db2 Suite Product Roadmap Webcast?

- Wednesday October 21<sup>st</sup>, 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