CA Quick Copy
Best practices

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Agenda

1. CA QUICK COPY - OVERVIEW
2. CA QUICK COPY – BEST PRACTICES
3. CPITS
4. MISCELLANEOUS
5. SEAMLESS INTEGRATION WITH OTHER CA UTILITIES
6. CA MERGE/MODIFY – HOW TO CREATE NEW FULL COPY USING LOG ACCUMULATION - BONUS TRACK

Overview

CA QUICK COPY for Db2 for z/OS

CA Quick Copy - Overview

- CA Quick Copy creates various types of image copies to backup database objects
- Benefits
  - Fast and zIIP-enabled copy engine that creates standard image copies
  - Creation of snapshot copies to minimize outage
  - Rich database object specification capabilities (wildcarding)
  - Two ways of dynamic allocation of image copy datasets
  - Control of object availability during the copy process
  - Intelligent multi-tasking to maximize performance
  - Auditing. Checking the object being copied for page integrity errors
  - Syntax compatible with IBM
  - Changelimit based on RTS tables
  - Preview of the copy process
  - Automatic switch to full image copy
  - Seamless integration with other CA Utilities
  - Other functions

CA Quick Copy - Types of Copies

- Standard Full Image Copies

- Standard Incremental Image Copies
  - Spacemap-based true incremental copies –MODIFYBITS YES, no valid for SHRLEVEL CHANGE
  - Spacemap-based merged incremental copies - MODIFYBITS NO, MERGE-COPY YES
  - LRSN/RBA-based incremental copies – MODIFYBITS YES, LRSNCOPY YES, START_RBA (SYSCOPY)
    - If you specify MODIFYBITS YES, CA Quick uses the SYSCOPY row from the most recent full or incremental copy

- SNAPSHOT Copies
  - Exploit point-in-time copy features of modern DASD hardware
  - CPiTS

- Concurrent Copies
  - Use DFSMSdss to create full image copies

Best practices

CA QUICK COPY for Db2 for z/OS

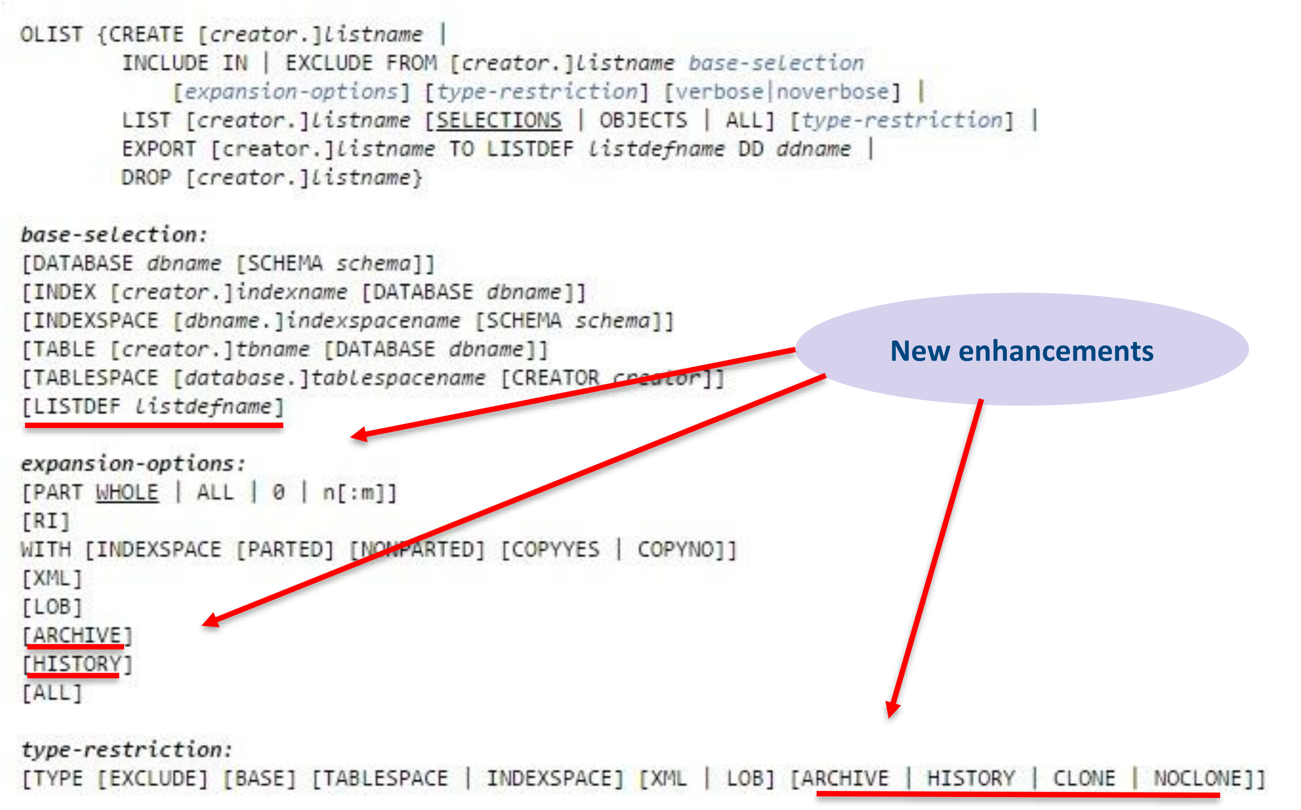
Best practices - overview

- Use PARMLIB(UTIL) member for Global Configuration
  - Unified settings for a DB2 subsystem
  - Simple syntax specified in job steps
- Performance (full sequential copies)
  - Use EXCP NO copy engine (saves CPU, offloads work to zIIP)
  - Use 120-160 buffers to maximize performance
- Allocation of Image Copies
  - DD statements
  - TEMPLATE (recommended)

Best practices - overview

- Processing Multiple Objects
  - LISTDEF
  - Wildcarding (COPY TABLESPACE DALPHA.%)
  - OLM (Predefined lists of objects stored permanently)
- Partitioned objects
  - Number of partitions per image copy dataset
  - All partitions to one dataset, one dataset per partition, anything between
  - PARTS-PER-COPY 1|n|ALL
  - To copy partitions in parallel, set to a low number
  - Specify COPY-TASKS n

Object List Manager - syntax

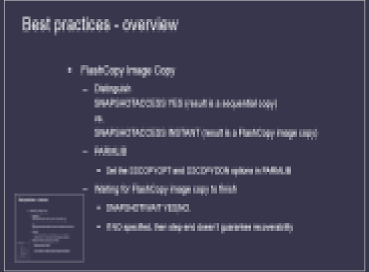


```
OLIST {CREATE [creator.]listname |
        INCLUDE IN | EXCLUDE FROM [creator.]listname base-selection
            [expansion-options] [type-restriction] [verbose|noverbose] |
        LIST [creator.]listname [SELECTIONS | OBJECTS | ALL] [type-restriction] |
        EXPORT [creator.]listname TO LISTDEF listdefname DD ddname |
        DROP [creator.]listname}

base-selection:
[DATABASE dbname [SCHEMA schema]]
[INDEX [creator.]indexname [DATABASE dbname]]
[INDEXSPACE [dbname.]indexspacename [SCHEMA schema]]
[TABLE [creator.]tbname [DATABASE dbname]]
[TABLESPACE [database.]tablespacename [CREATOR creator]]
[LISTDEF listdefname]

expansion-options:
[PART WHOLE | ALL | 0 | n[:m]]
[RI]
WITH [INDEXSPACE [PARTED] [NONPARTED] [COPYYES | COPYNO]]
[XML]
[LOB]
[ARCHIVE]
[HISTORY]
[ALL]

type-restriction:
[TYPE [EXCLUDE] [BASE] [TABLESPACE | INDEXSPACE] [XML | LOB] [ARCHIVE | HISTORY | CLONE | NOCLONE]]
```

New enhancements

Best practices - overview

- FlashCopy Image Copy
  - Distinguish
    SNAPSHOTACCESS YES (result is a sequential copy)
    vs.
    SNAPSHOTACCESS INSTANT (result is a FlashCopy image copy)
  - PARMLIB
    - Set the SSCOPYOPT and SSCOPYDDN options in PARMLIB
  - Waiting for FlashCopy image copy to finish
    - SNAPSHOTIWAIT YES|NO.
    - If NO specified, then step end doesn’t guarantee recoverability


Best practices - overview

- FlashCopy Image Copy
  - Distinguish
    SNAPSHOTACCESS YES (result is a sequential copy)
    vs.
    SNAPSHOTACCESS INSTANT (result is a FlashCopy image copy)
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    - Set the SSCOPYOPT and SSCOPYDDN options in PARMLIB
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    - SNAPSHOTIWAIT YES|NO.
    - If NO specified, then step end doesn’t guarantee recoverability

Best practices

JCL and syntax

Manually Creating JCLs

```
//PQCCOPY EXEC PGM=PTLDRIVM,PARM='EP=UTLGLCTL/DB44’
//STEPLIB DD   DISP=SHR,DSN=CATOOLS.V20.CDBALOAD
//        DD   DISP=SHR,DSN=DB44.PRIVATE.SDSNEXIT
//        DD   DISP=SHR,DSN=DB44.MAINT.SDSLNOAD
//*
//PTILIB  DD   DISP=SHR,DSN=CATOOLS.V20.CDBALOAD
//        DD   DISP=SHR,DSN=DB44.PRIVATE.SDSNEXIT
//        DD   DISP=SHR,DSN=DB44.MAINT.SDSLNOAD
//*
//PTIPARM DD   DISP=SHR,DSN=CATOOLS.V20.CDBAPARM
//*
//PTIMSG  DD   SYSOUT=*
//PTIIMSG DD   SYSOUT=*
//*
//SYSIN   DD    *

  LISTDEF L2 INCLUDE TABLESPACE DALPHA.% BASE
  TEMPLATE T1 DSN(‘COPY.&DB..&TS..P&PART..&DATE.’) STORCLAS SCDBCOP

  COPY LIST L1
  COPYDDN(T1)
  COPY-TASKS 4
  PARTS-PER-COPY 1
  FULL YES
  SHRLEVEL CHANGE
```

Program libraries

Global settings

Messages

Other messages

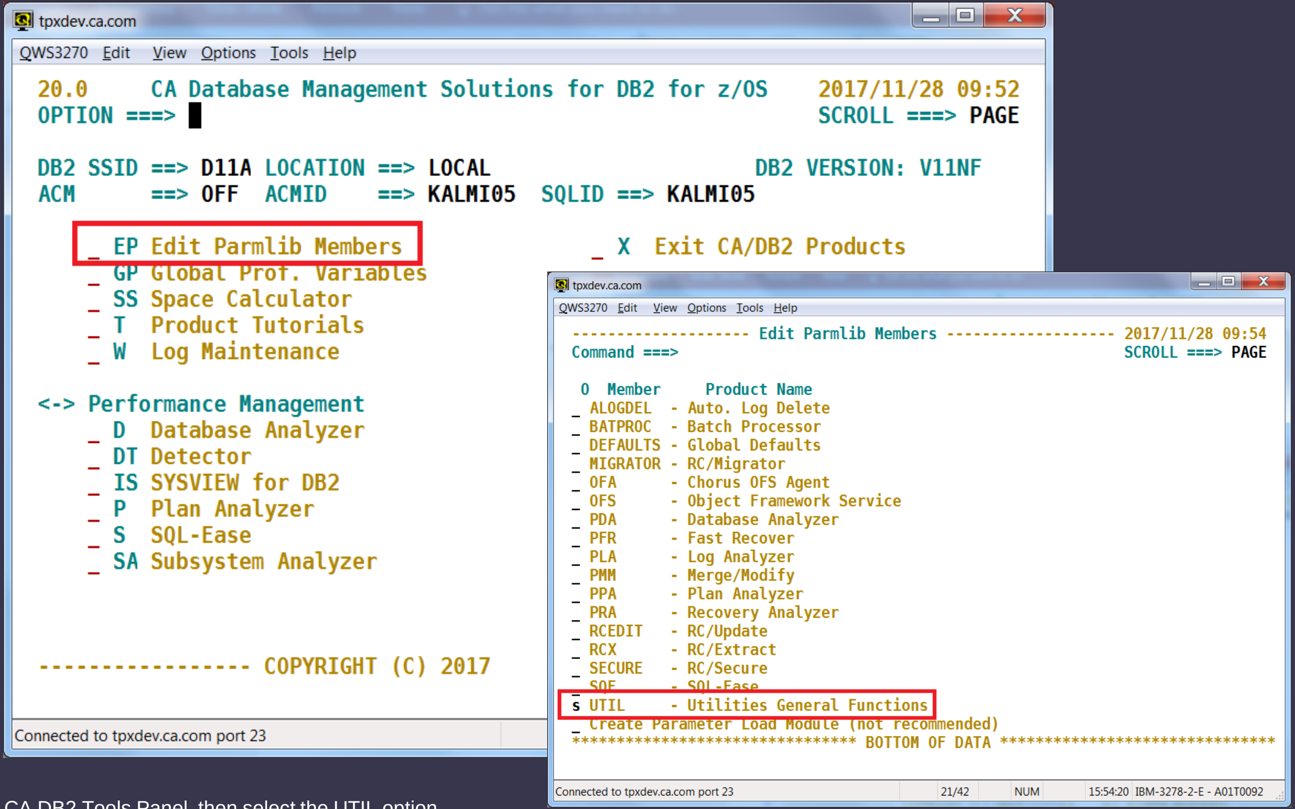
Syntax

[More Information at docops.ca.com](https://docops.ca.com)

Best practices

Parmlib

Reaching PARMLIB Options



```
20.0     CA Database Management Solutions for DB2 for z/OS     2017/11/28 09:52
OPTION ===>                                                    SCROLL ===> PAGE

DB2 SSID ==> D11A LOCATION ==> LOCAL                       DB2 VERSION: V11NF
ACM      ==> OFF  ACMID    ==> KALMI05  SQLID ==> KALMI05

    _ EP Edit Parmlib Members                    _ X  Exit CA/DB2 Products
    _ GP Global Prof. Variables
    _ SS Space Calculator
    _ T  Product Tutorials
    _ W  Log Maintenance

<-> Performance Management
    _ D  Database Analyzer
    _ DT Detector
    _ IS SYSVIEW for DB2
    _ P  Plan Analyzer
    _ S  SQL-Ease
    _ SA Subsystem Analyzer


----------------- COPYRIGHT (C) 2017
```

Connected to tpxdev.ca.com port 23

```
-------------------- Edit Parmlib Members ------------------ 2017/11/28 09:54
Command ===>                                                 SCROLL ===> PAGE

 O  Member      Product Name
_ ALOGDEL  - Auto. Log Delete
_ BATPROC  - Batch Processor
_ DEFAULTS - Global Defaults
_ MIGRATOR - RC/Migrator
_ OFA      - Chorus OFS Agent
_ OFS      - Object Framework Service
_ PDA      - Database Analyzer
_ PFR      - Fast Recover
_ PLA      - Log Analyzer
_ PMM      - Merge/Modify
_ PPA      - Plan Analyzer
_ PRA      - Recovery Analyzer
_ RCEDIT   - RC/Update
_ RCX      - RC/Extract
_ SECURE   - RC/Secure
_ SQE      - SQL-Ease
s UTIL     - Utilities General Functions
_ Create Parameter Load Module (not recommended)
******************************* BOTTOM OF DATA ******************************
```

Connected to tpxdev.ca.com port 23   21/42   NUM   15:54:20 IBM-3278-2-E - A01T0092

Select the EP option in the CA DB2 Tools Panel, then select the UTIL option.

Performance related (should be defined this way)

```
Default num of copy buffers....> 180                (Numeric)
Default num of copy tasks......> 004                (Numeric)
Use EXCP Processing............> NO                 (Yes or No)
PQC - Object Order.............> SIZE               (Size/None)
PQC - Single Attach............> YES                (No/Yes)
Audit Level....................> 0                  (0,1,2)
PQC - Large Tape Block.........> YES                (No/Yes)
```

Others (recommended)

```
 PQC - Skip Invalid Objects.....> YES                (No/Yes)
Indicate if you want to register and maintain multiple SNAPSHOTACCESS
  INSTANT copies in the SYSIBM.SYSCOPY catalog(SSCOPYOPT).(Yes/No)> YES
```

Others (depend on your b&r approach)

```
PQC - LRSN Copy................> NO       (No/Yes)
Mod bits updated during copy...> YES      (Yes or No)
PQC - Merge-Copy...............> YES      (No/Yes)
```

Best practices

PQCPARM

PQC – Dynamic Allocation

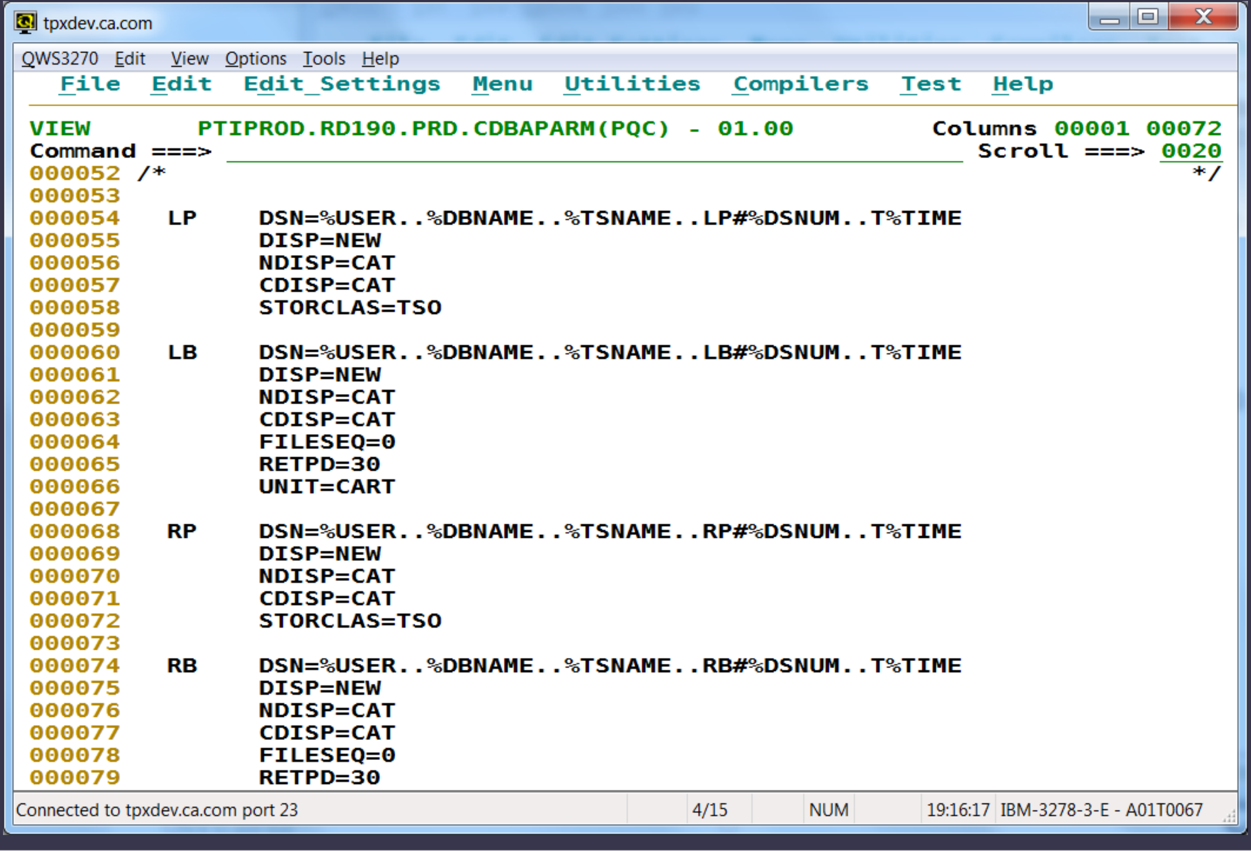
PQC is a member of the PARMLIB library

- Controls dynamic allocation of image copies
- Edit manually

When to use PQCPARM

- One global configuration of dynamic allocation for many JCLs
- Works across CA DB2 Utilities - PQC, PMM, PFR, PRR
- Similar to SYSTEMPL DD statement
- Not to be used with LISTDEF
- Migrate JCLs with DD statements for copies to dynamic allocation by just deleting the DD statements

PQC – Dynamic Allocation


tpxdev.ca.com
QWS3270 Edit View Options Tools Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

```
VIEW       PTIPROD.RD190.PRD.CDBAPARM(PQC) - 01.00          Columns 00001 00072
Command ===> ________________________________________________ Scroll ===> 0020
000052 /*                                                                   */
000053
000054    LP     DSN=%USER..%DBNAME..%TSNAME..LP#%DSNUM..T%TIME
000055           DISP=NEW
000056           NDISP=CAT
000057           CDISP=CAT
000058           STORCLAS=TSO
000059
000060    LB     DSN=%USER..%DBNAME..%TSNAME..LB#%DSNUM..T%TIME
000061           DISP=NEW
000062           NDISP=CAT
000063           CDISP=CAT
000064           FILESEQ=0
000065           RETPD=30
000066           UNIT=CART
000067
000068    RP     DSN=%USER..%DBNAME..%TSNAME..RP#%DSNUM..T%TIME
000069           DISP=NEW
000070           NDISP=CAT
000071           CDISP=CAT
000072           STORCLAS=TSO
000073
000074    RB     DSN=%USER..%DBNAME..%TSNAME..RB#%DSNUM..T%TIME
000075           DISP=NEW
000076           NDISP=CAT
000077           CDISP=CAT
000078           FILESEQ=0
000079           RETPD=30
```

Connected to tpxdev.ca.com port 23
4/15
NUM
19:16:17 IBM-3278-3-E - A01T0067

PQC – Dynamic Allocation

```
//PQCCOPY EXEC PGM=PTLDRIVM,PARM='EP=UTLGLCTL/DB44’
//STEPLIB DD   DISP=SHR,DSN=CATOOLS.V20.CDBALOAD
//        DD   DISP=SHR,DSN=DB44.PRIVATE.SDSNEXIT
//        DD   DISP=SHR,DSN=DB44.MAINT.SDSLNOAD
//*
//PTILIB  DD   DISP=SHR,DSN=CATOOLS.V20.CDBALOAD
//        DD   DISP=SHR,DSN=DB44.PRIVATE.SDSNEXIT
//        DD   DISP=SHR,DSN=DB44.MAINT.SDSLNOAD
//*
//PTIPARM DD   DISP=SHR,DSN=CATOOLS.V20.CDBAPARM
//*
//PTIMSG  DD   SYSOUT=*
//PTIIMSG DD   SYSOUT=*
//*
//SYSIN   DD    *

  COPY TABLESPACE DALPHA.% INDEX-ALL
  COPY-TASKS 4
  PARTS-PER-COPY 1
  FULL YES
  SHRLEVEL CHANGE
```

Configuration hidden here

No SYSCOPY DD statement

No COPYDDN statement

Consistent Point in Time service

CA QUICK COPY for Db2 for z/OS

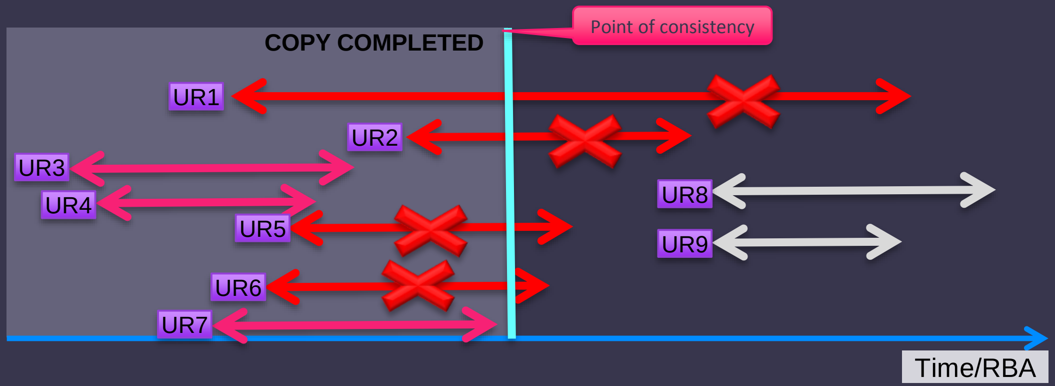
Consistent Point in Time service

- **What CPITS does in a nutshell**
  - CPITS is a service that allows you to create **consistent image copy for UTS** with full database object availability
  - General approach
    - Take an existing full SHRLEVEL CHANGE image copy and make it consistent using information from Db2 Log
  - Making the copy consistent
    - Revert all data changes that were performed by units of recovery (URs) that were not committed at given point of consistency

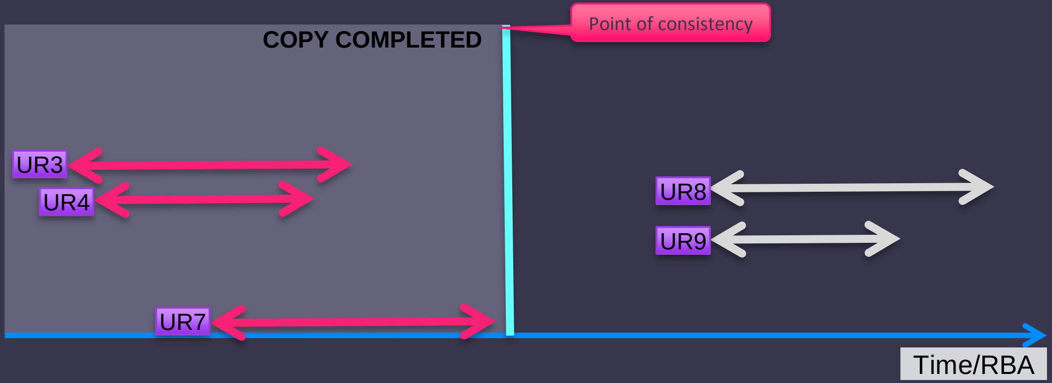
Main phases of the process

1. Open previously created SHRLEVEL CHANGE snapshot copy
2. Forward **log apply** to ensure that all updates are in the copy and not only in buffers
3. **Log Screening** to identify URs that were not committed
4. **Log undo** to revert data changes that were not committed

URs


Point of consistency
COPY COMPLETED
UR1
UR2
UR3
UR4
UR5
UR8
UR9
UR6
UR7
Time/RBA

URs


COPY COMPLETED
Point of consistency
UR3
UR4
UR7
UR8
UR9
Time/RBA

Using CA Quick Copy

JCL Step

```
//COPY02   EXEC PT@UTIL
//SYSIN    DD *
TEMPLATE T1
DSN(SHK8.TEMP.MIG001.&DB..&TS..P&PART.)

COPY TABLESPACE DBANK.CPCRD
 SSCOPYDDN(T1)
 SNAPSHOTACCESS INSTANT
 SHRLEVEL CHANGE
 CONSISTENT
 SNAPSHOTIWAIT NO
COPY TABLESPACE DBANK.CPCRD2
 SSCOPYDDN(T1)
 SNAPSHOTACCESS INSTANT
 SHRLEVEL CHANGE
 CONSISTENT
 SNAPSHOTIWAIT NO
```

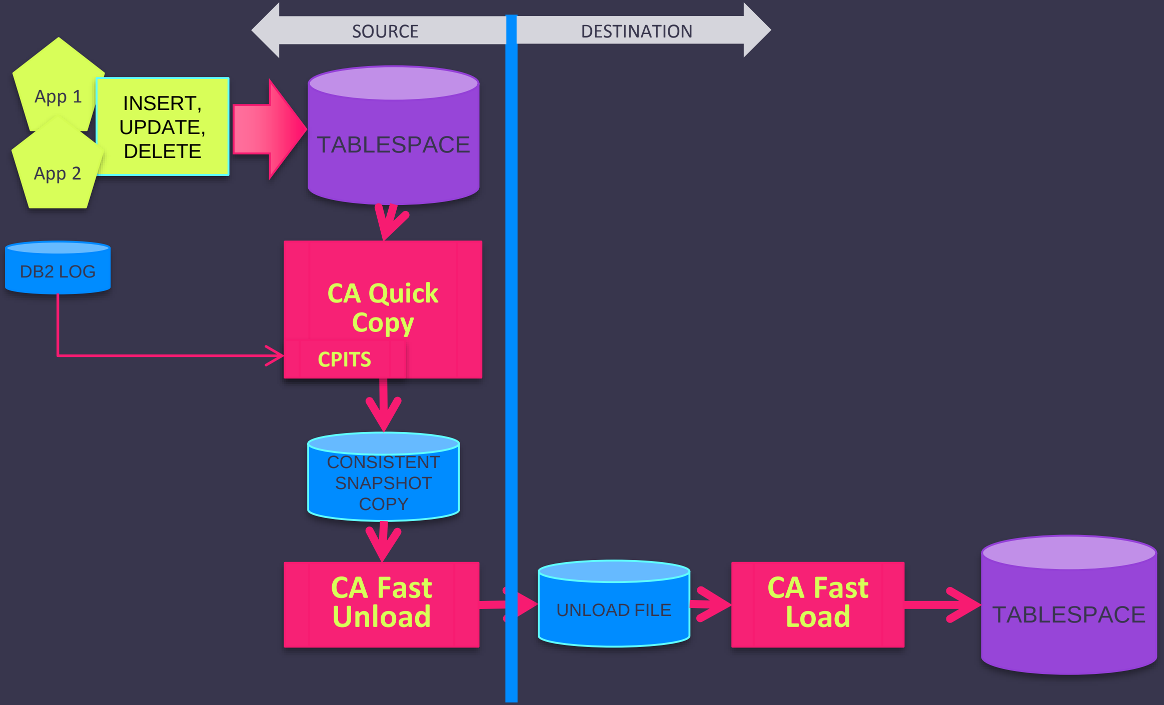
This creates a snapshot copy

Object will be fully available

Consistent copy, call CPITS (new keyword)

Don’t wait until the snapshot copy is complete

Scenario
Unloading and Migrating data


SOURCE
DESTINATION
App 1
App 2
INSERT, UPDATE, DELETE
TABLESPACE
DB2 LOG
CA Quick Copy
CPITS
CONSISTENT SNAPSHOT COPY
CA Fast Unload
UNLOAD FILE
CA Fast Load
TABLESPACE

Unloading a Consistent Snapshot Copy

```
FASTUNLOAD
 INPUT-FORMAT FLASHCOPY,CONSISTENT
 UNLDDN TS1REC
 LOAD-CONTROL FASTLOAD
 LAST-COPY YES
 SHRLEVEL CHANGE
 OUTPUT-FORMAT EXTERNAL
 SELECT * FROM PDBAR01.TZPCRD;
```

Miscellaneous

CA QUICK COPY for Db2 for z/OS

Miscellaneous - DB2CATALOG

- Copying DB2 Catalog
  - Special type of execution (DB2CATALOG is not a wildcard)
  - Template and COPYDDN required

```
TEMPLATE TEMPLP11
  DSN(HLQ.&DB..&SN..L.D&JU..T&TI.)
  DISP (NEW,CATLG,CATLG) STORCLAS SCWRKD VOLCNT 25
  UNIT SYSDA

COPY DB2CATALOG
  COPYDDN(TEMPLP11) SHRLEVEL CHANGE INDEX-ALL PREVIEW NO
```

Miscellaneous

- Differential Backup
  - First job in the chain creates a FULL COPY
    - COPY TABLESPACE DALPHA.ASSETS
      FULL YES, MODIFYBITS YES
  - Subsequent jobs create differential copies
    - COPY TABLESPACE DALPHA.ASSETS
      FULL NO, MODIFYBITS NO, MERGE-COPY YES
  - Only 1 incremental copy is always kept in SYSIBM.SYSCOPY

- LRSN-Based Incremental Image Copy
  - For TRACKMOD NO objects
  - Specify LRSNCOPY YES in the syntax
  - LRSNCOPY processing is set automatically for TRACKMO NO objects

Miscellaneous

QUIESCE fallback for SHRLEVEL CHANGE copies

- For SHRLEVEL CHANGE copies, this feature specifies whether QUIESCE is invoked for tablespaces or tablespace partitions when the START_RBA cannot be determined. The objects stay available and the image copy is not created. To use this feature, specify PQC-QUIESCE-FALLBACK (NO) in the UTIL parmlib. If you do not set this parameter, the default is YES. (PTF SO01660)

Do not confuse this parameter with the PARMLIB option

PQC - Quiesce Before Copy.....> NO (No/Yes)

Seamless integration with other CA utilities

CA Fast Load & CA Rapid Reorg

CA Quick Copy
Seamless Integration with Other CA DB2 Utilities

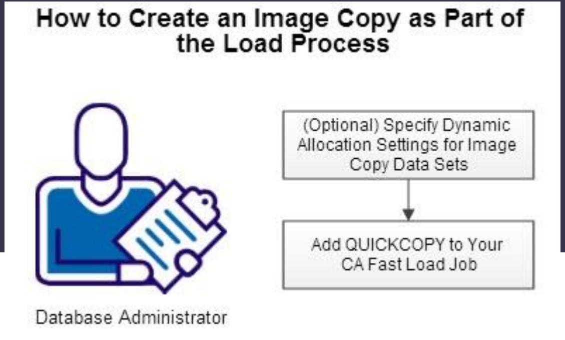
CA Quick Copy can be used from other CA DB2 Utilities

- **CA Fast Load** and **CA Rapid Reorg** use CA Quick Copy to create copies after loading or reorganizing data
- **CA Fast Recover** uses CA Quick Copy to create image copy after recovery or during SORTLOG YES recovery
- **CA Merge/Modify** uses CA Quick Copy to copy or merge image copies or to create up-to-date new copy
- **CA Recover Analyzer** generates JCLs that execute CA Quick Copy
- **CA Fast Unload** can unload data from standard or SNAPSHOT copy previously created by CA Quick Copy

CA Fast Load

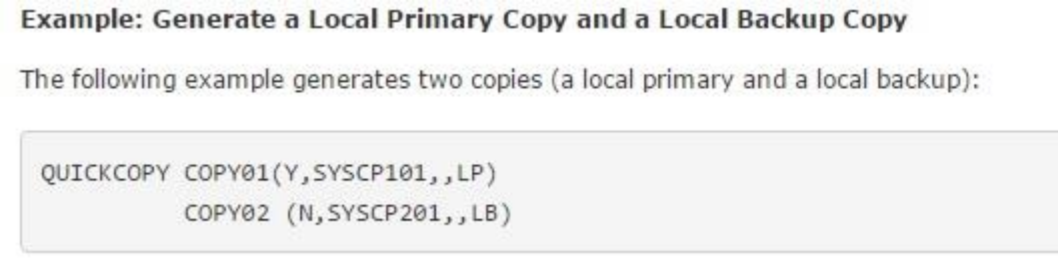
QUICKCOPY COPYnn (Y|N,*ddname*,[*exitname*,][*icbackup*,][*devtype*,])

- You can deicide whether to register the copy in SYSCOPY
- Called during the rebuild index phase



How to Create an Image Copy as Part of the Load Process

(Optional) Specify Dynamic Allocation Settings for Image Copy Data Sets
Add QUICKCOPY to Your CA Fast Load Job
Database Administrator



Example: Generate a Local Primary Copy and a Local Backup Copy

The following example generates two copies (a local primary and a local backup):

```
QUICKCOPY COPY01(Y,SYSCP101,,LP)
          COPY02 (N,SYSCP201,,LB)
```

CA Fast Load – Quickcopy options 1/2

- COPY-LOBS (default NO) to create an image copy of a LOB tablespace.
- COPY-EXCP to use EXCP processing. EXCP NO is recommended.
- COPY-STATUS *int* to display copy status messages during execution.
- PARTS-PER-COPY to specify the number of partitions to copy.
- PQCPARM to define an alternate PQC parmlib member.

CA Fast Load – Quickcopy options 2/2

Also include the following parmlib override options as needed:

- COPY-BUFFERS to specify the number of I/O buffers to use during copy processing. 120-160 is recommended.
- COPY-TASKS (default 1) to specify the number of concurrent read tasks to use during copy processing.
- UPDATE-SYSCOPY (default YES) to register LOAD LOG NO in the SYSIBM.SYSCOPY table.

CA Rapid Reorg – considerations

`PQC [AFTER|BEFORE]`

- AFTER - after the reorganization, log apply, and rename phases are complete.
- BEFORE – (`SHRLEVEL REFERENCE, COPY-TASK 1 allowed`)- creates up to eight inline copies between the reorganization and log apply phases.
- If you specify DATA-AVAILABLE CRITICAL, the QUICKCOPY keyword is also required

CA Rapid Reorg – considerations

- COPY-BUFFERS (default 30 – 120-160 is recomended) - the keyword specifies how many I/O buffers to allocate for CA Quick Copy for DB2 for z/OS processing
- COPY-EXCP (YES is default but NO is recommended) - This keyword specifies the access method for the copy job.
- COPY-STATUS keyword specifies how frequently CA Quick Copy for DB2 for z/OS displays status messages while performing a copy
- COPY-TASKS (default 1) to specify the number of concurrent read tasks to use during copy processing.

Log accumulation – BONUS TRACK

CA Merge/Modify for Db2 for z/OS

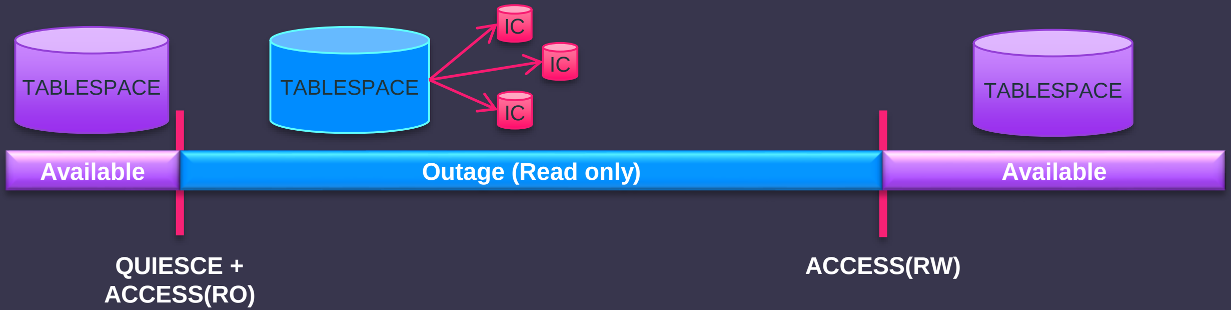
Log Accumulation

- With **Log Accumulation component**, you can create consistent full image copies of table spaces, LOBs, and index spaces with minimum outage
- Useful when
  - Only minimum outage is tolerated for the purpose of creating backups
- Highlights
  - Minimum outage time (QUIESCE only) needed for consistent copy
  - Create up to 4 copies in one pass
  - Store copies directly on tapes
  - LISTDEF and dynamic allocation of the copies using TEMPLATE

Log Accumulation Processing

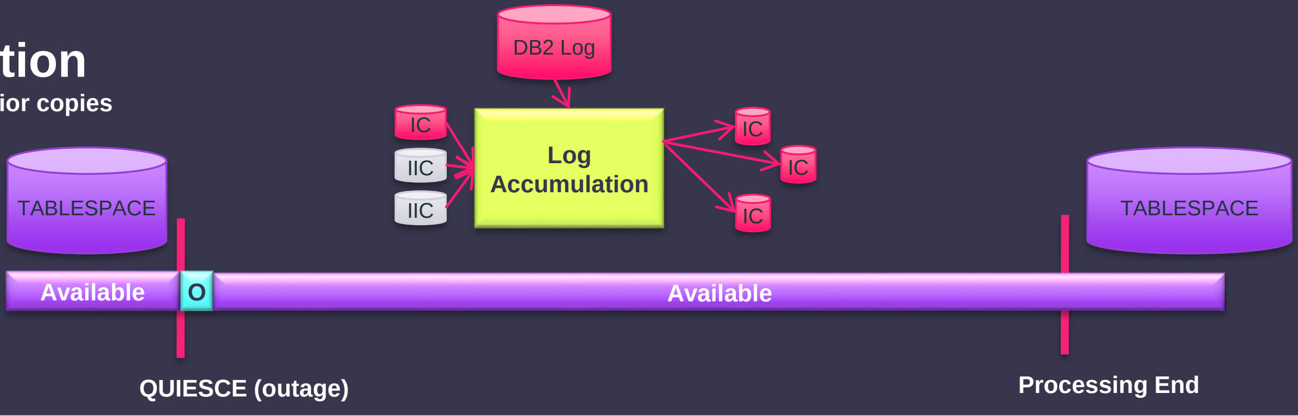
COPY SHRLEVEL REFERENCE

Create copy by reading pages of the table space


TABLESPACE
TABLESPACE
IC
IC
IC
TABLESPACE
Available
Outage (Read only)
Available
QUIESCE + ACCESS(RO)
ACCESS(RW)

Log Accumulation

Create copy from prior copies and log

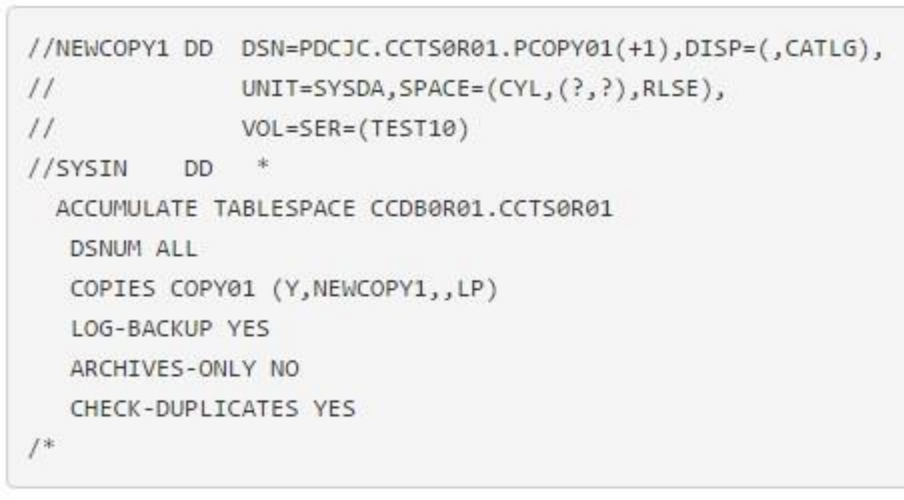

DB2 Log
IC
IIC
IIC
Log Accumulation
IC
IC
IC
TABLESPACE
TABLESPACE
Available
O
Available
QUIESCE (outage)
Processing End

Create a New Full Image Copy Using Log Accumulation

To create a full image copy with log accumulation, include LOG-BACKUP YES in the log accumulation syntax.

Example: Create a Full Image Copy

The following example creates a full image copy using LOG-BACKUP YES:



```
//NEWCOPY1 DD  DSN=PDCJC.CCTS0R01.PCOPY01(+1),DISP=(,CATLG),
//             UNIT=SYSDA,SPACE=(CYL,(?,?),RLSE),
//             VOL=SER=(TEST10)
//SYSIN    DD   *
 ACCUMULATE TABLESPACE CCDB0R01.CCTS0R01
  DSNUM ALL
  COPIES COPY01 (Y,NEWCOPY1,,LP)
  LOG-BACKUP YES
  ARCHIVES-ONLY NO
  CHECK-DUPLICATES YES
/*
```

Create Continuous Full Image Copies

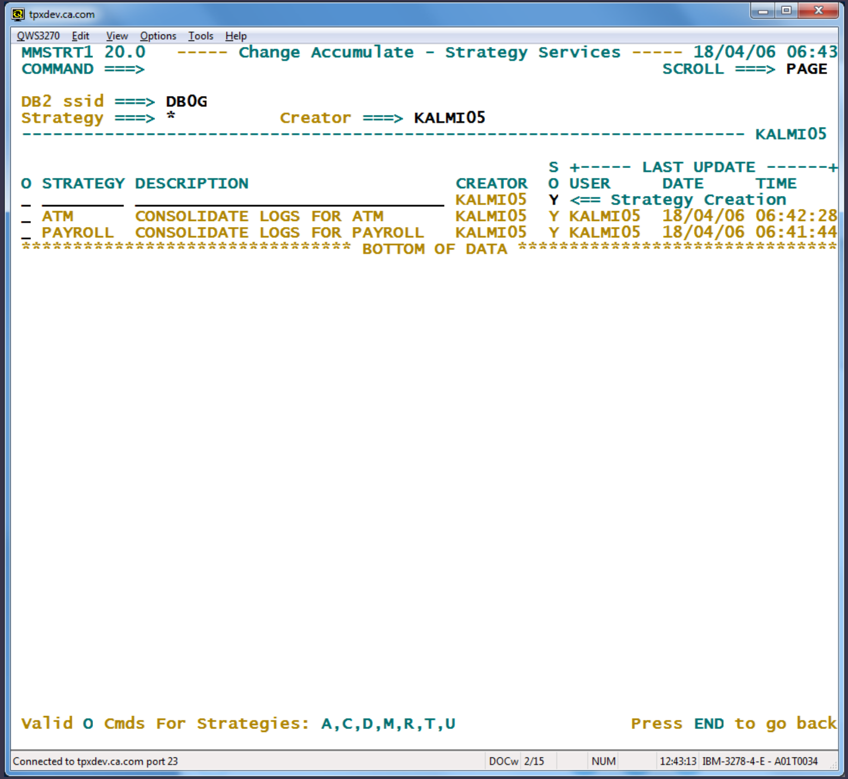
You can create a job schedule for your most critical data so that you always have recent full image copies.

To create continuous full image copies, see the following suggestions:

- Every four hours, use change accumulation to accumulate the log records for the objects to a change accumulation file.
- As soon as the change accumulation job completes, start a log accumulation job to create an image copy from the last full image copy for the objects, using the log records in the change accumulation file.

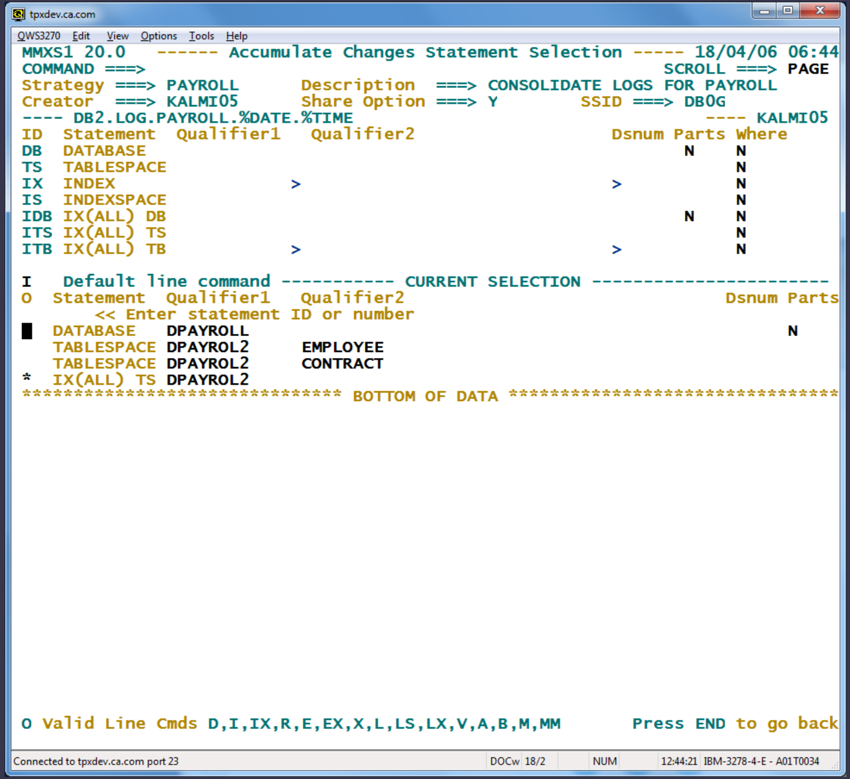
This way, the most recent full image copies for critical data are never more than four or five hours old, and access to the database objects is not affected.

Change Accumulate - Strategy Services ISPF


tpxdev.ca.com
QWS3270 Edit View Options Tools Help

```
MMSTRT1 20.0   ----- Change Accumulate - Strategy Services ----- 18/04/06 06:43
COMMAND ===>                                                   SCROLL ===> PAGE

DB2 ssid ===> DB0G
Strategy ===> *          Creator ===> KALMI05
----------------------------------------------------------------------- KALMI05

                                                    S +----- LAST UPDATE ------+
O STRATEGY DESCRIPTION                     CREATOR  O USER     DATE     TIME
_ ________ _______________________________ KALMI05  Y <== Strategy Creation
_ ATM      CONSOLIDATE LOGS FOR ATM        KALMI05  Y KALMI05  18/04/06 06:42:28
_ PAYROLL  CONSOLIDATE LOGS FOR PAYROLL    KALMI05  Y KALMI05  18/04/06 06:41:44
********************************* BOTTOM OF DATA *******************************









Valid O Cmds For Strategies: A,C,D,M,R,T,U                  Press END to go back
```

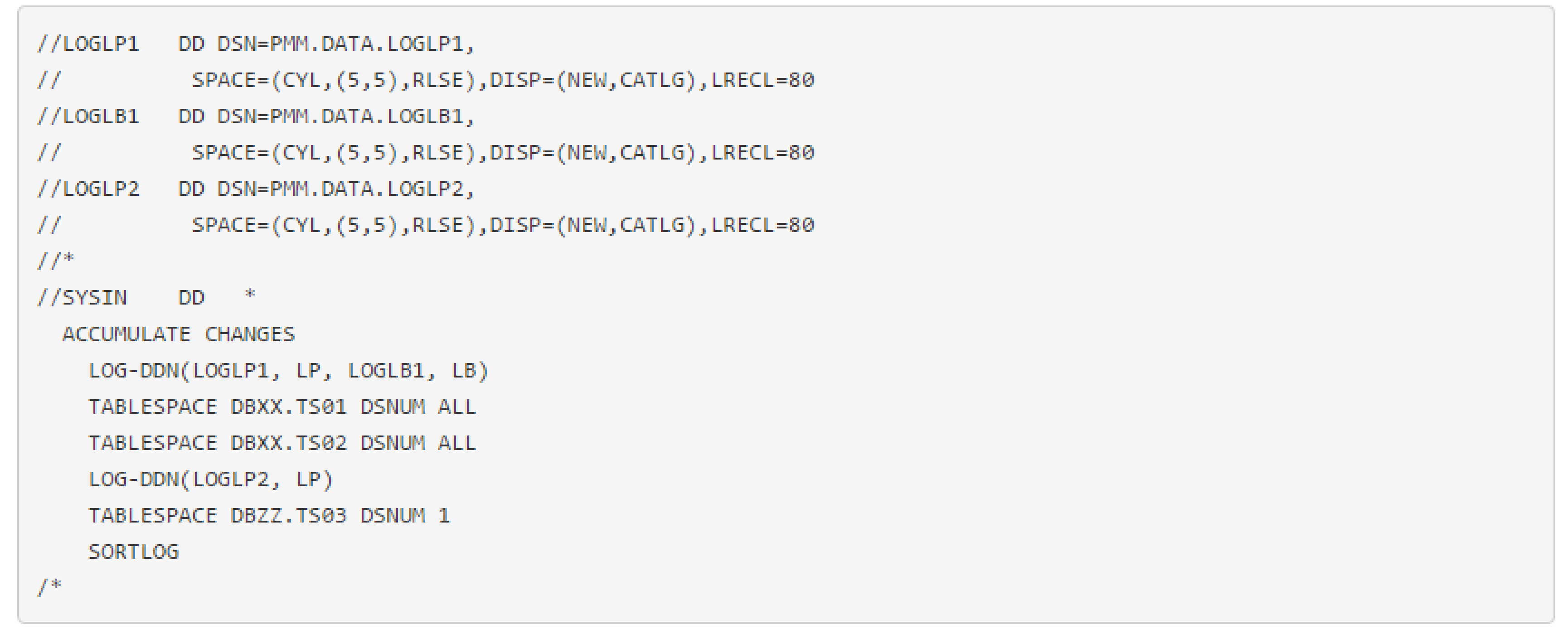
Connected to tpxdev.ca.com port 23
DOCw 2/15
NUM
12:43:13 IBM-3278-4-E - A01T0034


tpxdev.ca.com
QWS3270 Edit View Options Tools Help

```
MMXS1 20.0   ------ Accumulate Changes Statement Selection ----- 18/04/06 06:44
COMMAND ===>                                                   SCROLL ===> PAGE
Strategy ===> PAYROLL      Description  ===> CONSOLIDATE LOGS FOR PAYROLL
Creator  ===> KALMI05      Share Option ===> Y         SSID ===> DB0G
---- DB2.LOG.PAYROLL.%DATE.%TIME                                   ---- KALMI05
ID  Statement  Qualifier1   Qualifier2                    Dsnum Parts Where
DB  DATABASE                                                     N    N
TS  TABLESPACE                                                        N
IX  INDEX                  >                              >           N
IS  INDEXSPACE                                                        N
IDB IX(ALL) DB                                                   N    N
ITS IX(ALL) TS                                                        N
ITB IX(ALL) TB             >                              >           N

I   Default line command ----------- CURRENT SELECTION -----------------------
O  Statement  Qualifier1   Qualifier2                                Dsnum Parts
       << Enter statement ID or number
█  DATABASE   DPAYROLL                                                     N
   TABLESPACE DPAYROL2     EMPLOYEE
   TABLESPACE DPAYROL2     CONTRACT
*  IX(ALL) TS DPAYROL2
******************************* BOTTOM OF DATA ********************************









O Valid Line Cmds D,I,IX,R,E,EX,X,L,LS,LX,V,A,B,M,MM        Press END to go back
```

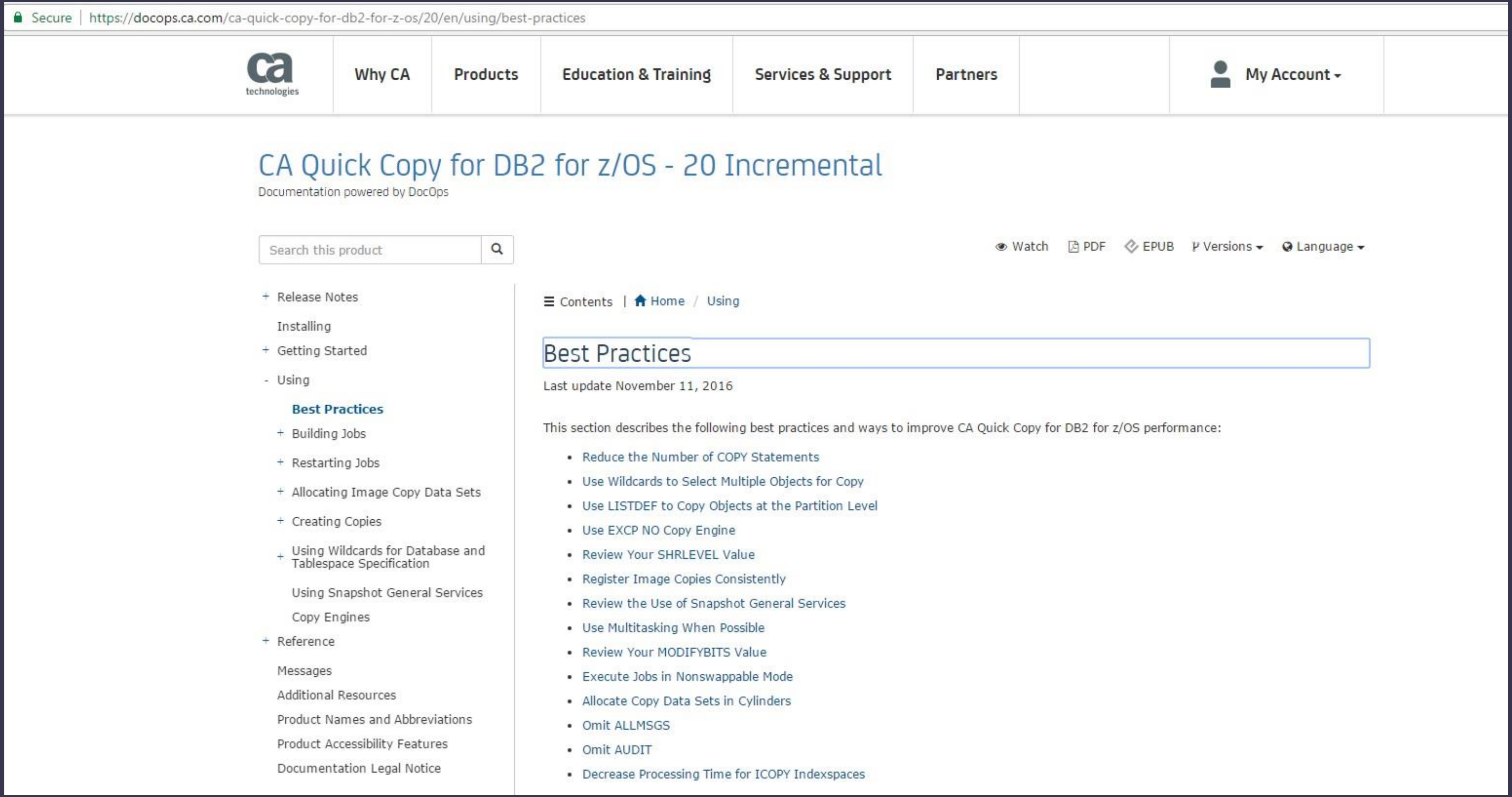
Connected to tpxdev.ca.com port 23
DOCw 18/2
NUM
12:44:21 IBM-3278-4-E - A01T0034

Regular Change Accumulation File Updates



```
//LOGLP1   DD DSN=PMM.DATA.LOGLP1,
//          SPACE=(CYL,(5,5),RLSE),DISP=(NEW,CATLG),LRECL=80
//LOGLB1   DD DSN=PMM.DATA.LOGLB1,
//          SPACE=(CYL,(5,5),RLSE),DISP=(NEW,CATLG),LRECL=80
//LOGLP2   DD DSN=PMM.DATA.LOGLP2,
//          SPACE=(CYL,(5,5),RLSE),DISP=(NEW,CATLG),LRECL=80
//*
//SYSIN    DD   *
  ACCUMULATE CHANGES
    LOG-DDN(LOGLP1, LP, LOGLB1, LB)
    TABLESPACE DBXX.TS01 DSNUM ALL
    TABLESPACE DBXX.TS02 DSNUM ALL
    LOG-DDN(LOGLP2, LP)
    TABLESPACE DBZZ.TS03 DSNUM 1
    SORTLOG
/*
```

Best practices - docops.ca.com



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Best Practices

Last update November 11, 2016

This section describes the following best practices and ways to improve CA Quick Copy for DB2 for z/OS performance:

- Reduce the Number of COPY Statements
- Use Wildcards to Select Multiple Objects for Copy
- Use LISTDEF to Copy Objects at the Partition Level
- Use EXCP NO Copy Engine
- Review Your SHRLEVEL Value
- Register Image Copies Consistently
- Review the Use of Snapshot General Services
- Use Multitasking When Possible
- Review Your MODIFYBITS Value
- Execute Jobs in Nonswappable Mode
- Allocate Copy Data Sets in Cylinders
- Omit ALLMSGS
- Omit AUDIT
- Decrease Processing Time for ICOPY Indexspaces

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Thank You.