# IBM DB2 10 for SAP
## Session Number 2538

Dirk Nakott, IBM
Johannes Schuetzner, IBM

IBM Software
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# Abstract

- IBM DB2 10 for z/OS introduces various exciting new features that are particularly beneficial to SAP customers.

- The presentation elaborates on DB2 10 for z/OS features that are most relevant for SAP and discusses their business value.

  - Description of the features

  - Outlines the benefit of the features for SAP customer

- It highlights SAP monitoring enhancements for DB2 10 for z/OS

# Agenda

- Introduction

- Administration and Availability enhancements

- Performance and Scalability improvements

- Monitoring improvements

- Configuration Simplification and Security

# IBM and SAP @ Germany

SAP® — Walldorf / St. Leon-Rot

IBM — Boeblingen

Distance 120 km = 74 miles

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DB2 10 is here

# Availability SAP and DB2 10

**Note 1452370 - DB2-z/OS:v10: Release of DB2 10 for SAP Components**

Note Language: English     Version: 14     Validity: valid since 10.08.2011

| PDF | Download Corrections | Compare Versions | SSCR |     Go to SAP Note: 1452370 | Search |

Content: Summary | Header Data | Releases | Related Notes | Action Log

```
The release dates of SAP Basis Releases with respect to DB2 10 are listed in the
following table. The release includes DB2 Data Sharing support for SAP systems.
SAP Basis    DB2 10 Release    SAP Products (list not complete)
=========    ==============    ================================
   4.6C      15-Feb-2011       R/3 4.6C

   6.20          tbd           WAS6.20 R/3E4.7x2.0
   6.40          tbd           WAS6.40 ERP5.0

   7.00      18-May-2011       NW7.00SR3 BS2005SR3
   7.01      18-May-2011       NW7.01 BS2008SR1 (=BS7SR1) SolMan7.01
   7.02          tbd           NW7.02 BS7i2010 SolMan7.1

   7.10      27-Jun-2011 (1)   NW7.10 Banking5.0/6.0 Mobile7.1 PI7.1
                 tbd           CE7.10SR5
   7.11      27-Jun-2011 (1)   NW7.11
                 tbd           CE7.11
   7.20          tbd           CE7.20
   7.30      15-Feb-2011       NW7.30


(1) Limitation: For 7.10/11 Java and double-stack systems on DB2 10 the release upgrade
and the usage of the Software Update Manager (SUM tool) is not yet supported. For ABAP-
only systems there is no restriction whatsoever.
```
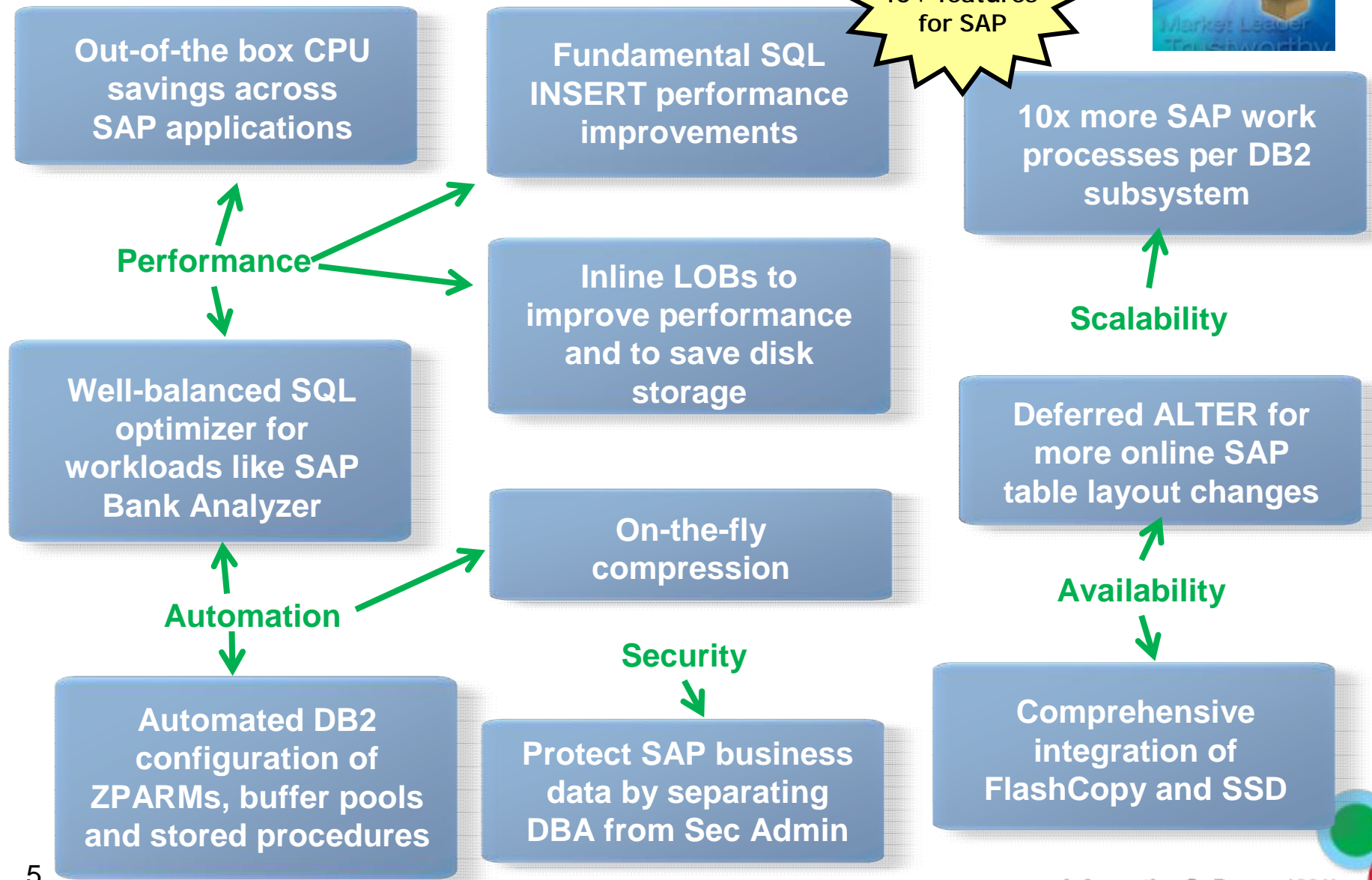
Screenshot September 2011

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# Top 10 DB2 10 Features for SAP

**Overall 40+ features for SAP**

DB2 10 is here

**Out-of-the box CPU savings across SAP applications**

**Fundamental SQL INSERT performance improvements**

**10x more SAP work processes per DB2 subsystem**

**Performance**

**Inline LOBs to improve performance and to save disk storage**

**Scalability**

**Well-balanced SQL optimizer for workloads like SAP Bank Analyzer**

**Deferred ALTER for more online SAP table layout changes**

**Automation**

**On-the-fly compression**

**Availability**

**Automated DB2 configuration of ZPARMs, buffer pools and stored procedures**

**Security**

**Protect SAP business data by separating DBA from Sec Admin**

**Comprehensive integration of FlashCopy and SSD**

5

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# Workload-optimized REORG with DB2 10

- Stored Procedure DSNACCOX triggers REORG TS
  to re-cluster records only if there are SQL queries benefiting

  – New real time statistics field REORGCLUSTERSENS

  – Counts SQL statements sensitive to clustering sequence of data

- Smart index prefetching

  – List prefetch method for index leaf pages to ensure good
  performance with non-clustered index

- Automatic detection of solid state drive (SSD)

  – If SSD detected, reduces number of REORG runs for objects on
  SSD

**Goal:**
**è Run REORG only when truly beneficial**

Less
REORGs

# DB2 10 REORG partition list

- Situation

  - DSNACCOX recommends REORG on partition level for PBG and range-partitioned tablespace

  - If several partitions of the same tablespace are recommended, a separate REORG call for each partition is necessary and therefore the NPIs are reorganized several time

  - The single partition REORGs cannot run in parallel

- Solution

  - DB2 10 introduces REORG with partition list

    - REORG tablespace PART px, py, pz ……

    - E.g. REORG DBDEMO.TSDEMO PART 1, 5, 16, 22

  - SAP supports partition list in DB13 planning calendar

    - SAP DB13 planning calendar job "Online reorg of recommended tablespaces" automatically generates a partitions list, if several partitions are recommended for the same tablespace

  - Reduces number of REORG executions and NPIs are reorganized only once

Less REORGs

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# DB2 10 REORG LOB SHRLEVEL CHANGE

- Situation with DB2 9

  – Reorganization of LOB can only be done with SHRLEVEL REFERENCE

  – During REORG, no SAP process could update the LOB and has to wait until the REORG completes

- Solution with DB2 10

  – DB2 10 introduces REORG LOB SHRLEVEL CHANGE

  – Reorganization of LOBs can now be done in parallel with write access

  – SAP DB13 planning calendar job "Online reorg of recommended tablespaces" automatically uses SHRLEVEL CHANGE instead of SHRLEVEL REFERENCE

Data always updateable

# More Online Table Layout Changes with DB2 10

- Situation:

  – During SAP lifecycle management tasks, the layout of table may change

  – To change different technical table settings, table needs to be converted via unload, drop, recreate (table, views, indexes, privileges) and load

  – Table not available during this time

- Solution:

  – DB2 10 introduces deferred SQL ALTER

    - Statement is put on to-do list in new DB2 catalog table SYSIBM.SYSPENDINGDDL

    - Next REORG materializes pending ALTER

  – The following changes can be performed online with deferred SQL ALTER:

    - UTS tablespace attributes: Page size, buffer pool, DSSIZE, SEGSIZE, MEMBER CLUSTER

    - Single table segmented into Partitioned By Growth UTS

    - Partitioned By Range into Range Partitioned UTS

Less planned outage

10

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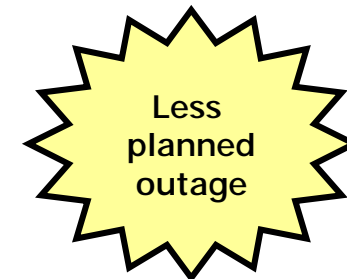
# DB2 10 Inline LOB

- Inlining of LOB into the base table

    - Reduces overall space consumption

    - A LOB consumes in LOB tablespace at least a 4k page

    - In base tablespace, the inlined portion of LOB is compressed

    - SAP LOBs are usually very short

        - Avg. LOB size between 1500 and 3000 Bytes

        - About 5% of LOBs smaller than 10 Bytes

    - Improves overall performance

        - Performance benefit if LOB tablespace does not need to be accessed

        - Measurements with SAP SGEN shows CPU reduction of 14%

    - Important APAR PM29037 to enable inlining LOBs via REORG SHRLEVEL CHANGE

- SAP exploits Inline LOB and is currently developing a Conversion Tool, which performs the necessary operations

Faster data access

# SAP Conversion Tool – Inline LOB

- Recommended Inline LOB size for each LOB column
- Performs page size conversions and assigns a new bufferpool, if necessary
- Performs row format conversion from BRF to RRF, if necessary
- Displays necessary space type conversion from
  - Segmented into Partition by Growth UTS
  - Partition by Range into Range partitioned UTS
- Offers the ability to exclude objects from conversion
- Fully integrated into SAP DBACOCKPIT planning calendar with two new jobs:
  - Analysis job collects the Inline LOB candidates
  - Conversion Job performs the required ALTER statements and REORG Utility executions
  - See SAP note 1492381

# SAP Conversion Tool – Inline LOB cont.

*Preview*



**Recommended for Inline LOB Conversion**

**Requires new page size**

**From x to y Kb**

**Current and new Bufferpool**

**Space Type Conversion needed e.g. Segm. to PBG UTS**

**Conversion of Row Format from BRF to RRF needed**

13

# SAP Conversion Tool – Inline LOB cont.

Displaying details of an object

Inline LOB size will be changed from x to y Bytes

| Object Summary | | | | | | |
|---|---|---|---|---|---|---|
| Object Name | BCFINSTCLNT | | Page Size | 4 | Required | 8 |
| Object Type | TABLE | | Space Type | PBGUTS | Required | PBGUTS |
| Space Name | BCFINSTC | | Row Format | RRF | Required | RRF |
| Qualifier | SAPR3 | | Reason why no conversion: | | | |

| Column Name | Column Type | Inline Length | NewInlLength | LOB Length |
|---|---|---|---|---|
| VALUE | DBCLOB | 0 | 4.000 | 536.870.912 |

One row for each LOB column

# FlashCopy

- Situation with DB2 9

  - SAP's strategy is to rely on FlashCopy technology for DB2 backups

  - With DB2 9, some non-FlashCopy image copies still need to be taken, e.g. REORG Inline Copy

- Solution with DB2 10

  - Data-set level FlashCopy for DB2 utilities (**F**lash**C**opy **I**mage **C**opy)

    - COPY tablespace

    - REORG tablespace inline copy

    - LOAD tablespace inline copy

    - Copy of indexes in LOAD, REORG, REORG INDEX, REBUILD INDEX

  - Speeds up time to take image copy and recovery

    - Exploits FlashCopy for fast recovery

Very fast Copy and Recovery

# DB2 10 FlashCopy Image Copy

- FCIC invokes data set-level FlashCopy
  via DFSMSdss COPY

- FCIC is slightly different from volume-level FlashCopy:

  – Always full FlashCopy backup

  – DS8000 does not support incremental FlashCopy nor Space-efficient FlashCopy at data set-level

- Specifying TRACKMOD=YES does not benefit FCIC

- How to turn on FCIC with SAP:

  – SAP DB13 planning calendar skeletons may be extended to support FCIC with keyword FLASHCOPY

  – Set DB2 ZPARMs FLASHCOPY_COPY, FLASHCOPY_LOAD, FLASHCOPY_REORG_TS, FLASHCOPY_REORG_INDEX, FLASHCOPY_REBUILD_INDEX

# FlashCopy – One for all – Fits perfect to SAP
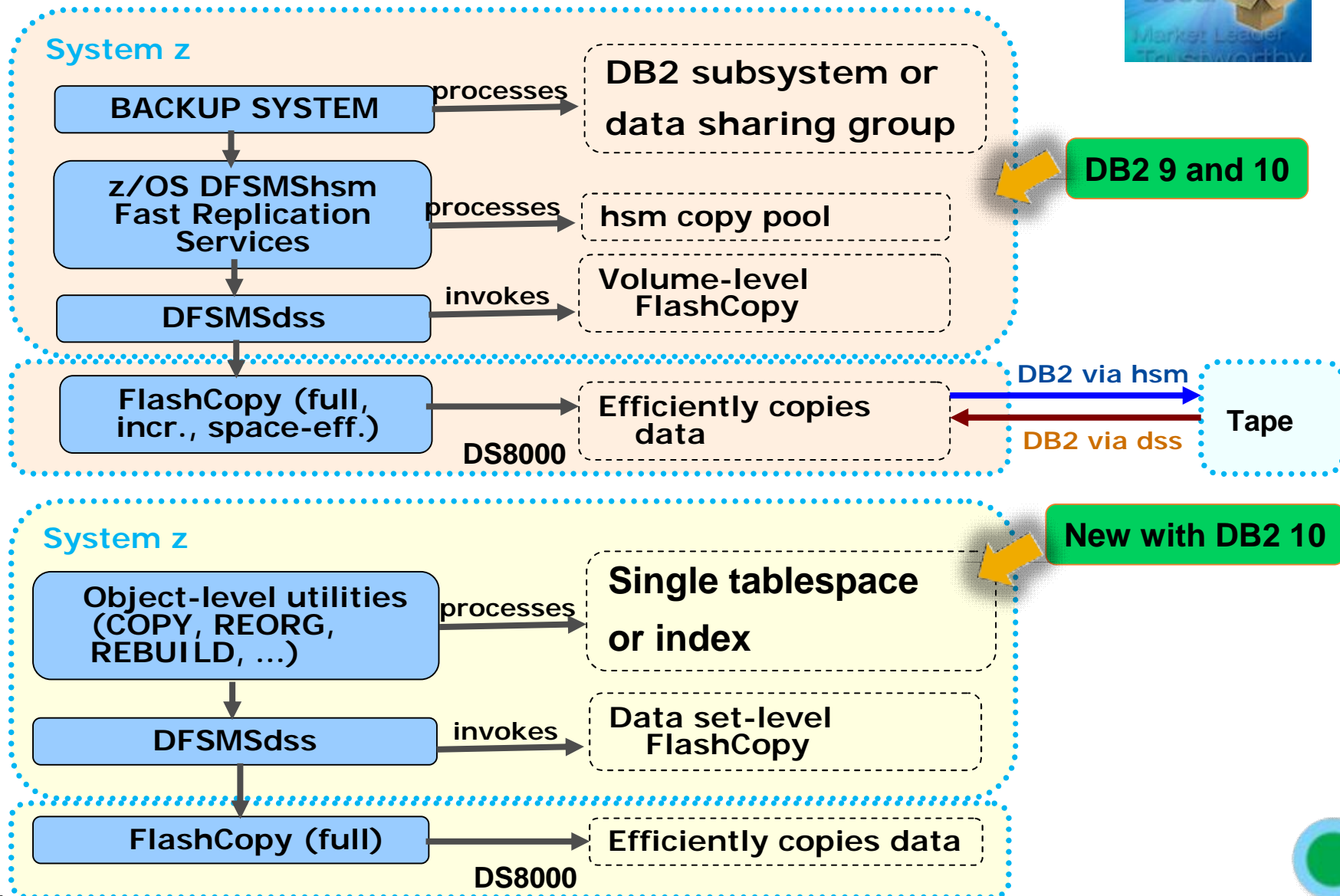
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# DB2 10 MEMBER CLUSTER for Universal Table Space (UTS)

- Universal Table Spaces (UTS) enabled for MEMBER CLUSTER

  - Assigns a set of pages and associated space map page to each member

  - Removes the hot spots in concurrent sequential insert in data sharing

  - Does not maintain data clustering during INSERT

  - Data clustering needs to be restored via REORG

- Enabling MEMBER CLUSTER via ALTER TABLESPACE is deferred ALTER

  - Next REORG materializes pending ALTER

**Fast insert in Data Sharing**

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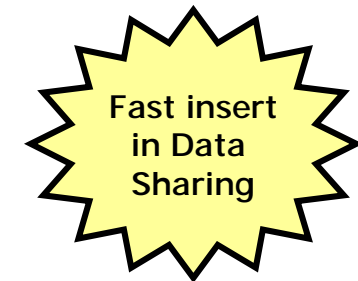
# DB2 10 On-the-fly Compression for INSERT

- Situation with DB2 9

  – The compression dictionary is built with REORG only

  – After creating a tablespace, the data is inserted uncompressed until the first REORG takes place

  – To minimize the impact, customers can start REORG during R3load. Hitting the right time to run REORG is difficult

- Solution with DB2 10

  – DB2 builds up automatically a dictionary

  – After 10.000 rows, DB2 generates the compress dictionary

  – All rows which are inserted later are compressed

  – REORG is only needed to compress the initial rows

**Simplified Compression**

# More Threads in Single DB2 Subsystem

**DB2 9**

Coupling Technology

LPAR1

| DB2A |
| --- |
| (400 thds) |
| DB2D |
| (400 thds) |

LPAR2

| DB2B |
| --- |
| (400 thds) |
| DB2E |
| (400 thds) |

**DB2 10**

Coupling Technology

LPAR1

| DB2A |
| --- |
| (800 thds) |

LPAR2

| DB2B |
| --- |
| (800 thds) |

Flexible System setup
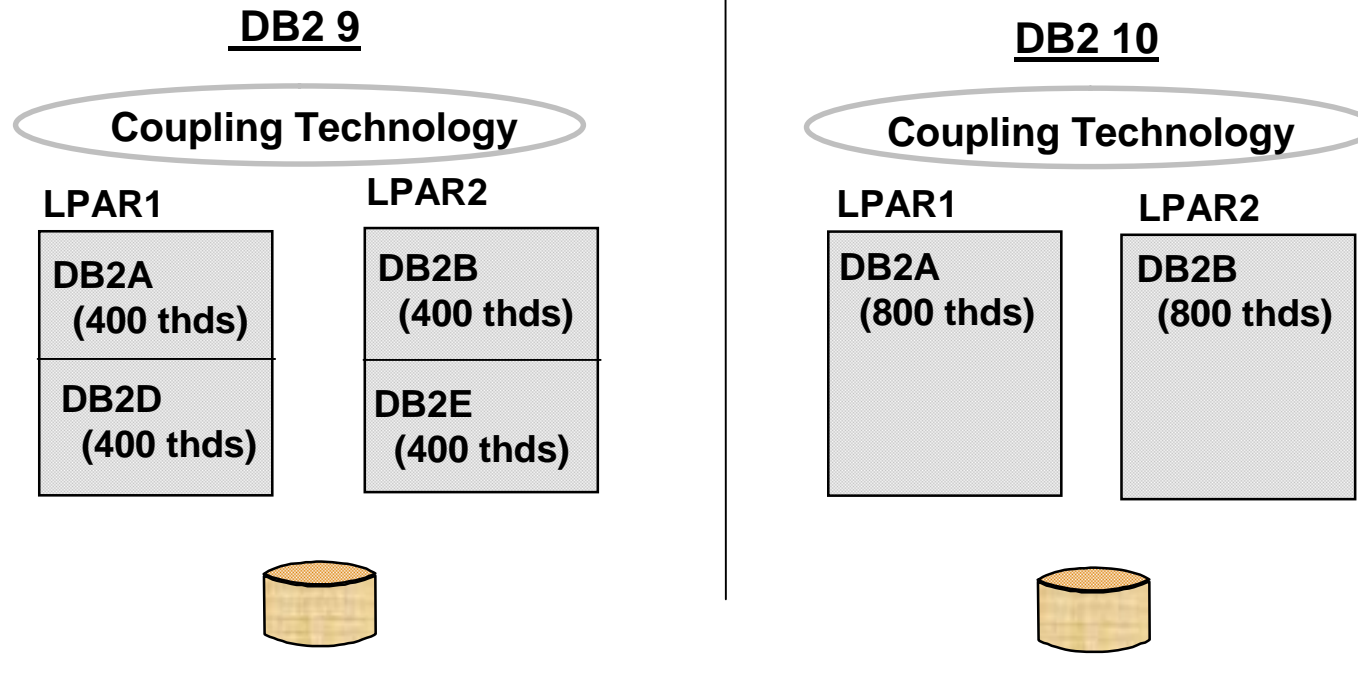
- DB2 10 enables 64-bit support for relevant storage areas in DBM1
  - With DB2 9, practical limit of around 400 SAP DB2 threads
  - With DB2 10, good results with 2500 SAP DB2 threads

# More Threads in Single DB2 Subsystem cont.

- DBACOCKPIT shows memory usage below the bar

| 31-bit | |
|---|---|
| MVS extended region size (KB) | 1.553.408 |
| Amount of available storage (KB) | 1.404.792 |

- Consider increasing system parameter MAXKEEPD
  - Specifies the maximum number of prepared, dynamic SQL statements in the local Thread Statement Cache that are to be saved past a commit point.
  - In measurement with 840 SAP work processes, increasing MAXKEEPD from 8000 to 64000 reduced CPU by 24%

# Considerations for DB2 data sharing topologies

- Virtual storage does not pose limit on number of threads with DB2 10 anymore

  Ø More flexibility with number of active data sharing members

- Considerations regarding consolidating to fewer active DB2 members

**Fewer z/OS LPARs may be sufficient**

However CPU costs of an LPAR low

**Less need for real storage for DB2 buffer pools**

**With fewer DB2 members, loss of a single member has bigger impact**

**Reduces TCO**

**Fewer DB2 members need to be able to handle SAP workload**

DB2 log and latches should not become bottleneck

**In configuration with two DB2 members if a member is stopped for maintenance, the only remaining member is single point of failure**

# DB2 10 INSERT Performance
# I/O Parallelism for Index Updates

- Situation with DB2 9

  – During insert, DB2 executes index updates sequentially

  – Tables with many non-clustering indexes may suffer high synchronous read I/O wait

- Solution with DB2 10

  – I/O parallelism by prefetching index pages to overlap the I/Os against non-clustering indexes

  – Controlled by new ZPARM INDEX_IO_PARALLELISM (default YES)

    - Parallel read I/Os for additional indexes by using prefetch

    - Enabled only when there are index I/Os (buffer pool miss)

    - Applicable with all tablespace types except segmented tablespace

    - Enabled with 3 or more indexes

  – Elapsed time reduction

    - Beneficial to reduce I/O wait time for large indexes that do not fit into the buffer pools

  – Sample SAP use case:

    - Key tables of SAP Bank Analyzer contain 11 to 14 secondary indexes

Faster insert of data

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# Balanced SQL Optimizer for SAP Workloads

- Situation with DB2 9

  - Data is changing over time after last RUNSTATS

  - Access path built on last RUNSTATS only may not be optimal

- Solution with DB2 10

  - Safe query optimization

    - If there are similar indices, index with most matching columns is preferred

    - Number of index levels (NLEVEL) not important for optimizer decision

    - RID list access never fails back to tablespace scan
      (workfiles are used)

  - Index probing and Real Time Statistics (RTS) lookup

    - Estimate number of rows qualifying during prepare

    - Exploited when query has matching index predicate, REOPT(ONCE) and one of the following:

      - No rows are estimated to qualify

      - Catalog stats indicate table empty

      - Table is VOLATILE or qualifies for NPGTHRSH

Fast
Data
Access

# Improved Page Latching with DB2 10



| | DB2 9 | DB2 10 with PM39342 | DB2 10 with PM45651 |
|---|---|---|---|
| CPU time [msec] | 24,10 | 0,4 | 0,3 |
| Wait time for page latch [msec] | 457 | 35,3 | 0,3 |
| Other wait time [msec] | 15 | 2,5 | 1,1 |
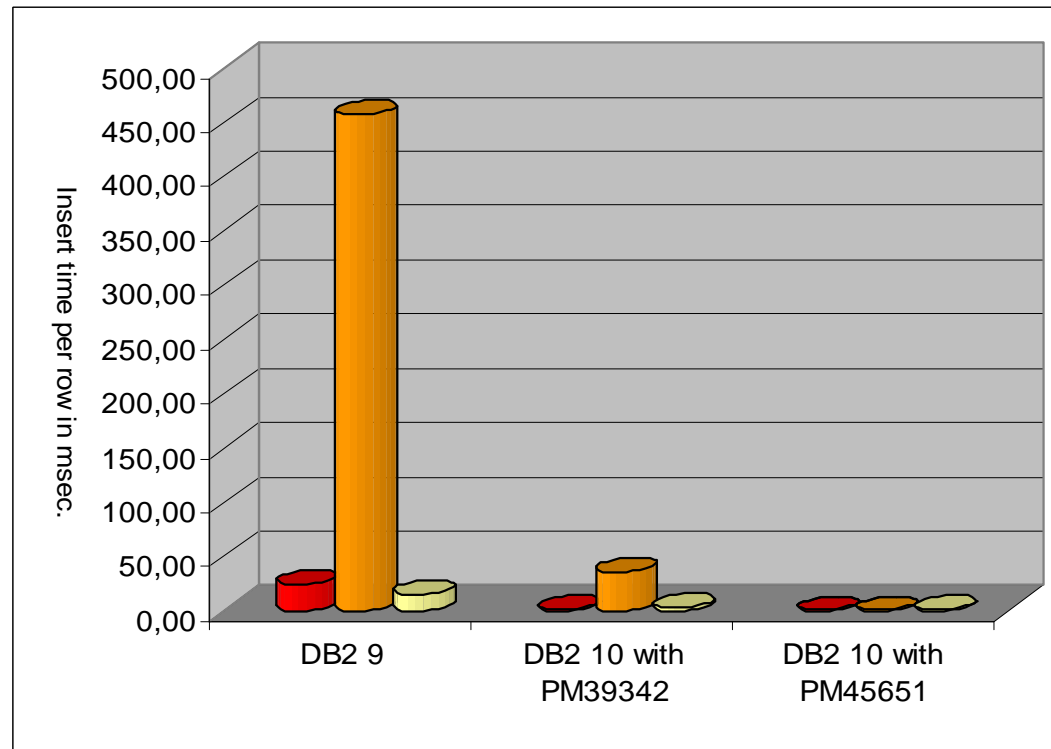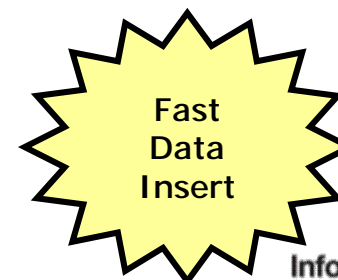
- SAP Bank Analyzer Workload
- 100 parallel DB2 threads inserting into same table at physical end
  - Hot spots
  - No other wait times for INSERTs like sync I/O
- To resolve latch contention DB2 10 takes advantage of z/OS PLO instructions instead of DB2 CML lock
  - Perform Locked Operation for atomic read-modify-write operations
  - Much more efficient

**Fast Data Insert**

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# New Statement Cache Filter Options with DB2 10
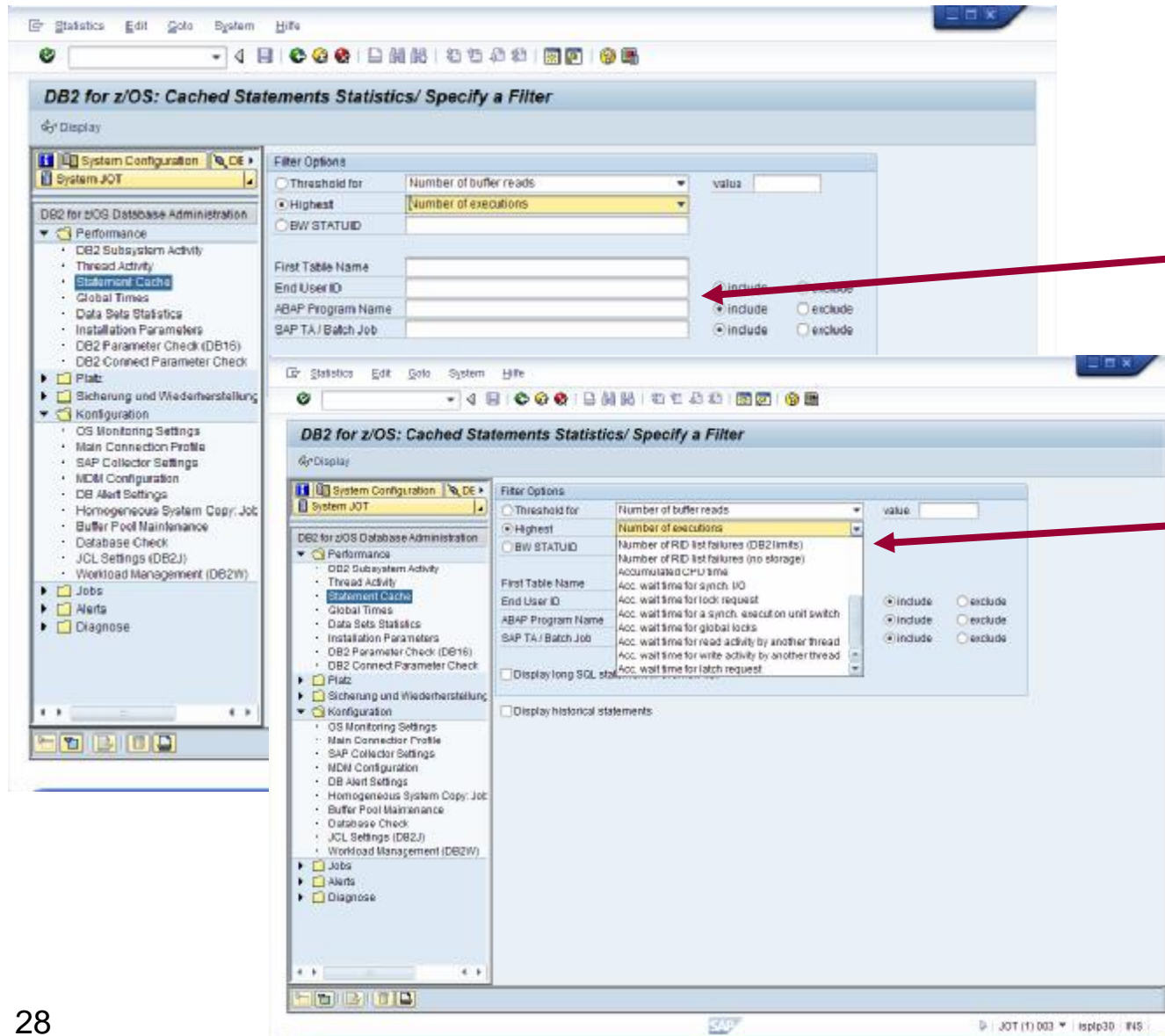


New filters for first table name and SAP qualifiers like SAP end user and SAP program

Additional criteria for qualification and ranking

Find bad SQL statements faster

# DB2 V10 Enlarged Performance Counters

Enlarged performance counters to 64 Bit in
Subsystem Activity and Statement Cache



Getpages
Rows exam.

DML, DCL, DDL
activity

# New DB2 V10 DBM1 and DIST Monitoring Display



Allows monitoring of DBM1 and DIST address spaces

Reflects new IFCID 225 data structure

Overbear Address Space Limits

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# DB2 ZPARM Configuration

- DB2 10 provides an SAP-specific ZPARM installation member:

  – Located in SDSNSAMP(**DSNTIDXB**)

  – Contains the SAP recommended values for certain ZPARMs

  – Will be used during installation instead of DSNTIDXA, which contains the DB2 default settings

- Main panel DSNTIPA1

```
DSNTIPA1 DB2 VERSION 10 INSTALL, UPDATE, MIGRATE, AND ENFM - MAIN PANEL
===> _

Check parameters and reenter to change:
 1  INSTALL TYPE            ===> INSTALL    Install, Migrate, ENFM, or Update
 2  DATA SHARING            ===> NO         Yes or No (blank for ENFM or Update)

For migration only: Enter the release you are migrating from and the data set
and member name with the settings from the previous Installation/Migration:
 3  FROM RELEASE            ===>            V8 or V9
 4  DATA SET(MEMBER) NAME   ===>

For DB2 SMP/E libraries (SDSNLOAD, SDSNMACS, SDSNSAMP, SDSNCLST, etc.), enter:
 5  LIBRARY NAME PREFIX     ===> DSN1010
 6  LIBRARY NAME SUFFIX     ===>

For install data sets (NEW.SDSNSAMP, NEW.SDSNCLST, RUNLIB.LOAD, etc.), enter:
 7  DATA SET NAME PREFIX    ===> DSN1010
 8  DATA SET NAME SUFFIX    ===>

Enter to set or save panel values (by reading or writing the named members):
 9  INPUT MEMBER NAME       ===> DSNTIDXB  Default parameter values
 10 OUTPUT MEMBER NAME      ===>           Save new values entered on panels
PRESS:   ENTER to continue   RETURN to exit   HELP for more information
```
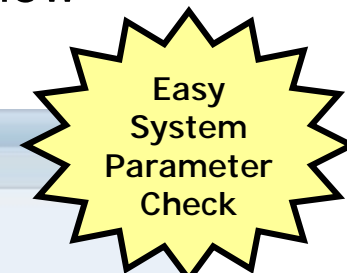
Always correct system configuration

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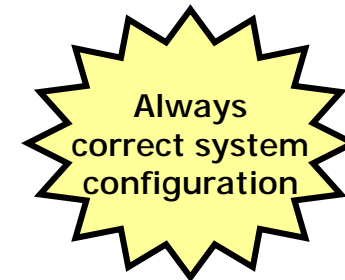
# SAP DB2 System Parameters Check and Display

- Checks and displays DB2 Installation Parameters (ZPARMS)

- Automatic download of SAP parameter recommendations via SAP Notes 1476146 for DB2 10, 1473986 for DB2 9 and 1474640 for DB2 V8

- Customer can configure its own installation parameters view

- Customer can define its own check values.

**Easy System Parameter Check**



**DB2 System Parameters**

| Last Refresh | 01.10.2010 | 14:04:56 | System | DB2_ROT |

DB2 Member: SGC1

Tabs: Check Status | All Parameters | Custom Configuration | Configuration

| Status | Parameter | Macro | Install Pan | Install Field | Value | SAP Op. | SAP Recomm. | Cust. Op. | Customer Recomm. | Severity |
|--------|-----------|-------|-------------|---------------|-------|---------|-------------|-----------|------------------|----------|
| ● | MXDTCACH | DSN6SPRM | DSNTIP8 | MAX DATA CACHING | 256 | = | 128 | | | HIGHLY_RECOMMENDED |
| ○ | MXQBCE | DSN6SPRM | | | 1023 | = | 1023 | | | HIGHLY_RECOMMENDED |
| ○ | NPGTHRSH | DSN6SPRM | | | 10 | = | 10 | | | HIGHLY_RECOMMENDED |
| ○ | NUMLKTS | DSN6SPRM | DSNTIPJ | LOCKS PER TABLE(SPACE) | 1000000 | = | 1000000 | | | HIGHLY_RECOMMENDED |
| ○ | NUMLKUS | DSN6SPRM | DSNTIPJ | LOCKS PER USER | 2097152 | = | 2097152 | | | HIGHLY_RECOMMENDED |
| ○ | RRF | DSN6SPRM | DSNTIP7 | REORDERED ROW FORMAT | DISABLE | = | DISABLE | | | HIGHLY_RECOMMENDED |
| ○ | SJTABLES | DSN6SPRM | | | 4 | = | 4 | | | HIGHLY_RECOMMENDED |
| ○ | STARJOIN | DSN6SPRM | DSNTIP8 | STAR JOIN QUERIES | 2 | = | 2 | | | HIGHLY_RECOMMENDED |
| ○ | TBSBPLOB | DSN6SYSP | DSNTIP1 | DEFAULT BUFFER POOL FOR LOB DATA | BP40 | = | BP40 | | | HIGHLY_RECOMMENDED |
| ○ | TBSBPOOL | DSN6SYSP | DSNTIP1 | DEFAULT BUFFER POOL FOR USER DATA | BP2 | = | BP2 | | | HIGHLY_RECOMMENDED |
| ○ | TSQTY | DSN6SYSP | DSNTIP7 | TABLE SPACE ALLOCATION | 144 | = | 144 | | | HIGHLY_RECOMMENDED |
| ○ | ACCUMACC | DSN6SYSP | DSNTIPN | DDF-RRSAF ACCUM | 5 | = | 5 | = | 6 | RECOMMENDED |
| ○ | ACCUMUID | DSN6SYSP | DSNTIPN | AGGREGATION FIELDS | 11 | = | 11 | | | RECOMMENDED |
| ○ | CACHEDYN_FREELOCAL | DSN6SPRM | | | 1 | = | 1 | | | RECOMMENDED |
| ○ | CHKFREQ | DSN6SYSP | DSNTIPL1 | RECORDS\CHECKPOINT | 2 | = | 2 | | | RECOMMENDED |
| ○ | DDF | DSN6FAC | DSNTIPR | DDF STARTUP OPTION | AUTO | = | AUTO | | | RECOMMENDED |
| ○ | DSMAX | DSN6SPRM | DSNTIPC | MAXIMUM OPEN DATA SETS | 20000 | = | 20000 | | | RECOMMENDED |
| ○ | EDMSTMTC | DSN6SPRM | DSNTIPC | EDM STATEMENT CACHE | 300000 | = | 300000 | | | RECOMMENDED |
| ○ | EN_PJSJ | DSN6SPRM | | | ON | = | ON | | | RECOMMENDED |
| ○ | LBACKOUT | DSN6SYSP | DSNTIPL1 | LIMIT BACKOUT | NO | = | NO | | | RECOMMENDED |

33

# New DB2 10 DBA Privileges

- Minimize use of SYSADM authorization

- New system administrative authorizations:

    – `SECADM`

    – `System DBADM`

    – `DATAACCESS`

    – `ACCESSCTRL`

    – `SQLADM`

    – `EXPLAIN`

- Based on business security policies, specific authorities
  can be granted

    – Different authorizations dedicated to certain roles

- Better compliance with customer specific security regulations

- With DB2 10, you can revoke SYSADM authorization from a user ID using the
  new `NOT INCLUDING DEPENDENT PRIVILEGES` clause

    – Preserves dependent privileges that other user IDs hold

# Thank You!
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  - Any SmartSite kiosk onsite

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# SAP Online Forums

- SAP Community Network (SDN)

  - https://www.sdn.sap.com/irj/sdn/db2

  - Knowledge center

  - Forums

  - Platform and Technology Information Center

  - IBM System z: Application server strategy and FAQ

  - SAP Enterprise Services Architecture and SAP NetWeaver on IBM System z

Recommended SDN article:
"SAP on DB2 10 for z/OS - Being More Productive, Reducing Costs and Improving Performance"

# SAP Online Forums cont.

- SAP Service Marketplace (SMP)

  - http://service.sap.com

  - Documentation for SAP on System z

  - Patch download

  - SAP Notes

    - http://service.sap.com/notes

    - SAP Note search

      - Application Area: BC-DB-DB2

  - SAP Best Practices

    - http://service.sap.com/SolutionmanagerBP

    - Best Practices for Solution Operations

    - SAP on IBM DB2 UDB for OS/390 and z/OS

    - Best Practices for Installing or Migrating to DB2 V8, 9 & 10
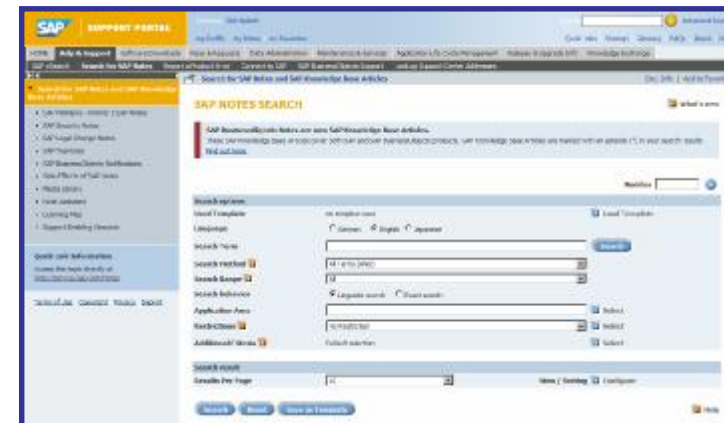
# Important SAP notes for DB2 10

**DB2**

**SAP**

**DB2**

**1528309**

**Migration to DB2 10**
- Migration Guide

**81737**

**APAR list**
- DB2 10 PTFs
- z/OS PTFs

**1476146**

**Installation parameter settings**

**1540498**

**OEM Installation**

**1452370**

**Release of SAP Components**

**1486360**

**Readiness check**

**183311**

**PTF check tool**

**1480594**

**Prereqs & preparations**
- Limitations
- Kernel Patches
- Support Packages
- ABAP corrections

**1500074**

**Installation & system copy**

**1543292**

**ICNV enhancements**

# Information Management Communities

- **On-line communities, User Groups, Technical Forums, Blogs, Social networks, and more**

  – Find the community that interests you…

    - **World of DB2 for z/OS** http://db2forzos.ning.com/
    - **Information Management ibm.com**/software/data/community
    - **Business Analytics ibm.com**/software/analytics/community
    - **International DB2 User Group** www.idug.org

- **IBM Champions**

  – Recognizing individuals who have made the most outstanding contributions to Information Management, Business Analytics, and Enterprise Content Management communities

    - **ibm.com**/champion

# Useful DB2 for z/OS URLs

- **DB2 10 Launch Website** ➡️ http://bit.ly/DB210Launch

- **DB2 for z/OS Website** ➡️ http://www-01.ibm.com/software/data/db2/zos/

- **DB2 Product Library** ➡️ http://www.ibm.com/software/data/db2/zos/library.html

- **DB2 Newsletter** ➡️ http://www.ibm.com/vrm/newsletter/11065

- **Latest Whitepapers**

  – Business Value of DB2 10  – Julian Stuhler

  – A Matter of Time: Temporal Data Management

  – Why DB2 for z/OS is BETTER than Oracle RAC ?

- **DB2 for z/OS e-Kit**

- **Upcoming Conferences/Events** ➡️ http://bit.ly/DB210e-Kit

  – **IDUG DB2 Tech Conference EMEA Prague** - 13th -18th Nov 2011

  – **DB2 10 Migration Planning Workshop Prague** - 13th November 2011

  – **IDUG DB2 Tech Conference AG    Denver** - 14th -16th  May 2012

  – **IDUG 10 Migration Planning Workshop Denver** - 13th May 2012

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# Top DB2 for z/OS e-Communities

§ **World of DB2 for z/OS  - 1700+ members**  →  http://db2forzos.ning.com/

§ **DB2 10 LinkedIn  - 1000+ members**  →  http://linkd.in/IBMDB210

§ **DB2 for z/OS What's On LinkedIn – 2000+ members**  http://linkd.in/kd05LH

§ **DB2 for z/OS YouTube**  →  http://www.youtube.com/user/IBMDB2forzOS

§ **WW IDUG LinkedIn Group  - 2000 +members**  http://linkd.in/IDUGLinkedIn

§ **IBM DeveloperWorks**  →  http://www.ibm.com/developerworks/data/community/

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# DB2 10 is Here !
## Customers seeing reduced costs, simplified workloads through proven technology

| Reduced Costs | Simplified Workloads | Proven Technology |
|---|---|---|
| "Based on the performance metrics from our controlled test environment, we see a significant amount of CPU and Elapsed time savings. This release has many features that will help bring down our operating costs."<br><br>**Morgan Stanley DB2 Team** | "With DB2 10 able to handle 5-10 times as many threads as the previous version, the upgrade will immediately give the bank some much-needed room for future workload growth while simultaneously reducing their data sharing overhead."<br><br>**Paulo Sahadi - Senior Production Manager, Information Management Division at Banco do Brasil** | "Every single SQL statement we have tested has been better or the same as our current optimal paths – we have yet to see any significant access path regression. We had to spend a lot of time tuning SQL with DB2 9, but we expect that to disappear when we upgrade to DB2 10."<br><br>**Philipp Nowak,**<br><br>**BMW DB2 Product Manager** |
| "We are particularly interested in the performance improvements due to the potential CPU reductions that we realized during our DB2 10 Beta testing. Our early testing has shown out-of-the-box processing cost reductions of between 5% - 10% and for some workloads as high as 30%. Potential cost savings of this magnitude cannot be ignored given today's business climate."<br><br>**Large Global Bank** | "The new temporal functionality in DB2 10 for z/OS will allow us to drastically simplify **our date-related queries. In addition, we'll be able to** reduce our storage costs **by using cheaper storage for inactive rows and reduce our processing cost by having DB2 handle data movement more efficiently than the custom code we've written to do the same work in the past"**<br><br>**Large Insurance Company** | The new audit capabilities in DB2 10 will allow tables to be audited as soon as they are created, which is an obvious benefit for the business and will reduce costs and simplify our processes"<br><br>**Guenter Schinkel -Postbank Systems AG** |

*For more customer references visit : http://www.ibm.com/software/data/db2/zos/testimonials.html*

42

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# Acknowledgements and Disclaimers:

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