HONDA

The Power of Dreams

Information Systems Center

GSE DB2V10 migration experiences

15/03/2012

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Agenda

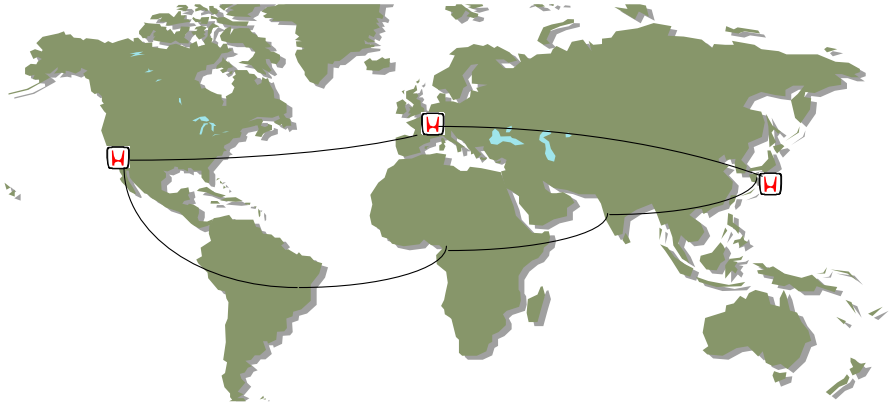
- Who are we?
- DB2V10 – planning : where are we?
- DB2V10 experiences
- Questions and answers

INFORMATION SYSTEMS CENTER

HE-IS

- Strongly secured European computer center of Honda Europe
  - more than 150 information specialists
    - professional design
    - development
    - support

    of innovative applications



- A whole range of computers
  - Smooth process of stored data
- Extended European network
  - Thousands users
    - Placing orders
    - Information consulting and processing
- Guarantee on-time delivery of services by optimisation of
  - System availability
  - Processing speed
  - Storage capacity

Honda in Europe

(Business Units with ISD underlined)

Also:-
HME Russia (Since 81ki)
HDB Dubai
HSA South Africa

HME-Norway RO

HME-Finland RO

HME-N / EH HME-North (Honda Germany)
HRE-G Honda R&D Germany
HLC-D Honda LC Germany
HBD Honda Bank

HPES Honda Power Equipment Sweden
SVH Svenska (NORDIC) Honda

HME Honda Motor Europe
HUK Honda UK
HUM Honda UK Manufacturing
HRE-UK Honda R&D Europe (UK)
HT Honda Trading Europe
HEGE Honda Engineering Europe
HLC-UK Honda Logistics Centre UK
HFE Honda Finance Europe

HME-Baltic RO

HPL Honda Poland

HNL Honda Netherlands

HCR Honda Czech Rep
HSL Honda Slovakia

HME-Denmark RO

BH Honda Belgium
HE Honda Europe
HFB Honda Foundary
HAC Honda Access Europe

HAG Honda Austria
HLC-A Honda Logistics Centre Austria

HME-S / FH HME South (Honda France)
HEPE **Honda Europe PE**
PMTC Peugot Motorcycles

HHG Honda Hungary

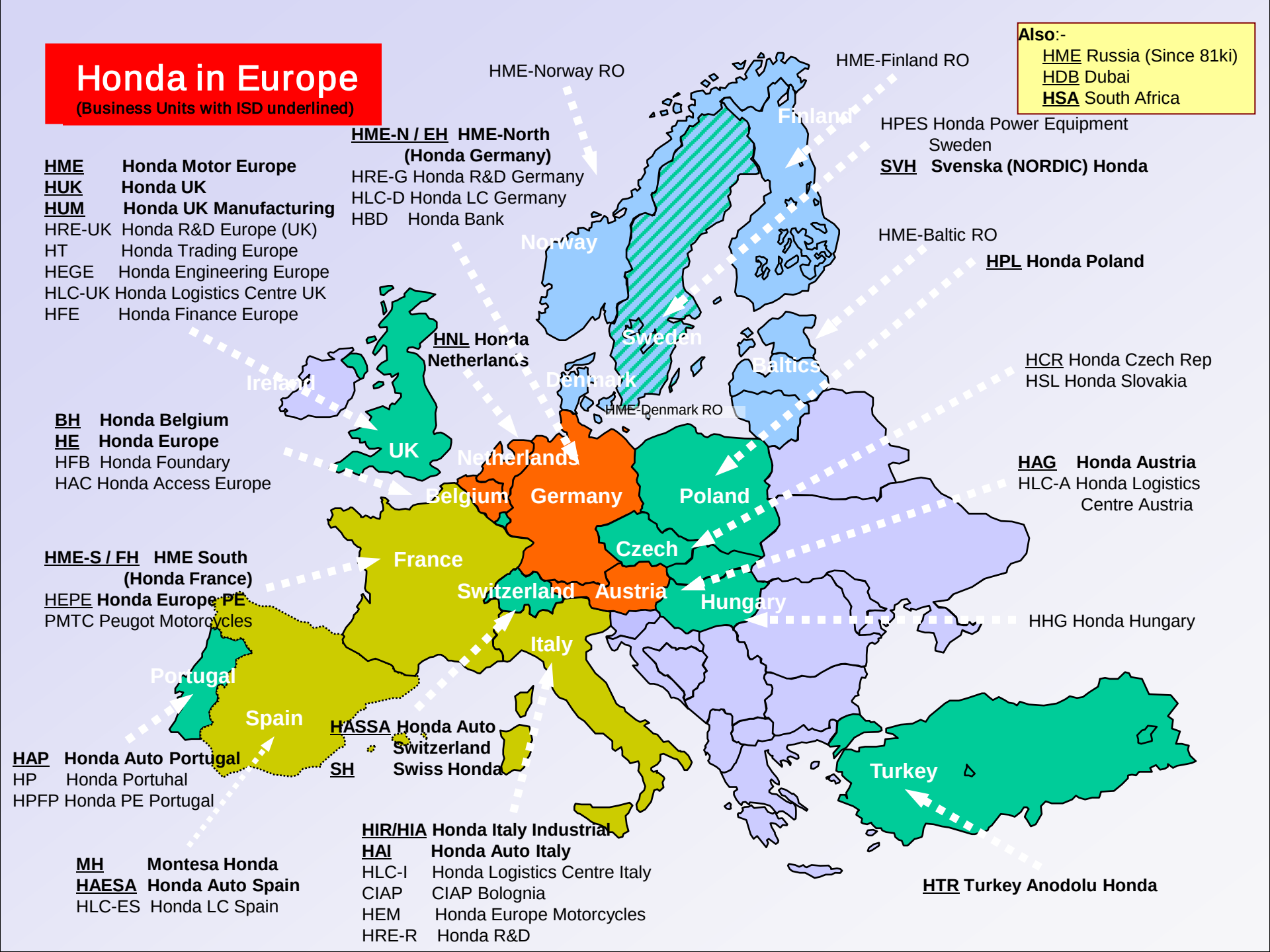
HAP Honda Auto Portugal
HP Honda Portuhal
HPFP Honda PE Portugal

HASSA Honda Auto Switzerland
SH Swiss Honda

MH Montesa Honda
HAESA Honda Auto Spain
HLC-ES Honda LC Spain

HIR/HIA Honda Italy Industrial
HAI Honda Auto Italy
HLC-I Honda Logistics Centre Italy
CIAP CIAP Bolognia
HEM Honda Europe Motorcycles
HRE-R Honda R&D

HTR Turkey Anodolu Honda



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MAIN BUSINESS APPLICATIONS

- **PARTS**
  Process and delivery of 50.000 order per day

- **CAR**

  Process and delivery of 170.000 units per year

- **MC/PE**

  Motor Cycle/Power Equipment

  Stock control and delivery of
  800.000 units per year

- **EEC**

  Sales industrial engines
  1.000.000 units per year

INFORMATION SYSTEMS CENTER

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FIGURES

• Built premises	3500 m²
• IT associates	> 150
• Direct charged customers	50
Storage	18 Terabytes
• Servers online	+/- 300
• Transaction/day	> 1,5 Million
• Batch jobs/night	> 9.000
• Back up tapes/day	+/- 100
• Helpdesk Calls/month	> 1.600
• Operational	24h/7 days

IBM servers
(Z-Series, P-Series, I-Series, X-Series)

- ISO 9001:2000 certificate renewed for Data Center (February 2012)

DB2 architecture

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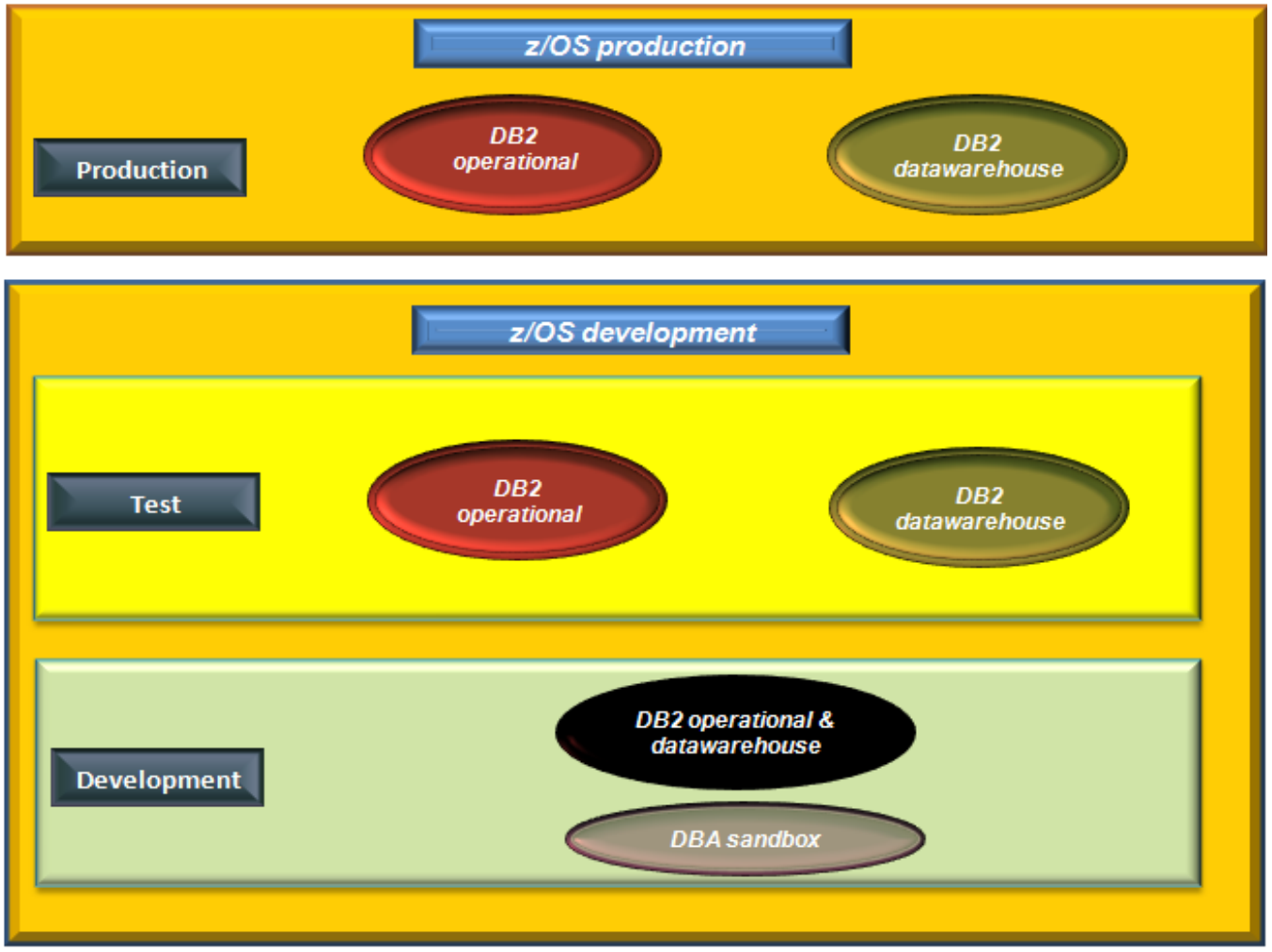

Availability of the DB2 system : 7d/7d – 24h/24h

DB2 workload.

- Static SQL
  - COBOL(CICS transactions,batch)
- Dynamic SQL
  - JAVA (WAS) transactions
  - ETL process
    - (Ab Initio, DB2/LUW stored procs via Nicknames)
  - Query tools (BO, QMF, Microstrategy…)

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Impact analysis/prerequisites

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- We migrated to V9 in March 2010.
- Modifications in V9.
  - DSN1COPY and FASTSWITCH=YES (TS dataset name change)
  - Page fixing.
  - Buffer increase.
  - Memory increase on DB2 utility jobs (regionsize=0M)
  - Optimize for 1 row tuning added to solve performance problems
  - Increase usage of ZIIP processor

Impact analysis/prerequisites

HE-IS

• A lot of prerequisites have to be fulfilled in all environments before the upgrade can start.

- Install latest PTF maintenance for V9.

- Compatibility with V8 software (1 version up, 2 down is supported)
- QMF for Windows V8 works with DB2V10
  - upgrade to QMF for Windows V9
  - different look and feel -> education needed.

• DB2V8 clients: we removed this version on servers and PC's, but V8 client still worked on V10.

• WLM environment: new WLM environment set up needed for switch over.

• Catalogue and directory : must have extended addressability (SMS setting)

Impact analysis/prerequisites

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- Run the delivered program DSNTIJPA to get a list of prerequisites:

- Convert Simple TS to segmented/universal TS
- Change ZPARM PRIVATE_PROTOCOL (OK after PTF): NO or AUTH
- Change ZPARM DSCVI from NO to Yes.
- Rebind or free packages bound prior to V7.
- Rebind or free packages that use DBPROTOCOL(PRIVATE).
- Convert plans to DRDA protocol.
- Convert EBCDIC explain tables to Unicode.
- Rebind PLANS with acquire (USE).

Scope

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- In scope : upgrade of

  - DB2 for z/OS to Version 10
  - BMC Change Manager to Version 10.1 (prerequisite)
  - QMF for z/OS V10

Installation procedure/fallback plan

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- Migration to DB2V10 will be done in 3 phases :

- **Phase 1 - Conversion mode (CM)**

- Perform tests to make sure that all applications run without problems with the new version. Fallback to V9 is allowed

- **Phase2 – Enable new function mode (ENFM)**

- Update of the DB2 catalog (new columns, no. of TS from 30 -> 95)

- No fallback to V9 possible anymore

- **Phase 3 – New function mode (NFM)**

- New DB2V10 functions are available

Project high level schedule

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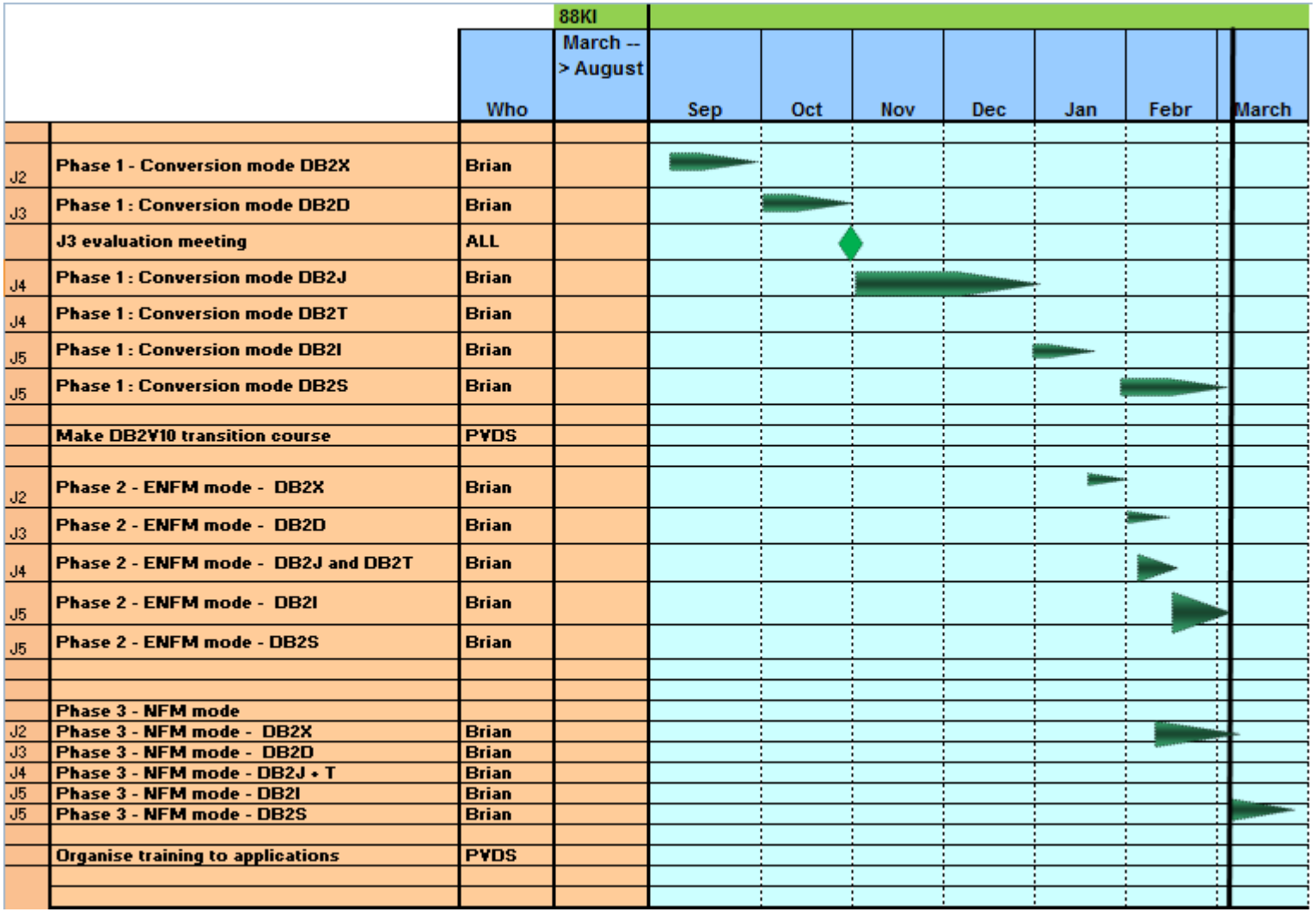

		Who	88KI March -- > August	Sep	Oct	Nov	Dec	Jan	Febr	March
J2	Phase 1 - Conversion mode DB2X	Brian								
J3	Phase 1 : Conversion mode DB2D	Brian								
	J3 evaluation meeting	ALL								
J4	Phase 1 : Conversion mode DB2J	Brian								
J4	Phase 1 : Conversion mode DB2T	Brian								
J5	Phase 1 : Conversion mode DB2I	Brian								
J5	Phase 1 : Conversion mode DB2S	Brian								
	Make DB2V10 transition course	PYDS								
J2	Phase 2 - ENFM mode - DB2X	Brian								
J3	Phase 2 - ENFM mode - DB2D	Brian								
J4	Phase 2 - ENFM mode - DB2J and DB2T	Brian								
J5	Phase 2 - ENFM mode - DB2I	Brian								
J5	Phase 2 - ENFM mode - DB2S	Brian								
	Phase 3 - NFM mode									
J2	Phase 3 - NFM mode - DB2X	Brian								
J3	Phase 3 - NFM mode - DB2D	Brian								
J4	Phase 3 - NFM mode - DB2J + T	Brian								
J5	Phase 3 - NFM mode - DB2I	Brian								
J5	Phase 3 - NFM mode - DB2S	Brian								
	Organise training to applications	PYDS								

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  - Phase 1 - Conversion mode
  - Phase 2 – Enable new function mode
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DB2V10 migration experiences – phase1

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After migration

- Rebind immediately:
  - REBIND PACKAGE (collid.packname.(version))- EXPLAIN(YES) APREUSE APCOMPARE(ERROR)

    About 30 % of the packages would take another access path.

- Locking problems.
  - Deadlocks and timeouts.
  - Rebind in V10 solved most of the problems.
  - Remove optimize for 1 row that we added in the migration from 8 to 9.
- DB2 System Abend

  Related to DGTT (Declared Global Temporary Table).

  Solved by very recent PTFs January 2012.

  (UK75394,PM42645 UK73076)
- Recursive SQL is not working in some specific cases.
- Increased usage of ZIIP (average from 7 to 9%, maximum up to 75%)

DB2V10 migration experiences – phase1

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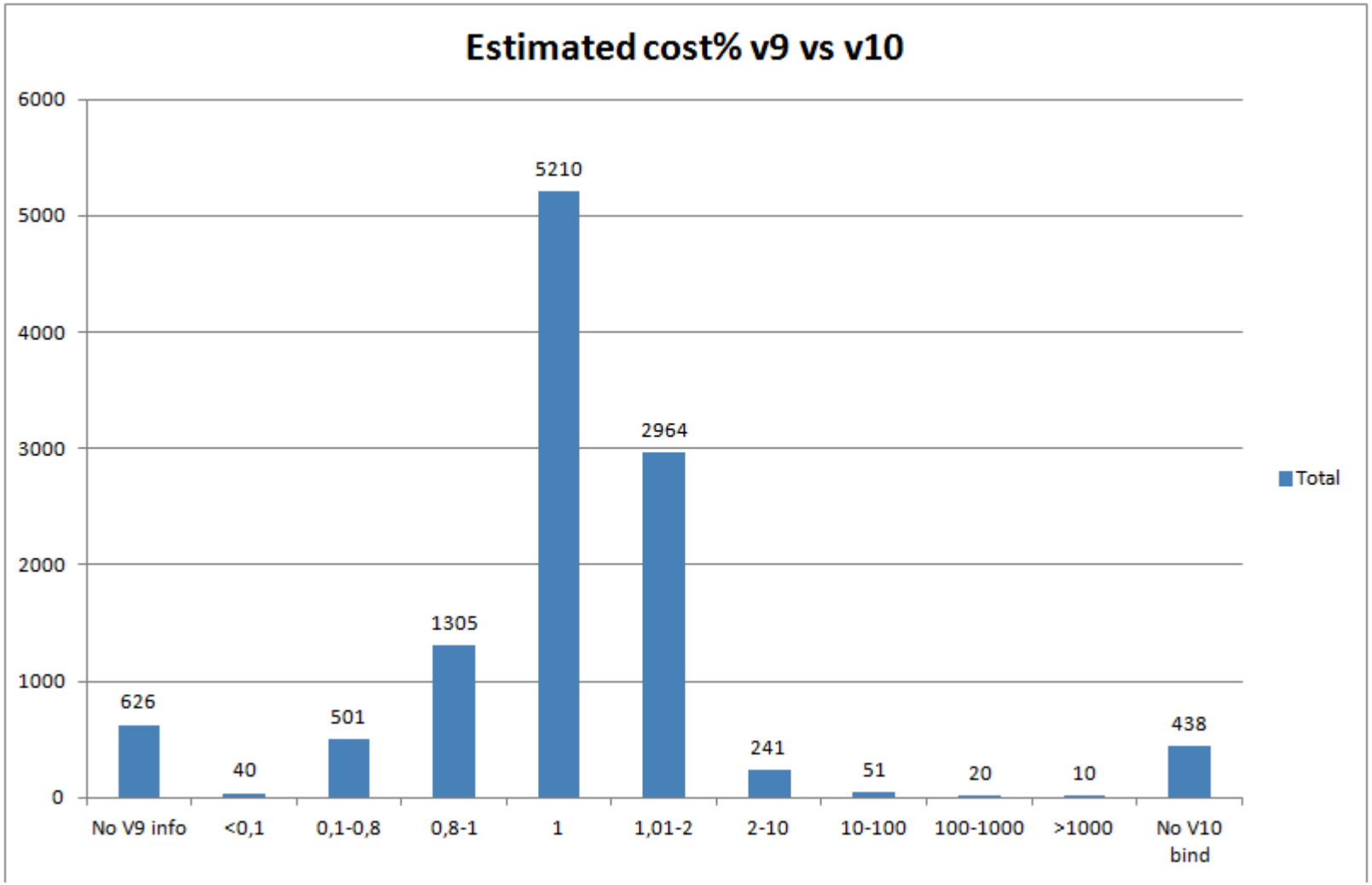
After migration



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***During migration to* ENFM**

- Space on SPT01 during conversion.
  - SPT01 is now a CLOB (no compression).
  - Space is increased by 5 after migration job.
  - Reorg brings it back to the original size.

- Recommendation:
  - Reorg SPT01 immediately after migration.

DB2V10 migration experiences – phase2

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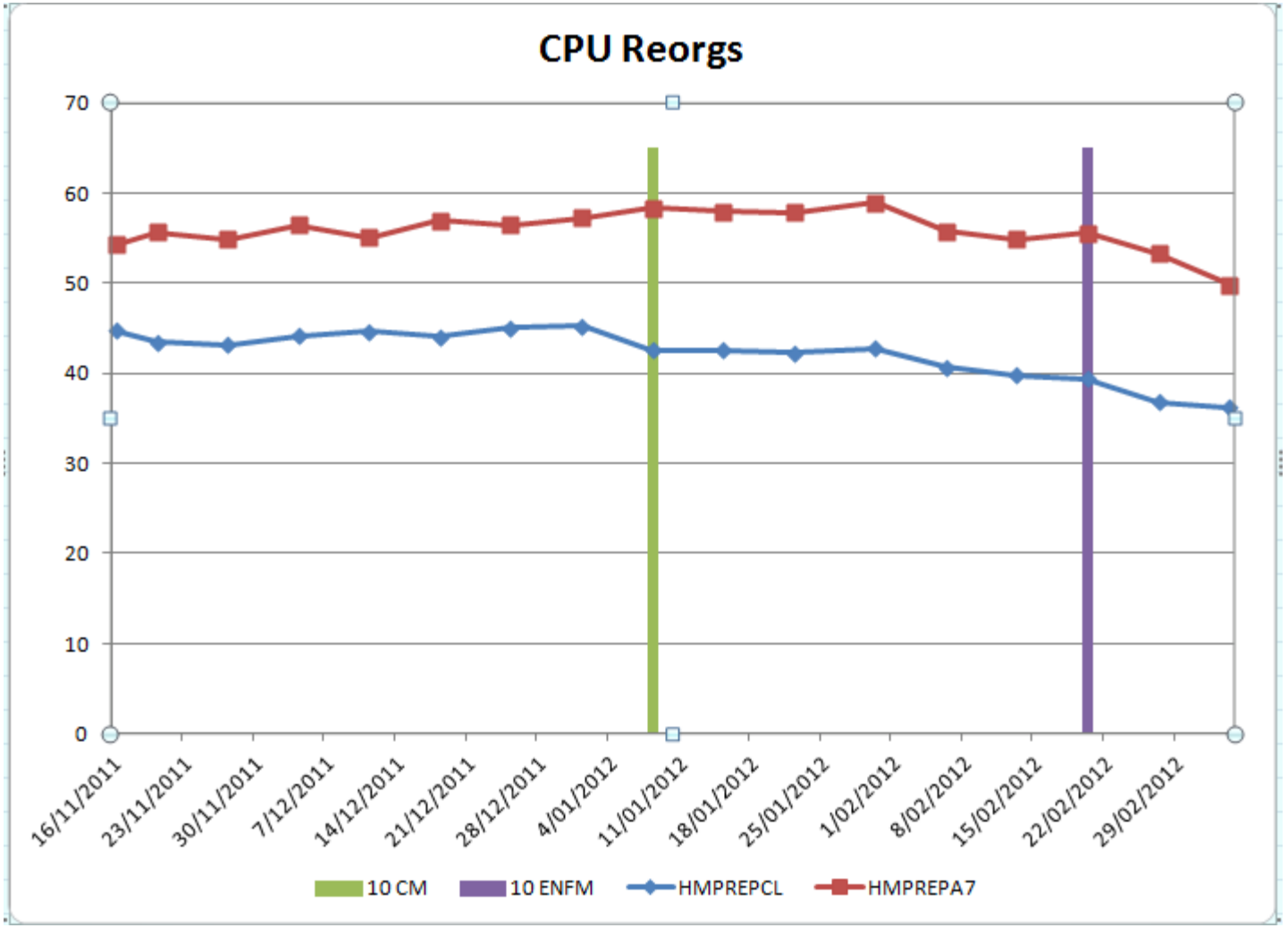
After migration



DB2V10 migration experiences – Plans

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***Production migration to* NFM**

Weekend March 17th/18th.

***After migration to* NFM**

- New PTF Cycle.
  - Install all PTF's since the beginning of the project (September 2011).
- DSNDB07.
  - Convert DSNDB07 to PBG(partitioned by growth).
- Security.
  - Revoke old sysadms. (no cascade).
- DML.
  - Include columns on unique indexes.

It's QUESTION TIME!!

Thanks for your attention