

Revolution through Evolution

Ippokratis Pandis

HPTS 2013

3 highlights of past CIDRs/HPTSSs

Don't go to IBM Research. There are a bunch of **semi-retired** old farts (that I love dearly) that have **no impact**.

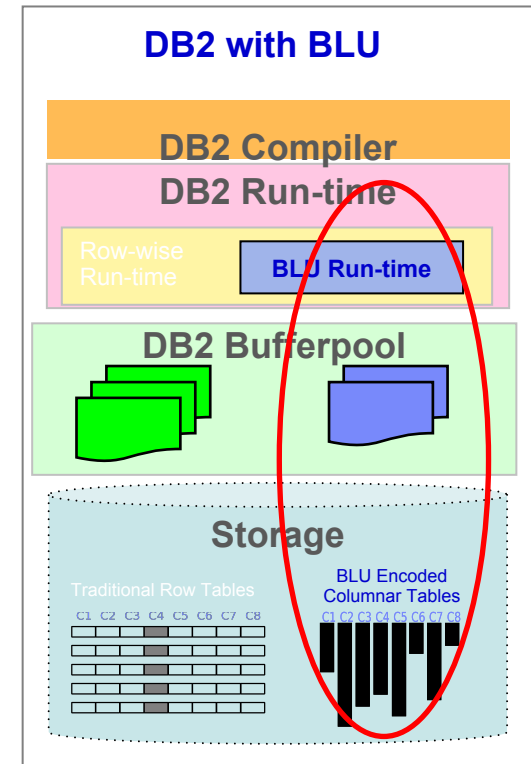


All **elephants** are extremely **slow**. You **cannot** make an elephant dance.

One size **does not fit all**. Need specialized OLAP & OLTP systems (buy my start-up)

Revolution -- BLU Acceleration

- **Column-store (in) DB2 LUW**
 - Built directly into the DB2 kernel
 - BLU tables coexist with row tables, in same schema, tablespaces, BPs
 - Query any combination of BLU or row data
- **DB2 LUW v10.5 with BLU Acceleration GA'ed June 2013**
- **Frequency-based order-preserving dictionary encoding**
 - Values packed for vectorized execution
- **Complete new run-time**
 - Operations on encoded (compressed) data
 - Join / Group By / Predicates, even range



*Column-store (in)
DB2 LUW*

What BLU Acceleration is **NOT**


- **It is NOT a main-memory only accelerator!**
 - Optimized for main-memory execution
 - Data reside on persistent storage
 - Minimized I/O stalls
 - Synopsis index to fetch less data
 - Updated buffer pool policy
 - Aggressive prefetching
 - Sophisticated spilling, reduced intermediate results
- **It is NOT read-only**
 - UPDATE, DELETE and INSERT with DB2's common isolation levels
 - No staging row-wise front-end
- **It is NOT difficult to setup/tune**
 - Scan-based, no tuning needed, no indexes or materialized views

Evolution -- Leveraging mature technology

- Optimizer & query rewriter
- Buffer pool
- Workload management
- High availability and recovery
- Utilities
- Tools
- ... the entire DB2 eco-system

Full-fledged product that it is deeply integrated with DB2


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**DB2 LUW v10.5 with
BLU Acceleration**



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