

III. Scalability

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1

Virtual Storage Constraint Relief

- Over the years, virtual storage usage has grown dramatically in DB2's DBM1 address space.
- This storage growth has been driven by increased workloads, new functions, and larger real storage being available on mainframe processors.
- The latter, in particular, has allowed customers to run workloads that in the past would have been limited by paging overhead .

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2

Major Memory Consumers

- Thread Storage: System and User.
- VSAM data set control blocks.
- Compression dictionaries.
- Buffer pools.

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Memory Solution

- The solution consists of three parts:
 - 64-bit capable hardware (zSeries)
 - 64-bit capable operating system
 - 64-bit real storage support (OS/390 V2R10 and above)
 - 64-bit virtual storage support (z/OS 1.2 and above)
 - 64-bit capable subsystems (DB2 for z/OS Version 8)

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Large Real Memory Support

- All DB2 versions can benefit from larger real memory support. With more real storage available on a single LPAR, it may be worthwhile to consider consolidating LPARs, or start taking advantage of using the larger amounts of real storage that is available. This is done by resizing the buffer pools.
- However, it may also be a sound decision to re-evaluate how DB2 uses its buffer pool storage:
 - virtual pools versus
 - hiperpools versus
 - data space buffer pools.

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Dynamic Statement Cache

- In V8, storage for the dynamic statement cache is always allocated (at least 5 MB), and no longer related to whether CACHEDYN is YES or NO.
- This is because the CACHEDYN DSNZPARM is online changeable in V8, and DB2 needs an initial size to be allocated at startup time to allow the size to be changed online.

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Storing the DBDs

- In V8, almost all of the storage related to managing DBDs is allocated above the 2 GB bar.
- This gives the DBDs the space required to grow and relieves contention with other objects in the EDM pool.

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Storage for Plans and Packages

- Plans and packages (SKCT, CT, SKPT, and PT) are the only things that are stored in the EDM pool.

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8