Saving MSUs with Db2 buffer pools tuning

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1 Introduction

The amount of available mainframe memory continues to increase with every new IBM machine generation as well as the amount of memory supported by the latest z/OS releases. Up to 64 TB memory can be installed in IBM z17 while z/OS 3.2 will support up to 16 TB in a single LPAR.

Large amounts of memory allow the full exploitation of the many available DIM (Data In Memory) techniques.

Maintaining data in memory has two major advantages:

- it improves performance by avoiding the delay caused by I/O operations;
- it eliminates the CPU consumption needed to perform I/O operations.

This is particularly important for workloads that access Db2 buffer pools. Therefore, in this document, we will focus on the potential MSU savings achievable by leveraging the following optimizations offered by current versions of Db2:

- Exploit buffer pool page fixing;
- Exploit buffer pool large frames;
- Reduce buffer pool I/O;
- Use in-memory buffer pools.