

## Real memory usage by address space

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### 1 Introduction

The availability of real memory on Z systems has greatly increased in recent years.

z/OS 2.5 and 3.1 supports a limit of 16 TB of real memory per logical partition. Up to 40 TB are supported on z16 (3931) machines.

At the same time, the amount of real memory requested by z/OS applications has also increased a lot; for this reason, real memory availability is still a critical factor for application performance.

If real memory is constrained, paging may occur with negative impact on applications. In fact, when an application gets a page fault, it has to stop and wait for the needed page to be loaded in real memory.

If enough real memory is available subsystems and applications may exploit Data-In-Memory (DIM) techniques to avoid, as much as possible, I/O operations with positive effects both on application performance and CPU consumptions.

Exhaustive measurements are available at system level in SMF 71.

Some information is also available in SMF 72 but it can only be used to estimate SC and RC real memory usage.

For many years it was not possible to get information about address space real memory usage in SMF. Finally, in z/OS 3.1, IBM introduced some metrics which allow us to estimate the real memory usage of each address space.

In this paper we will discuss these metrics by showing examples of reports you can create to understand who the real memory top users are.