EPV Technologies

Newsletter

April 2025

THIS MONTH HIGHLIGHTS

- **Real memory usage by address space**
- **EPV Next Generation 2025**
- **IBM z17 announcement**

Real memory usage by address space

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.

If you want to receive this paper, you can reply to this e-mail writing **"Real memory usage by address space"** *in the subject.*

EPV Next Generation 2025

The EPV product suite continues to evolve, introducing new products and technologies.
In this virtual conference, we will focus on the latest and greatest.

It will be held on May 20 and will be repeated on May 22, 2025.
It is reserved for EPV customers, partners and invited guests.

Subscription form available at: www.epvtech.com

IBM z17 announcement

“Today IBM is announcing the IBM z17, a major evolution of the iconic, fully integrated system with new AI capabilities across hardware, software and systems operations. Powered by the new IBM Telum II processor, z17 expands the system’s capabilities beyond transactional AI capabilities, enabling the platform to take on new workloads without additional infrastructure expenses.
The AI+ era is enabling new opportunities, competitive advantage and growth; however, it can place significant demands on your IT.
IBM z17 is designed collaboratively with clients to enable AI where it matters most to drive efficiency, innovation, and better business outcomes. Leverage AI to not only grow your business but to optimize and secure your infrastructure…”

Complete announcement
at: https://www.ibm.com/docs/en/announcements/z17-makes-more-possible

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Customer question

In some sporadic cases, we found that the Buffer Pool Hit ratio is negative.
Can you explain that or is it just a bug in EPV?

EPV Technical Support answer

Buffer Pool Hit ratio is calculated with this formula:

hit ratio = (getpages – (synchronous pages read + pre-fetch pages red)) / getpages

Unfortunately, the result can be negative in some situations.

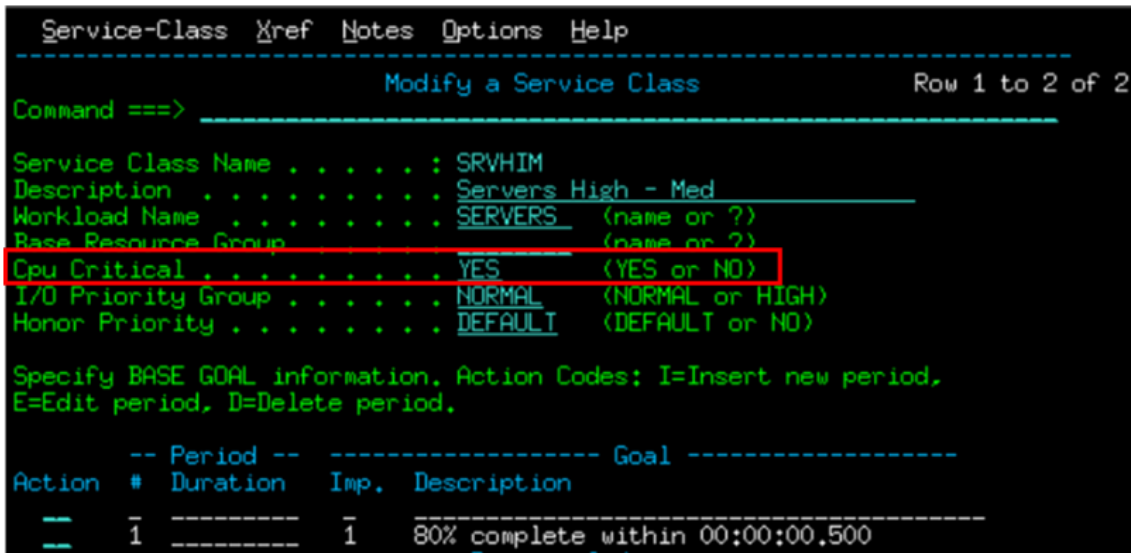
It may happen that prefetch has brought pages into the buffer pool that are not subsequently referenced. The pages are not referenced because either the query stops before it reaches the end of the table space or Db2 must take the pages away to make room for newer ones before the query can access them.

Long Term CPU protection

Without long-term CPU protection it is possible that work in service classes of lower importance gets a higher dispatch priority than work of higher importance.

It may happen, for example, when work of higher importance has exceeded its goal definition while work at lower importance has not met its goal.
This may cause CPU constraints for your business-critical work.

You can prevent this by specifying the CPU-critical option in the WLM policy for your CPU-sensitive work.

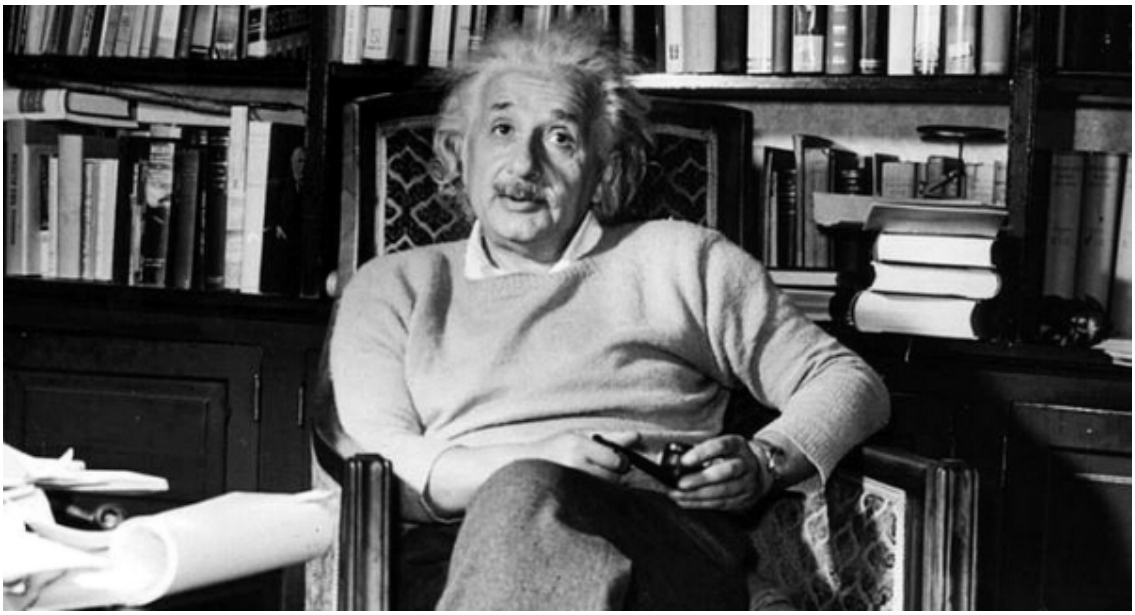


from https://www.ibm.com/docs/en/zos/3.1.0?topic=rules-defining-recovery-process-boost-middleware-recycle

You can assign CPU protection to a service class having only one period, but it cannot have a discretionary goal.

If a CICS or IMS region is managed as a server by WLM (managed to the response time goals of the transactions it serves) and any of the transaction service classes it serves is assigned CPU protection, then the CICS/IMS region itself is automatically CPU-protected by WLM.

Quotes



"Time is relative; its only worth depends upon what we do as it is passing."
Albert Einstein

We care about your Privacy. EPV Technologies is GDPR-compliant.

You may have heard about the new General Data Protection Regulation ("GDPR"), that comes into effect May 25, 2018.
It was introduced to unify all EU countries to a unique data regulation, ensuring that all data protection laws are applied identically within the EU.
It also protects EU citizens from organisations using their data irresponsibly and puts them in charge of "what", "where" and "how" information is shared.

To see our Privacy Policy click here
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