EPV Technologies

Newsletter

November 2025

THIS MONTH HIGHLIGHTS

- **EPV User Group 2025 report**
- **The evolution of I/O in z17**

EPV User Group 2025 report

The XXIII EPV User Group has been held on 10th of November and repeated on the 11th.
It has been a great success with the participation of more than 100 people, representing 35 companies from 10 different countries.

This year we had 2 tutorial sessions, 3 user presentations, 5 EPV products presentations and 1 session providing a technical update on the z17 “hot” topic.

A link to download the pdf of all the presentations has been sent to all participants.

The evolution of I/O in z17

One of the major strengths of mainframes is the capability to handle massive amounts of data and process billions of transactions daily. These transactions require a huge number of I/O operations which should be performed as quick as possible.

With the explosion of new applications based on AI it is expected that the amount of I/Os to handle will increase dramatically. This is the reason why, in developing the z17 machines, IBM engineers focused on reducing the I/O bottlenecks in mainframe throughput.

To improve I/O throughput, a brand-new Data Processing Unit (DPU) for I/O Acceleration, integrated within the Telum II chip, has been introduced.
The DPU sits on the processor side of the PCI interface optimizing the latency between the processor and the I/O subsystem. It accelerates complex IO protocols for networking and storage, simplifying system operations and improving performance.

This evolution required a redesign of I/O operations and the introduction of new channel types.

In this paper, after a short overview of DPU characteristics, we will discuss the new metrics available in SMF records and the formulas to be used to calculate z17 channels utilization.
Finally, we will also explain how you can use them to calculate the utilization of the DPU.

If you want to receive this paper, you can reply to this e-mail writing **"The evolution of I/O in z17"** *in the subject.*

Customer question

We plan to install a z17 in the next months. To what I understood the calculation of channel path utilization must be updated.
Is that correct?

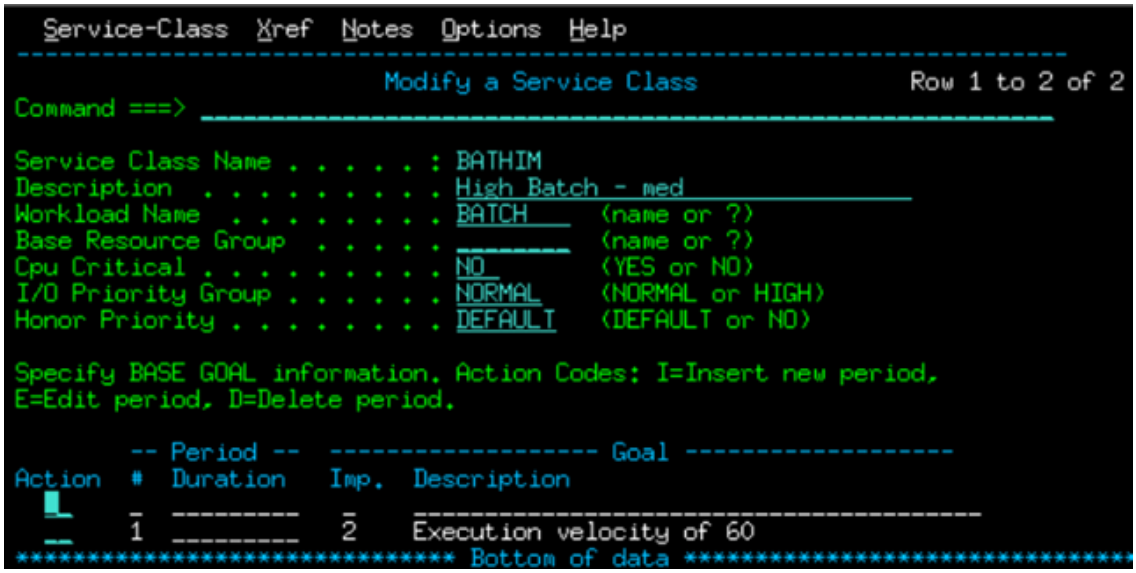
EPV Technical Support answer

It is correct.
With the introduction of the Data Processing Unit (DPU) in the z17 chip, new I/O adapter and Channel Measurement Groups (4 for FCP and OSH, 5 for FICON and HPF) must be used.
A complete set of new metrics has been introduced in SMF73 (SMF73G4* and SMF73G5* metrics).
So, channel processor and bus utilization must be calculated using these new metrics for z17 channels.

WLM importance - Honor Priority

By specifying NO in the Honor Priority field in the service class definition, you explicitly prevent the overflow of specialty engine (IBM z Integrated Information Processor, or zIIP) intensive work to general purpose processors

Please note that the Honor Priority option is insignificant for discretionary service classes since work that is classified to these service classes never gets help from general purpose processors.



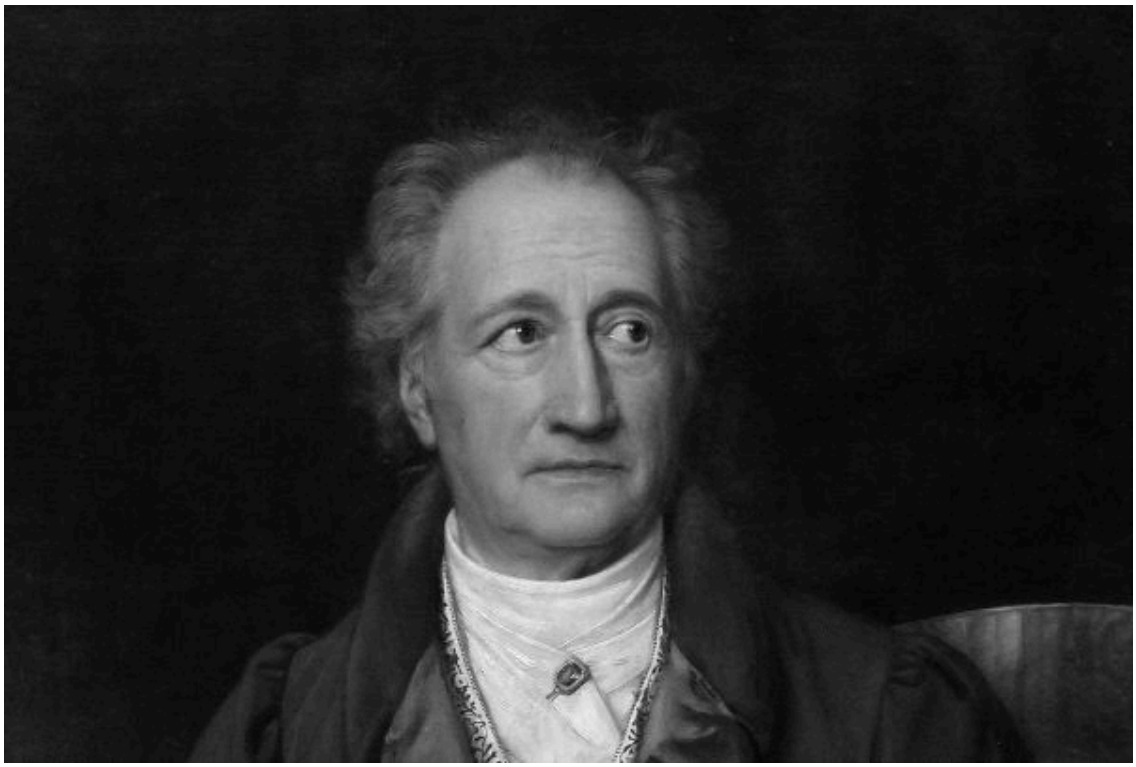
Possible values are:

DEFAULT
Current value of the IIPHONORPRIORITY parameter in the IEAOPTxx member of parmlib is used when there is insufficient capacity on zIIPs for the workload demand in the service class. Also for this parameter, this is the default value.

NO
Independent of the current value of the IIPHONORPRIORITY parameter in the IEAOPTxx member of parmlib, work in this service class is not allowed to overflow to standard processors when there is insufficient capacity on zIIPs for the workload demand in the service class. The only exception is if it is necessary to resolve contention of resources with general purpose processor work.

WARNING: If this parameter is set to NO, Db2 will no longer mark any load on MSTR and DBM1 as zIIP eligible, but it will only use the CPUs.

Quotes



"Doubt grows with knowledge."
Johann Wolfgang von Goethe

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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.

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