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Newsletter

February 2022

THIS MONTH HIGHLIGHTS

- Measuring z/OS Connect - Part 1
- EPV V16 – Products in Managed Availability
- IBM z Integrated Information Processor (zIIP) Exploiter List

Measuring z/OS Connect - Part 1

Cloud and mobile applications built on RESTful APIs, that use JSON message formats, are the predominant standards for new application development.

With z/OS Connect Enterprise Edition (z/OS Connect), IBM provides a framework that enables z/OS-based programs and data to play a fundamental role in an enterprise hybrid cloud strategy.

z/OS Connect allows z/OS resources (applications and data hosted in subsystems such as CICS, IMS, IBM MQ, and Db2) to be exposed as RESTful APIs.

Thanks to that, mobile and cloud application developers can incorporate z/OS

data and transactions into their applications without the need to understand z/OS subsystems.

At the same time, z/OS Connect provides the capability for CICS, IMS, and z/OS applications to access any RESTful endpoint, inside or outside z/OS, through RESTful APIs with JSON formatted messages.

In this paper, after a short overview of the z/OS Connect architecture, we will discuss what you need to do to measure z/OS Connect activity:

- from outside, by using “traditional” measurements provided by SMF 30 and 72 records,
- from inside, by using the new SMF 123 records.

*If you want to receive the paper you can reply to this e-mail writing "**Measuring z/OS Connect - Part 1**" in the subject*

EPV V16 – Products in Managed Availability

We are proud to announce that the following products are now in Managed Availability:

- EPV zParser V16
- EPV for z/OS V16
- EPV Graph for z/OS V16.

One of the most important new functions of all the products is the integration with the EPV Control Center. The EPV Control Center handles products and profiles customizations, updates, processes and services monitoring and many other functionalities. It replaces the old products customization GUI. It has been totally reengineered to move from a Perl desktop application to a web application using the Node.js engine and correlated web technologies. The new application is cross-platform, it can run not only in Windows environments but also on Linux and UNIX.

EPV zParser V16 fully supports z/OS 2.5, DCOLLECT 2.5, z/VM 7.2, CICS 5.6, Db2 12 FL 510, MQ 9.2, IMS 15.2

EPV for z/OS V16 provides the possibility to run driven Dynamic Queries. New views are provided for zEDC Accelerator, System Recovery Boost, zCX workloads and Address Space detailed information. New important usability functions such as scrollable rows and columns, breadcrumb navigation and incremental combo box search are provided.

EPV Graph for z/OS V16 provides new sets of graphs for zEDC Accelerator and zIIP eligible on CPU consumptions. All the graphs reporting information

about Memory Utilization and Page Fault Rate have been improved to provide more information and a better navigation.

IBM z Integrated Information Processor Exploiter (zIIP) List

The premise is that “This is a compilation of the known IBM software offerings that can exploit IBM zIIPs as of this time of writing and may not be totally inclusive.”

Anyway, it is useful information to know.

Document available at:

[IBM z Integrated Information Processor Exploiter \(zIIP\) List](#)



We have a question about how the MSU field is calculated for address spaces. For example, for job ISMD501I the EPV calculated value, for the used MSUs, is 30,4.

However, when we look at the job output produced by IEFACTRT exit, we see that job used about 45.364.780 service units.

If we take the CPU seconds used by the job (930) and multiply them by the service units rate for 3907-V03 we get $30 \times 48780 = 45.365.400$ which is very close to the IEFACTRT value.

Can you explain the difference with the EPV provided value?

EPV Technical Support answer

In your calculation you are using the HW service units while you should use the SW service units to calculate MSUs.

HW and SW service units or similar terms are often used worldwide to differentiate between the service units traditionally used for performance analysis and the service units used for software pricing.

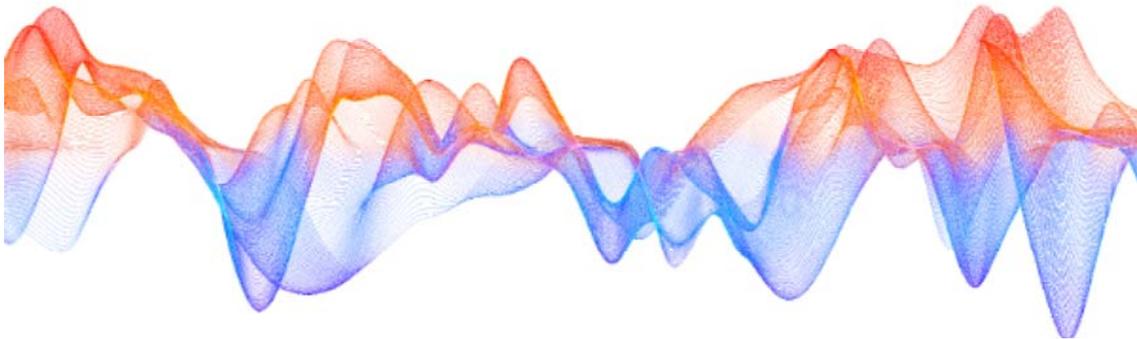
Keep also in mind that HW service units may be different for each LPAR in the machine because they also depend on the number of CPUs assigned while SW service units depends only on the machine model.

Anyway, we estimated the MSU used by the ISMD5011 job starting from the 3907-V03 capacity (353 MSUs) and using the following formula:

$$(930 \text{ sec} / 3600 \text{ sec}) * (353 \text{ MSU} / 3) = 30,4 \text{ MSU}$$

where the first factor gives the percentage of 1 CPU used and the second factor gives the capacity in MSU of 1 CPU.

Little known SMF parameters



EMPTYEXCPSEC

The EMPTYEXCPSEC parameter is included in the SMFPRMxx member of the system parmlib.

It specifies whether to suppress empty EXecute Channel Program (EXCP) entries in the SMF type 30 record.

When NOSUPPRESS is set, the system generates an empty SMF type 30 record EXCP section for each SMS candidate volume in the storage group that is not allocated to the DD statement.

By default, empty EXCP sections are also generated for non-dataset allocations like DD DUMMY or spool file allocations.

This can be an issue when an address space uses many datasets and there are a lot of SMS candidate volumes (e.g. Db2 DBM1). In this case the creation of empty EXCP sections can cause high CPU, memory, disk space utilization and performance issues.

When SUPPRESS is set the system suppresses the creation of these empty EXCP sections.

Even if all performance analysts advice to set EMPTYEXCPSEC to SUPPRESS, its default is still NOSUPPRESS.

Strangely the IBM advice is the same. This is what you can find in the Initialization and Tuning Reference of z/OS 2.5:

“EMPTYEXCPSEC(NOSUPPRESS|SUPPRESS) Specifies whether to suppress empty execute channel program (EXCP) entries in the SMF type 30 record. IBM recommends that the SUPPRESS option is specified.”

Setting EMPTYEXCPSEC to SUPPRESS is strongly suggested.

Quotes



"Wars are made by people who kill themselves without knowing each other... for the interests of people who know each other but who do not kill each other"

Pablo Neruda

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