EPV TECHNOLOGIES NEWSLETTER

March 2019

THIS MONTH HIGHLIGHTS

Measuring Crypto Activities Performance in z/OS Part 3

EPV Workshop in Madrid

EPV at the IBM zTechnical University 2019

Preview: IBM z/OS Version 2 Release 4

FORMULA OF THE MONTH

Little's Law

The Little's Law states that the long-term average number N of customers in a stationary system is equal to the long-term average effective arrival rate X multiplied by the average time R that a customer spends in the system. The relationship is not influenced by the arrival process distribution, the service distribution, the service order, or practically anything else.

The formula below can be used to estimate the average residency time in a Db2 buffer pool, in a processor cache level, the number of elements in a queue, etc

$$N = X * R$$

It can also be reversed as:

$$R = N / X$$

Example:
Buffer Pool size=70.000 pages
Synch read pages=1.800
Asynch read pages=2.400
Interval=60 sec

N = 70.000 pages
X = (1.800 pages + 2.400 pages) / 60 sec = 70 pages/sec

So in our example the average residency time in the buffer pool is:

R = N / X = 70.000 pages / 70 pages/sec = 1000 sec

Measuring Crypto Activities Performance in z/OS Part 3

Internet and online services are currently used to transfer data and process the transactions completed by billions of people.
This is the reason why cryptography, which lies at the core of digital security, is becoming more and more important for every company.

The primary functions of cryptography are:
• Identification and authentication, to identify users to the system and provide proof that they are who they claim to be;
• Access control, to determine which users can access which resources;
• Data confidentiality, to ensure that no one can read the data except the intended receiver;
• Data integrity, to assure the receiver that the received data have not been altered in any way from the original;
• Security management, to administer and control a security policy, including key management;
• Nonrepudiation, to prove that the sender really sent this message and the receiver received it.

As you can imagine cryptographic services need to use hardware resources (mostly CPU) and have an impact on application performance.

In this paper after a short overview of software and hardware cryptographic facilities available in z/OS, we will discuss the most important metrics provided in SMF records to evaluate CPU

usage and performance of cryptographic activities.

If you want to receive the paper you can reply to this e-mail writing
"**Measuring Crypto Activities Performance in z/OS – Part 3**" in the subject

EPV Workshop in Madrid

EPV Technologies, in cooperation with GSE SPAIN, is proud to announce the "zIIP and Memory: the two Pillars of z/OS Cost Reduction" workshop.
The workshop will be held at El Corte Inglés, c/Tomás Bretón 53, Madrid on 9th April 2019.

For details and subscription write to:
gsehq@gse.org or pedro.munoz@epvtech.com

EPV at the IBM zTechnical University 2019

EPV Technologies will support the IBM zTechnical University 2019 to be held in Berlin on 20-24 May 2019.

We will give the following presentations:
• Measuring Crypto Activities Performance in z/OS
• New Performance Metrics in MQ V8 and V9
• Controlling z/OS job delays at a glance

In addition we will lead a poster session discussing:
"Measuring the CPU time: misunderstood and unknown aspects"

More details at:
IBM zTechnical University 2019

Preview: IBM z/OS Version 2 Release 4

"z/OS is designed to support clients with workload efficiency, scalability, improved analytics capabilities, and resiliency to deliver capabilities to enhance availability and performance as well as improved security and data protection.

In order to support the capabilities that provide agility, optimization, and resiliency, z/OS V2.4 intends to deliver the following:

- z/OS V2.4 is planning to introduce an exciting new capability, IBM z/OS Container Extensions, to help users execute Linux on IBM Z Docker container in z/OS, alongside existing z/OS applications and data. This is intended to extend the strategic software stack on z/OS.
- z/OS Container Extensions are planned to enable application developers to develop and data centers to operate popular open source packages, Linux applications, IBM software, and third-party software together with z/OS applications and data-leveraging industry standard skills. Clients will be able to optimize developing and running their applications in their most efficient environment with faster time to value as business demands grow.
- IBM intends to deliver capability that will let businesses integrate z/OS more easily into their private and multicloud environments with improvements that are planned to deliver a more robust and highly available IBM Cloud Provisioning and Management for z/OS and cloud storage access for z/OS data.
- z/OS V2.4 is planned to continue to simplify and modernize the z/OS environment for a better user experience and improved productivity by reducing the level of IBM Z specific skills that are required to maintain z/OS, eliminating and automating various activities with z/OSMF.
- IBM intends to deliver a z/OS platform exploiting the consistent packaging and deployment format agreed upon with other leading z/OS platform software vendors. This planned delivery represents IBM's direction supporting an industry improvement in both the packaging and installation using a common capability. By improving and simplifying both the packaging and deployment of z/OS software, faster time to value may be realized by clients.
- IBM Open Data Analytics for z/OS is planned to provide enhancements to simplify data analysis by combining open source runtimes and libraries with analysis of z/OS data at its source, to reduce data movement and increase the value of insights gained from leveraging current data.
- These improvements are intended to further enhance the data analytics ecosystem in IBM Z and leverage industry standard skills and tools to quickly develop insights for improved time to value.
- z/OS V2.4 is planning to further enhance security and data protection on the system, with the intention to provide the new security features of OpenSSH 7.6p1, continuing to drive pervasive encryption by giving users the ability to encrypt data without application changes and simplify the task of compliance. In addition, z/OS V2.4 intends to enhance and provide new capability for better management of access and privileges in RACF.
- New support intends to increase the availability of applications that are using zFS file systems shared in a sysplex environment."

Complete announcement letter available at:
IBM z/OS Version 2 Release 4

RECIPES

Ravioli con cicoria e mozzarella gratinati

Ingredients

FOR PASTA
Flour 200g
eggs 2
Pinch of salt

FOR THE STUFFING
Chicory 200g
Mozzarella 150 g
Extra virgin olive oil
Salt
Pepper

FOR THE GRINDING
Warm milk 300 ml
Butter 30g
Flour 30g
Tablespoons of Parmesan cheese 4
Tomato 5
Pepper

Method

Prepare the filling with chicory and mozzarella:
wash the chicory leaves and boil them in lightly salted water. Drain

them, let them cool slightly and chop them with a knife.
Slice the leek finely and sauté in a pan with 1 tablespoon of oil.
Add the chicory, season with salt and pepper if necessary and continue cooking for 10 minutes. Then let it cool well.
Once the vegetables have cooled, place them in a mixer. Dice the mozzarella (we recommend a fairly dry mozzarella like braid or alternatively a very fresh cheese) and place it in the mixer together with the vegetables. Blend everything well.

Prepare the pasta:
knead the flour together with the eggs and a pinch of salt until the dough is smooth and homogeneous. Wrap it in plastic wrap and let it rest for about twenty minutes.
Roll out the dough finely using a rolling pin or a special pasta machine. Cut the pastry into long strips.
Place small spoonfuls of filling well-spaced on the pasta sheet. Fold the strip of dough to seal the filling well and try to eliminate any air bubbles by tapping it at the edges. Cut the ravioli with a serrated wheel.

Prepare the béchamel:
Melt the butter in a pan. Pour the flour and mix with a whisk. Add the hot milk and, stirring without making lumps, bring it to a boil. When it starts to thicken, turn off the heat, season with salt and pepper.

To conclude:
Boil the ravioli for at least 4 minutes in plenty of salted water.
Drain them and dip them in the béchamel. Mix well and then transfer them to a baking dish. Sprinkle with Parmesan and place some tomatoes on it.
Heat the oven to 200 ° C.
Bake the ravioli and cook them for at least 10 minutes with the oven grill on. Make them gratin well. Once golden, remove them from the oven and serve immediately.

QUOTES

> *"The perfect blossom is a rare thing. You could spend your whole life looking for one, and it would not be a wasted life"*
> **Last Samurai**