

Measuring the Integrated Accelerator for zEDC

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1 Introduction

In the last years we have seen an explosion of data, driven by new technologies and applications. This is true for every environment, also for z/OS systems. Even if storage subsystems have become more and more powerful, they can only solve part of the problem. All this data has to be managed by system components and applications with a consequent increase of elapsed time and CPU consumptions.

A more complete solution is compression. Compression may greatly reduce data size with great benefits in terms of storage usage and performance. Even if software compression has been available in various forms for many years, it has only partially been exploited by customers because of the CPU cycles needed to execute compression/decompression instructions.

To reduce the amount of CPU needed, with the zEC12 machine IBM introduced zEnterprise Data Compression (zEDC) a hardware/software solution based on a specialized adapter for data compression, known as zEDC Express.

With the z15 machine, IBM eliminated the need of the zEDC Express cards by introducing the Integrated Accelerator for zEDC (accelerator in the following). This is a much more powerful solution which could also be the key to allowing a real exploitation of pervasive encryption. In fact, another benefit of compression is that it can greatly reduce the amount of data to encrypt.

In this paper, after a short introduction to the accelerator, we will discuss the characteristics of the synchronous and asynchronous compression requests both in terms of exploiters and software licenses.

Finally, we will also discuss which SMF metrics are available to measure these two types of compression requests showing some real-life examples.