Operating system requirements: Requires z/OS 2.1 and new zEDC for z/OS feature
- z/OS V1.13 and V1.12 offer software compression support only
- Easy to set up and use – transparent to application software; Use policy (DATACLASS) to set up compression.
- No changes to access method

Server requirements: Exclusive to zEC12 (with Driver 15E) and zBC12
- New zEDC Express feature for PCIe I/O drawer (FC#0420) One compression coprocessor per zEDC Express feature
- Each feature can be shared across up to 15 LPARs
- Recommended minimum configuration per server is two features
- Up to 8 features available on zEC12 or zBC12
- For best performance, feature is needed on all systems accessing the compressed data

Planned execution: Hardware compression first for log files - SMF records (September 2013) reduced logger overhead allows collection of more SMI data
- All systems sharing sequential BSAM/QSAM extended format (10’14)

SOD: Java using standard zlib compression library for compression services. Java applications and middleware can be transparently accelerated by enabling Java for hardware compression
SOD: DFSMS™ planned exploiters TBD

* zEDC disk compression extends the value of your DS8000 disk flash purchase by using less flash to hold the same amount of data. zEDC will allow you to more fully utilize the flash space.
* The ability to compress data is usually provided via a specific product, service or client application. NOTE: If data flows between such software then it is possible that the disk compression feature without knowledge of the zEDC Express or existing compression technology. Any interactions should be examined to determine the correct location and technology to be used for the compression.

IBM Mainframe Compression Technologies

IBM plans for future updates of IBM 3171 and 64-bit SD7X for z/OS Java Technology Edition Version 7 (IBM SD7X for z/OS V1.13 to provide exploitation of the zEDC Express feature)

Every day 2.5 quintillion bytes created... zEDC Express compression enables customers to do hardware based compression.

IBM plans for z/OS V1.12 and z/OS V1.13 with the PTF for APAR OA41159.
- The new function is expected to allow higher write rates for SMF data when hardware compression is enabled.
- RMM support for hardware compression includes SMF Type 9 records and a new Monitor PCIe Activity report intended to provide information about compression activity on the system.
- zEDC V2.1 leverages use of the industry-standard zlib open source library available for z/OS UNIX System Services.

NOTE: This version of the library supports the sending of compression and decompression requests to the zEDC Express. The z/OS-provided zlib library is provided as a UNIX archive file that can be statically linked into IBM, ISV, or customer applications that currently use zlib, enabling additional exploitation of compression through zEDC Express and expanding potential compression opportunities.
- zEDC is complementary to existing System z compression technology.
- Smaller records and files best suited for hardware compression chip will still use hardware compression instructions to get best benefit, and larger files that need a different compression algorithm to zEDC.

1. zEDC compression acceleration is an efficient alternative for many types of files whereas on chip compression is optimized for short records such as database rows
- zEDC is a dictionary-less and uses optimized algorithms to deliver high performance. It is specially optimized for larger data files.
- zEDC is compatible with industry standard, open zlib based compression – used today by Java and other applications. z/OS V2.1 provides the zlib® library which supports the sending of compression and decompression requests to the zEDC Express.
- Adapter support for zEDC is provided by Resource Group (RG) code running on the system integrated firmware processor (IFP).
- For resilience, there are always two independent RGS on the system, sharing the IFP.
- It is, therefore, recommended that a minimum of two zEDC features be installed, one per RG.

Consider also the total data throughput required and note that in the case of one feature becoming unavailable, the others should be able to absorb the load.

For best data throughput and availability, it is suggested that at least two features per RG are installed.

zlib® is a software library used for data compression:
- zlib compressed data is typically written with a gzip or a zlib wrapper.
- The wrapper encapsulates the raw DEFLATE data by adding a header and trailer. This provides stream identification and error detection that are not provided by the raw DEFLATE data.