

The difference is the delivered compression ratio and the requested TS7700 CPU consumption. ZSTD generally can achieve a higher compression ratio than LZ4 (thus, more CPU is used).

To use the newer compression algorithms, all clusters in a grid must have R4.1.2 or later microcode. This microcode can also be installed on TS7740 (V07) and TS7720 (VEB) if 32 GB main memory is configured. Note that, especially with ZSTD compression, there might be performance considerations to the TS7700 throughput on heavily loaded existing workloads running on older hardware. VEB/V07 clients should test how the new algorithms work on their TS7700 configuration with small workloads before putting them into production. To avoid any negative effect, analyze the VEHSTATS performance reports in advance. For most V07 and VEB installations, LZ4 provides a good compromise to reach a higher compression ratio that does not exhaust the CPU power in TS7700 models.

The use of the new compression algorithms has a positive effect on the following areas:

- ▶ Cache resources (cache bandwidth and cache space) required
- ▶ Grid link bandwidth
- ▶ Physical tape resources
- ▶ Premigration queue length (FC 5274)

It can also have a positive impact on your recovery point objective, depending on your configuration.

The actual host data that is stored on a virtual CST or ECCST volume is displayed by the **LI REQ** commands and in the MI. Depending on the selected logical volume size (400 MB to 25 GB), the uncompressed size varies between 1200 MiB - 75,000 MiB (assuming a 3:1 compression ratio).

2.2.5 Mounting a scratch virtual volume

When a request for a scratch is sent to the TS7700, the request specifies a mount category. The TS7700 selects a virtual VOLSER from the candidate list of scratch volumes in the category.

Scratch volumes at the mounting cluster are chosen by using the following priority order:

1. All volumes in the source or alternative source category that are owned by the local cluster, not currently mounted, and do not have pending reconciliation changes against a peer cluster
2. All volumes in the source or alternative source category that are owned by any available cluster, not currently mounted, and do not have pending reconciliation changes against a peer cluster
3. All volumes in the source or alternative source category that are owned by any available cluster and not currently mounted
4. All volumes in the source or alternative source category that can be taken over from an unavailable cluster that has an explicit or implied takeover mode enabled

The first volumes that are chosen in the preceding steps are the volumes that have been in the source category the longest. Volume serials are also toggled between odd and even serials for each volume selection.

For all scratch mounts, the volume is temporarily initialized as though the volume was initialized by using the **EDGINERS** or **IEHINITT** program. The volume has an IBM-standard label that consists of a VOL1 record, an HDR1 record, and a tape mark.