IBM V7000 Real-time Compression

As a result, IBM offers a solution, titled "**Deploy Real-time Compression and Save" -** If you can't store 50% more data, IBM will make up the difference!

Below are excerpts from a white paper, titled "Compares IBM Real-time Compression for Storwize V7000 vs EMC and NetApp compression for Block Storage" for its Real-time Compression Technology as its crown jewel.

Executive Summary Conclusions

All EMC VNX data compression occurs post-process (after written uncompressed to the storage device), as does compression of any changes made to data with NetApp technology. Not only does this approach severely impact stored data access performance, but the data must also be stored in its uncompressed form before post-process compression can handle it. For this reason, both EMC and NetApp recommend sizing compressed devices for data at its original size. If followed, this practice eliminates the benefits of deploying compression.

Edison believes that the compression features of the EMC VNX are best utilized in environments where an entire VNX array can be dedicated to compressible low-throughput workloads, and for which considerable idle periods are available. Though there may be cases where this is a valid approach, there are other solutions on the market that would be more appropriate. NetApp compression may be practical for applications that regularly write data to storage during production operations with few or no further updates. However, the fact that it must update data post-processed makes it impractical for applications — such as databases — where frequent changes are made to stored data.

To sum up the research findings for Real-time Compression:

- **Complete transparency**: Real-time Compression is invisible to the server operating systems and applications, which means that no administrative overhead is required to use it. The EMC VNX Series, by contrast, is designed to compress inactive content and is entirely unsuitable for active data. While the NetApp FAS 3240 demonstrated file copy transparency with pre-processed compression on initial writes, for any subsequent changes to stored data, compression is performed after processing. Thus the NetApp FAS native compression is not practical for highly active, frequently changing data utilization in applications such as databases.

Note: NetApp claims it can also boost performance of an existing storage by 20% or more and comes with a "pays for itself in 9 months" guarantee program besides NetApp guarantees customers who will use 50% less storage for virtual environments.