

Cache Accelerator Server: Fast, Affordable & Cloud-Friendly

The ScaleDB Cache Accelerator Server (CAS) delivers a significant performance boost, while expanding your storage options. By using RAM (very fast) instead of disk (very slow) to communicate between the nodes in a database cluster, CAS dramatically improves database performance. CAS also enables you to choose a storage option that fits your needs and your budget. You can use commodity PC-based storage, cloud storage or high-performance SAN/NAS storage, whatever fits your needs.

Boosting Performance

Clustered databases deliver a number of functional advantages, but they have traditionally paid a performance penalty. There are two reasons for this performance penalty: (1) sharing data between nodes via the slow hard disk drive; (2) the requirement for performance throttling Network File System (NFS) or Cluster File System (CFS) software. ScaleDB's CAS addresses both of these challenges.

CAS introduces a shared cache layer that significantly improves performance. Just as Memcached uses cache to reduce the load on MySQL, CAS uses cache to reduce the load on the hard disk. As a result, the database nodes pass data via fast cache instead of relying on slow disks. This enables you to have the best of both worlds: the advantages of a clustered database—high-availability, dynamic elasticity, superior data consistency, and more—while delivering performance, on each node of the cluster, that rivals shared-nothing databases.

Other clustered databases rely on software that enables multiple database nodes to share a single disk or disk volume where the shared data resides. This software, either Network File System (NFS) or Cluster File System (CFS), is designed for general purpose data sharing. Because it is general purpose software, it introduces overhead that can seriously throttle your database performance. ScaleDB's CAS eliminates the need for these general purpose file sharing software layers.

ScaleDB has implemented a special purpose communication layer that connects the CAS with the nodes in the database cluster. Because ScaleDB handles the data locking and sharing itself, the CAS communication layer is extremely light-weight and therefore extremely efficient. In addition to reducing the cost and overhead imposed by general purpose NFS or CFS options, CAS is exceptionally fast.

Enhanced Storage Flexibility

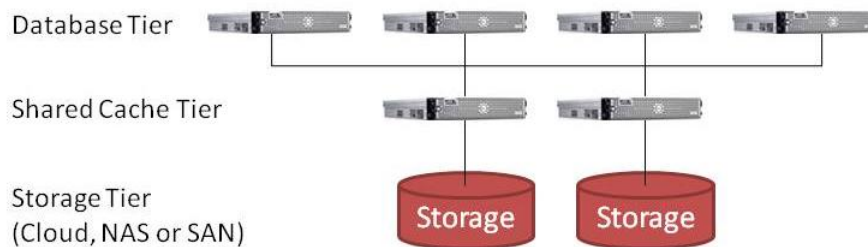
Other clustered databases *require* high-end storage, but MySQL users typically rely on low-cost PC-based storage. ScaleDB's CAS unifies these camps, by offering you the flexibility to use the storage that best suits your needs. CAS can exploit their local disks, delivering low-cost mirrored storage. Or, should you want superior performance,

availability and back-up, you can implement CAS with SAN/NAS/Cloud storage solutions. These options are shown in the diagrams below.

CAS Configured for Mirrored Local Storage



CAS Configured for Mirrored Storage Tier



Additional Cache Accelerator Server (CAS) Benefits

ScaleDB CAS is designed to support failure recovery, hot backup and hot standby. When operating in a mirrored CAS configuration, like the diagrams above, failure of one CAS will cause the other to initiate recovery of the failed server, while the database continues to function. As an added benefit, creating a hot backup of your database is a snap with CAS. Finally, if you want an even higher level of availability, you can have a third CAS running in listening mode as a hot standby, ready to take over the instant one of the mirrored CAS experiences problems.

ScaleDB's CAS provides the ultimate in performance and security, while enabling you to choose the storage infrastructure that best suits your needs and your budget.

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