

# In-Memory Database Component



Master Data Management (MDM) solutions deal with vast amounts of data from multiple domains. Efficiently searching through millions of records, or executing complex and resource-intensive operations, heavily depend on the speed of your database. Having to wait for results is more than time-consuming – it bottlenecks your resources and slows down your processes. Therefore, to implement a capable MDM solution for your business, high-speed data access is essential.

Traditional disk-based databases often cannot efficiently complete data-intensive tasks because they constantly access the disk. Unfortunately, even though disk storage has grown exponentially over the years, the time it takes to read and write data from and to disk has not improved at the same rate. Various solutions have been developed that attempt to improve the speed of queries, including cached databases and using Solid State Drives (SSDs). However, only in-memory databases can come close to the ‘real-time’ performance and reliability demanded by today’s critical applications.

In-memory databases, sometimes called main memory databases, do not need to access the disk to fetch data, and so can offer much faster query speeds. Historically, memory has carried a substantial price premium that limited the adoption and usability of in-memory databases. However, with the current availability, size and low price of RAM, it is now possible to implement large and scalable in-memory databases to solve the issues inherent with disk-based solutions.

## The Stibo Systems Solution

STEP’s In-Memory Database Component uses available application server RAM to hold data in memory at startup. Efficient storage optimisation ensures memory requirements are kept low to comfortably pull your data while still reducing costs. Having to avoid transferring data from disk to RAM and vice versa during queries provides significant speed improvements, resulting in **up to 50-100x faster searches**.

Complex requirements and processes that handle calculated attributes or data objects with multiple references usually require numerous reads to complete and may query different parts of a database. STEP’s In-Memory Database Component uses simpler indexing architecture that, along with accelerated data access, provides significant improvements in the resolution of such heavy processes as exporting large sets of complex data. Using STEP’s In-Memory Database Component, exports with calculated attributes complete **up to 2-3x faster**.

We know that the reliability and security of your data is paramount. To ensure your data is protected at all times and to guarantee recovery in case of hardware failure, all writes are performed directly to disk. Write heavy processes, including imports, still experience significant speed improvements by using STEP’s In-Memory Database Component, since the time necessary to read previous versions of data and to perform revision control is also significantly shortened.

## Key Benefits

- Faster Object Type, Hierarchy and ID searches
- Accelerate operations on complex data models, including imports, exports, workflow transitions, object approvals and UI displays
- Quicker completion of heavy write operations such as large imports
- Swift multi-object display
- Compatible with most existing queries, reports and backup scripts.

## Specifications and Requirements

- STEP Trailblazer 7.4 or higher
- 60GB of RAM per 100 million attributes.

### About Stibo Systems

Stibo Systems is the global leader in multidomain Master Data Management (MDM) solutions. Industry leaders rely on Stibo Systems to provide cross-channel consistency by linking product and customer data, suppliers and other organisational assets. This enables businesses to make more effective decisions, improve sales and build shareholder value. During the last 30 years, Stibo Systems

has helped hundreds of companies to develop a trusted source of operational information. A privately held subsidiary of the Stibo A/S group, which was originally founded in 1794, Stibo Systems' corporate headquarters is located in Aarhus, Denmark.

For more information, visit [www.stibosystems.com](http://www.stibosystems.com).