

## In-Memory Databases and Business Computing

The classical view on enterprise computing as it was defined in the 80s/90s is no longer a valid use case for modern enterprise applications. Traditional enterprise applications have only focused on transactional processing of data however this no longer meets current requirements adequately. Modern enterprise applications involve more information during transactional processing and perform more complex database queries in so-called day-to-day analytics. As a result the read load increases, but current benchmarks do not reflect this change (Figure 1). When using disk-based row-oriented databases it is not possible to achieve the required mixed workload performance leaving main-memory databases as only viable options to guarantee the required analytical throughput.

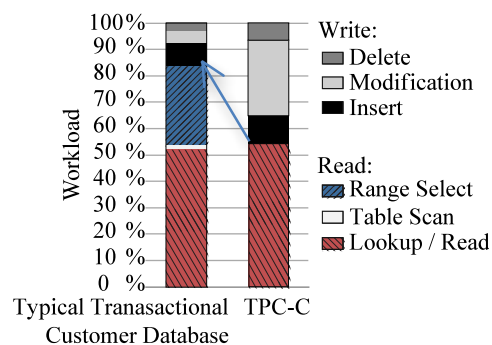


Figure 1 "Read" Gap

In this presentation, we will outline the current development of enterprise applications on modern hardware architectures and show why main memory and many-core systems allow bringing application logic closer to the database. Furthermore we will present first research results on hybrid computing (CPU-GPU hybrid) in enterprise computing and conclude with a summary of future research areas for main memory databases and enterprise computing.