



# Memcached Key-Value Store POWER8 CAPI FPGA Reference Design

*Accelerator type: Accelerator building block*

Unaccelerated Memcached server implementations cannot keep up with 10Gbs network speed, and do not scale with the addition of more cores.

**Accelerator detail:** Memcached is an open source, distributed in-memory key-value store memory object caching system. It is a common middleware application, used by many well-known websites to alleviate access bottlenecks to databases. The solution is an IBM® POWER8® implementation of Memcached that uses a CAPI-attached FPGA as a key-value store accelerator to achieve very high performance with access to a large value store.

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## Competitive advantage

Xilinx's Memcached KVS POWER8 CAPI FPGA Reference Design has demonstrated a 36X performance/watt advantage over x86 systems, as well as the ability to process small packets at 10G line rate. CAPI gives this system the ability to address up to 1TB of value store.

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For more information, visit

[www.xilinx.com/applications/data-center.html](http://www.xilinx.com/applications/data-center.html)