

## Upgrading to Power10 for Oracle workloads

### An IBM Power E850 scenario

The IBM® Power® S1022 server is a 2-socket, 2U server designed for business-critical workloads. This next-generation solution is built to deliver performance that, when measured in relative performance (rPerf)—a benchmark metric related to IBM AIX® operating system use—is 699 rPerf.<sup>1</sup> With 24 cores based on IBM Power10 processor technology, this scale-out server delivers greater performance than the IBM Power E850C enterprise-class machine—which offers 36 cores and 612 rPerf—resulting in less Oracle Database licensing costs. Because the license is paid per number of cores, the performance of the Power S1022 server would reduce costs by 33% if the workload was migrated from the Power E850C server.

Upgrading from a Power E850C server to a Power S1022 server can also potentially reduce your energy consumption. When used at 100% processing capacity, the Power S1022 server is estimated to consume 1,108 W per hour,<sup>2</sup> which is 775 W less per hour than the Power E850C server. At 50% utilization it's estimated that the Power S1022 server would consume 878 W per hour, while the Power E850C would consume 1,583 W per hour. The following table summarizes the estimated consumption based on server utilization.

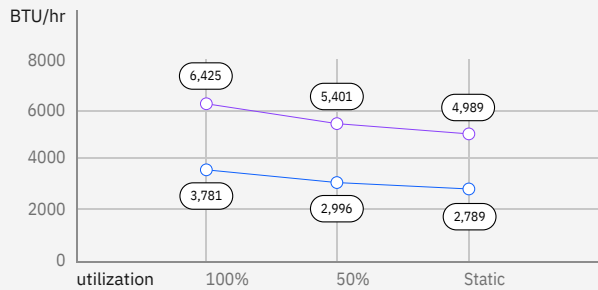
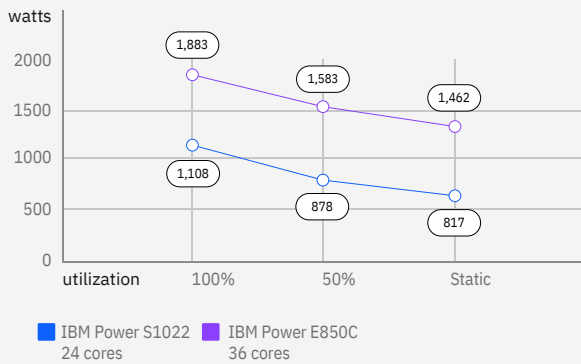


Figure 1: Estimated consumption based on server utilization

The previous scenario is just one of the possible exercises to migrate a workload from an Power8® server to the Power S1022 server. Depending on the servers and their configurations, several Power8 servers could be consolidated into a smaller number of Power10 servers and still be more energy efficient.

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1. Performance values measured in rPerf for all IBM Power servers, as of 11 October 2022, are available [here](#).  
2. The estimated consumption for each server can be obtained using the online tool, [IBM Systems Energy Estimator](#).