

Want to save up to
\$180K per year,
or more?

A server refresh could deliver big returns

If you're running virtualized workloads on servers that are more than three years old, a move to 4-socket or larger servers based on the latest Intel® Xeon® processor 7400 series could deliver quick and significant ROI.

To quantify the benefits, technical and financial experts at Intel evaluated the impact of refreshing eighty 4-year-old Intel Xeon processor-based servers with ten new systems based on the latest Intel Xeon processor. The results speak for themselves.

- **Lower Operating Costs:** Estimated \$270K over four years
- **Lower Software Costs:** Estimated \$780K over four years
- **Data Center Relief:** 87% footprint reduction, 88% lower energy consumption
- **Equivalent or Better Performance:** 8x performance boost per server
- **Quick ROI:** Full return on investment in less than 1.5 years (16 months)
- **TCO:** Estimated \$500K savings over four years.

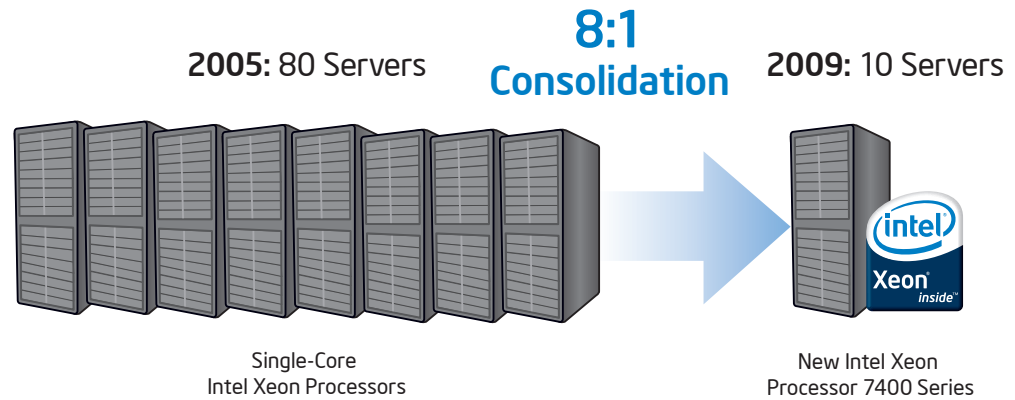


Why Such Dramatic TCO Savings?

Eighty percent of server operating costs are associated with software licensing, software maintenance/patching and data center power and cooling. All these costs are dramatically reduced by the 8x reduction in server count. Many thousands of additional dollars can be saved by avoiding extended warranties.

ROI Analysis

The following analysis is based on comparison between 4-socket Intel Xeon processor 3.33 GHz-based servers with 4-socket Intel Xeon processor X7460-based servers.¹ Actual costs and benefits would depend on your hardware, software, workloads, data center environment and vendors.



Want to assess the potential savings in your data center?

Use the Intel ROI Calculator at: www.intel.com/go/xeonestimator

TYPICAL 4-SOCKET INTEL® XEON® PROCESSOR-BASED SERVERS

| | Purchased in 2005 | Purchased in 2009 | BENEFIT |
|---|---|--|--|
| IT Analysis | | | |
| Processors | Intel Xeon processor 3.33 GHz (1 core, 3.33 GHz, 8M L3 cache) | Intel Xeon processor 7400 series (6 cores, 2.66 GHz, 16M L3 cache) | Five additional cores per processor provide a major boost in system capacity |
| Performance per Server | 34.1 (SPECint*_rate_base2006*) | 274 (SPECint*_rate_base2006*) | Equivalent or better total performance (over 8x better performance per server) |
| Total Number of Servers | 80 servers (8 racks) | 10 servers (1 rack) | 87% reduction in server numbers and data center footprint |
| Watts per Server | 800W active/400W idle | 692W active/392W idle | 88% reduction in total energy consumption |
| Financial Analysis (Highlights) | | | |
| Operating Costs (estimated) | ~\$72K - \$78K per year over next four years | ~\$75K - \$8.5K per year over next four years | Over \$64K per year savings |
| SW Maintenance Costs (estimated) | ~\$224K per year | \$28K per year | ~\$196K per year |
| ROI | | | 16 months |

¹ For more details, see the Xeon Estimator at <http://www.intel.com/go/xeonestimator>. Estimations based on comparison between 4S single-core Intel® Xeon® processor 3.33GHz (Potomac) and 4S Intel® Xeon® processor X7460 (Dunnington)-based servers. Calculation includes analysis based on performance, power, cooling, electricity rates, operating system annual license costs and estimated server costs. This assumes 8kW racks, \$0.10 per kWh, cooling costs are 2x the server power consumption costs, VMware Infrastructure 3 Enterprise Support and Service costs of ~\$2,800/year per server, per server cost of \$22,000 based on estimated list prices and estimated server utilization rates. All dollar figures are approximate. Performance is based on measured SPECint*_rate_base2006* benchmark results (Intel Corporation Sept 2008). Platform power was measured during the steady state window of the benchmark SPECpower_ssj2008* run and at idle. Performance gain compared to baseline was 8x. Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit Intel Performance Benchmark Limitations.

