

Rapid Payback on Server Refresh

with Intel® Xeon® processors 5500 Series



Intel Xeon 5500 series previously codenamed Nehalem



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Buy Now ... Payback in a Year



Buy a New Intel® Xeon® processor 5500 Series Server Today

Replace 9 Existing Servers

Estimated 8 Month Payback on Investment

CURRENT

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

MONTH 1

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

MONTH 2

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MONTH 3

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

MONTH 4

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

MONTH 5

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MONTH 6

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MONTH 7

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

MONTH 8

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

MONTH 9

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MONTH 10

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MONTH 11

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

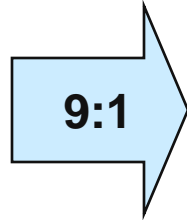
Intel consolidation based on replacing nine four-year-old single-core Intel Xeon processor based servers with one new Intel Xeon Processor X5570 based server while maintaining SPECjbb2005 performance. Costs and return on investment have been estimated based on internal Intel analysis and are provided for information purposes only. Use this slide in conjunction with backup data.



What's Behind the 8 Month ROI Estimate?

2005

184 Intel® Xeon® Single Core Servers



2009

21 Intel® Xeon® 5500 Based Servers



Estimated
8 Month
payback on investment

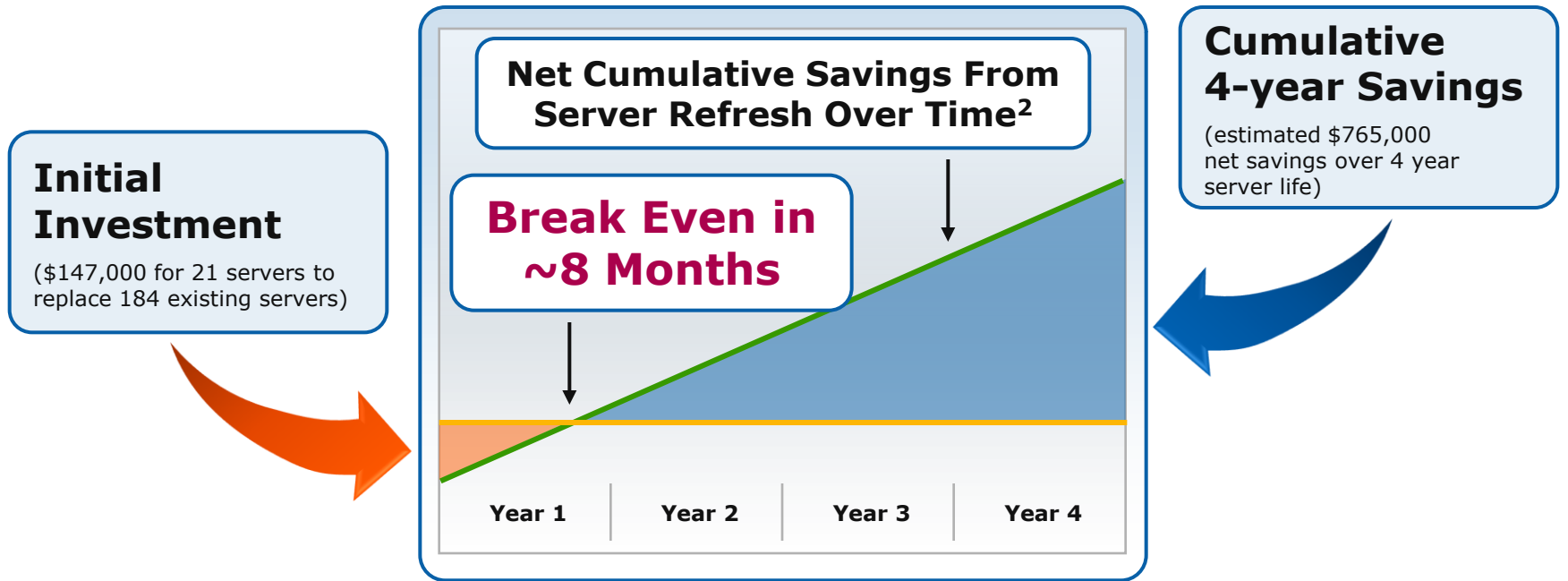
	2005	2009	Notes
Performance per Server (relative)	1.0	8.7	Relative performance gain measured by Intel using SPECjbb2005
# Servers	184	21	9:1 server replacement modeled
Total Relative Performance	184	183	Relative Total Performance is Flat
Server Power Watts (idle/active)	228 / 382	174 / 312	Measured during test. Cost estimates assume 8 hrs active and 16hrs idle
Utility Cost per Year (\$)	\$90,294	\$8,502	Electricity costs per year (365d/yr). Assumes \$0.10/kWhr, 2x cooling factor
OS Maintenance Costs per Year (\$)	\$165,600	\$18,900	Estimates a RHEL 1yr license at \$900. Source www.dell.com 12/16/08
Est. Initial Investment \$179,000	Est. Annual Savings \$228,844		→ Estimated 8 month ROI

Estimated price of new Intel Xeon processor 5500 series based server of \$6,900 per server

Performance increase based on Intel comparison using SPECjbb2005 business operations per second (bops) between four-year-old single-core Intel® Xeon® processor 3.8GHz with 2M cache based servers and new Intel Xeon processor X5570 based server. Intel consolidation based on replacing nine four-year-old single-core Intel Xeon processor based servers with one new Intel Xeon Processor X5570 based server while maintaining SPECjbb2009 performance. Costs and return on investment have been estimated based on internal Intel analysis and are provided for information purposes only. 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, visit www.intel.com/performance/perf.



The Impact of Rapid ROI (Estimated)

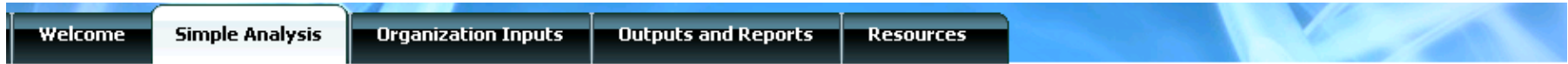


**Initial Server Investment Yields
estimated 5x Financial Return Over 4 Years**

¹ Intel comparison replacing nine four-year-old single-core Intel® Xeon® processor 3.8GHz with 2M cache based servers with one new Intel Xeon processor X5570 based server. Return on investment has been estimated based on internal Intel analysis and is provided for informational purposes only. See legal information slide for more details.



New Intel® Xeon® Processor-Based Server Refresh Savings Estimator



Yellow fields denote inputs to be updated by the user. Context sensitive Tip Help is provided with information buttons.

Step 1: Select Currency - Default \$ US Dollar

Select Currency

Step 2: Select a Server Refresh Scenario

Physical Consolidation Only

With Virtualization (Physical and Virtual Consolidation)

Step 3: Update Existing Server Information

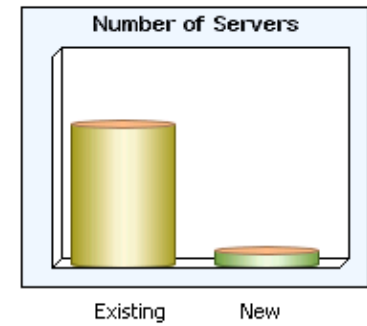
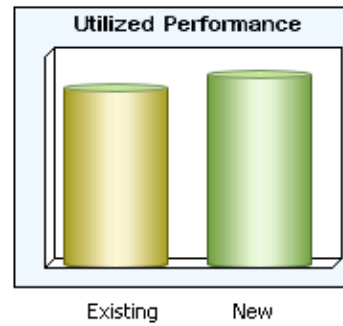
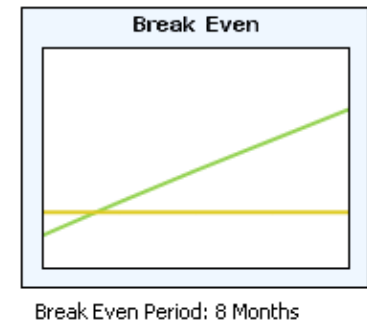
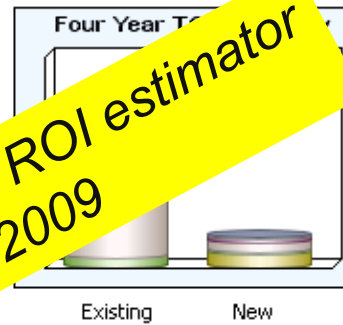
Existing Server Type	Number of Servers	Average Server Age
25 Intel Server	100	

Step 4: Update Proposed Intel® Xeon® Server Information

Proposed Intel® Xeon® Processor Server	Number of Servers	Number of VMs per Server
25 Xeon 5500	100	10

Reference Information for this scenario			
	Physical Servers	Virtual Machines	Total
Consolidation Ratios	10.8	0	10.8

Click on Graphs to Expand Details



New server refresh savings and ROI estimator coming in mid April 2009

An Interactive Tool to Help You Assess the Impact of Refresh



Back up Information

- 8 month ROI claim estimated based on comparison between 2S Single Core Intel® Xeon® 3.80 with 2M L2 Cache and 2S Intel® Xeon® X5570 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, operating system license cost of \$900/year per server, per server cost of \$6900 based on estimated list prices and estimated server utilization rates. All dollar figures are approximate. Performance and power comparisons are based on measured SPECjbb2005* benchmark results (Intel Corporation Feb 2009). Platform power was measured during the steady state window of the benchmark run and at idle. Performance gain compared to baseline was 9x while the platform power was 0.8x.
 - Baseline platform: Intel server platform with two 64-bit Intel Xeon Processor 3.80Ghz with 2M L2 Cache, 800 FSB, 8x1GB DDR2-400 memory, 1 hard drive, 1 power supply, Microsoft* Windows* Server 2003 Ent. SP1, BEA* JRockit* build P27.4.0-windows-x86_64 run with 2 JVM instances
 - New platform: Intel server platform with two quad-core Intel® Xeon® processor X5570, 2.93 GHz, 8MB L3 cache, 6.4QPI, 24GB memory (6x2GB DDR3-1333), 1 hard drive, 1 power supply, Microsoft Windows Server 2008 Ent. SP1, BEA JRockit build P27.4.0-windows-x86_64 run with 2 JVM instances
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