



## Executive summary

Across 1,000 users over 3 years, the HP EliteDesk 800 G4 with Intel Optane memory could save...

**\$4.2M**

vs. HP EliteDesk 800 G4 with 32GB RAM (productivity + purchase price)

**\$4.7M**

vs. HP EliteDesk 800 G3 with 32GB RAM (productivity + purchase price)

**\$3.5M**

vs. HP EliteDesk 800 G1 with 32GB RAM (productivity only)

## An HP EliteDesk 800 G4 with Intel Optane memory outperformed three configurations with twice as much RAM

### Increased productivity and lower hardware costs add up to major savings

When you're buying computers for your employees, it's reasonable to assume that you get what you pay for. Typically, the components that make for a speedier system also make for a higher price tag, which requires you to weigh what you'd like to give your employees against what you can afford.

One exception to this rule is Intel® Optane™ memory, a system accelerator that complements standard system memory (RAM).<sup>1</sup> At Principled Technologies, our hands-on testing revealed that an HP EliteDesk 800 G4 desktop system with 16GB RAM and 16GB Intel Optane memory delivered better responsiveness than two pricier currently available systems with 32GB RAM. It also dramatically outperformed an older 32GB RAM system.<sup>2</sup>

The Intel Optane configuration completed a range of tasks in as much as 87% less time than the RAM-only configurations. Over three years, this extra speed can translate to enormous savings through improved employee productivity. Maybe your company is poised to purchase new desktops. Or maybe you've been planning to keep aging systems in service for another year or two because you thought it was a cost-effective strategy. For companies in both of these situations, the productivity wins the HP EliteDesk 800 G4 with Intel Optane delivered could be a game changer.

## You get what you pay for, except when you don't: How Intel Optane memory delivers big savings through improved productivity

We measured the time to execute 17 tasks on four systems:

- A current HP EliteDesk 800 G4 with 16GB RAM and 16GB Intel Optane memory (Intel Optane HP EliteDesk 800 G4)
- A current HP EliteDesk 800 G4 with 32GB RAM (32GB RAM HP EliteDesk 800 G4)
- A last-generation HP EliteDesk 800 G3 with 32GB RAM (32GB RAM HP EliteDesk 800 G3)
- A four-year-old HP EliteDesk 800 G1 with 32GB RAM (32GB RAM HP EliteDesk 800 G1)

After discovering that the system with Intel Optane completed every task faster than the RAM-only systems, we analyzed productivity costs. To do so, we combined our test results with estimated worker compensation costs and the frequency with which different user groups would perform tasks.

If you want better performance, you have to pay more, right? Wrong. You can give your employees great performance while also enjoying savings with the Intel Optane configuration of the current HP EliteDesk 800 G4.

### Question:

How much could a company save over three years by purchasing 1,000 Intel Optane HP EliteDesk 800 G4 systems rather than 1,000 32GB RAM HP EliteDesk 800 G4 systems?

**Answer: \$4,296,348**

### Source of savings:

- \$3,990,348 (93%) from increased productivity<sup>3</sup>
- \$306,000 (7%) from lower hardware costs

### Productivity highlight:

- 11 of the 17 tasks took less than half the time on the system with Intel Optane

### Question:

How much could a company save over three years by purchasing 1,000 Intel Optane HP EliteDesk 800 G4 systems rather than 1,000 last-generation 32GB RAM HP EliteDesk 800 G3 systems?

**Answer: \$4,761,738**

### Source of savings:

- \$4,541,738 (95%) from increased productivity
- \$220,000 (5%) from lower hardware costs

### Productivity highlight:

- 12 of the 17 tasks took less than half the time on the system with Intel Optane

### Question:

How much could a company save over three years by replacing 1,000 four-year-old 32GB RAM HP EliteDesk 800 G1 systems with Intel Optane HP EliteDesk 800 G4 systems?

**Answer: \$3,599,534**

### Source of savings:

- \$5,305,534 from increased productivity (offset by \$1,706,000 purchase price of new systems)

### Productivity highlight:

- 12 of the 17 tasks took less than half the time on the system with Intel Optane

- 1 Intel Optane memory (cache) is sold separately. Intel Optane memory system acceleration does not replace or increase the DRAM in your system. Available for HP commercial desktops and notebooks and for select HP workstations (HP Z240 Tower/SFF, Z2 Mini, ZBook Studio, 15 G5, and 17 G5) and requires a SATA HDD, 7th Gen or higher Intel Core™ processor or Intel Xeon® processor E3-1200 V6 product family or higher, BIOS version with Intel Optane supported, Microsoft Windows® 10 version 1703 or higher, M.2 type 2280-S1-B-M connector on a PCH Remapped PCIe Controller and Lanes in a x2 or x4 configuration with B-M keys that meet NVMe™ Spec 1.1, and an Intel Rapid Storage Technology (Intel RST) 15.5 driver.
- 2 Learn more about our testing and cost analysis in the test report, and get all the details in the science addendum to the report.
- 3 We have based the results of the calculations on a combination of a variety of features and functionalities under comparison and use industry figures and/or costs to determine the potential ROI savings customers may derive from the use of the HP products. We present these values not to represent actual savings a customer may expect to see but solely to illustrate potential savings. Many factors and variables may affect whether any customer sees any potential savings.

This project was commissioned by HP.

Read the report at <http://facts.pt/rgy4bj3>



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