



Executive summary

Adding Intel Optane memory accelerated an HP EliteDesk 800 G4 more than doubling the RAM

Productivity gains plus lower hardware costs equal great savings

When it comes to the desktop systems your employees use, keeping up with the demands of their applications is critical. If an individual has to periodically pause and wait for their computer to respond, they're no longer performing at top effectiveness. Fortunately, performance doesn't always come with a higher price tag.

Intel® Optane™ memory is a system accelerator that can improve overall system responsiveness more than adding extra system memory (RAM). At Principled Technologies, we tested two HP EliteDesk 800 G4 desktop configurations: one with 32GB RAM and the other with 16GB RAM and a 16GB Intel Optane memory module. Across a wide range of tasks, the configuration with 16GB RAM and Intel Optane outperformed the pricier 32GB RAM configuration, completing tasks up to 87 percent more quickly.

Between the improved productivity the HP EliteDesk 800 G4 with Intel Optane delivered and its lower cost, a hypothetical company purchasing systems for 1,000 employees could see savings of just under \$4.3M over three years. As your company shops for desktop systems, that number could make your decision an easy one.



Up to **87%** less time to perform everyday tasks

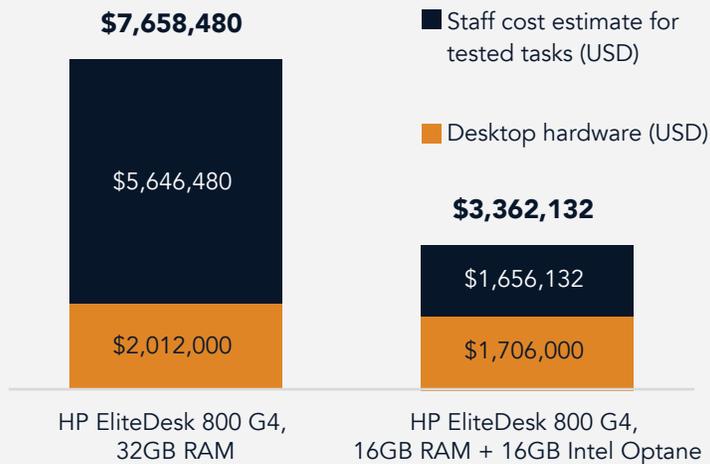


15% lower purchase price



Potential savings of **\$4,296,348** across 1,000 users over three years

Savings of \$4,296,348 over three years with Intel Optane



The system with Intel Optane was faster

We performed 17 tasks on the two configurations of the HP EliteDesk 800 G4—things like powering on the system, launching applications, and opening large Adobe® Photoshop® files. The 16GB RAM + Intel Optane configuration took less time to complete all of them than the configuration with 32GB RAM. The time saved ranged from 7 percent to 87 percent, with 11 of the 17 tasks taking less than half the time.

From seconds saved to dollars saved

To estimate the productivity savings a company could yield from choosing the HP EliteDesk 800 G4 with Intel Optane, we used a hypothetical organization shopping for 1,000 desktop systems. The employees that would use the systems fell into three groups, each with specific application needs: communicators, content creators, and data analysts.

We calculated the weekly productivity cost for each task on each device by multiplying the following:

- Task frequency per week across the 1,000 users
- Tested time (in seconds) to complete the task
- Cost per second (based on estimated employer cost for salary and benefits)

We then added the costs per task and device and multiplied this number by the number of weeks in three years.¹

This project was commissioned by HP.

Increased productivity + lower price = Big savings

By choosing the 16GB RAM + Intel Optane configuration rather than the 32GB RAM configuration, the company saves two ways: (1) by gaining employee productivity as a result of improved system and application performance and (2) by spending less on hardware.

As the chart to the left shows, the three-year cost for the 1,000 workers in our model was \$4,296,348 lower with the HP EliteDesk 800 G4 with 16GB RAM + 16GB Intel Optane than it was with the 32GB RAM configuration.

Tradeoffs are sometimes optional

Most business purchases require tradeoffs, and we're used to the idea that we'll pay more for a product that delivers better performance. As our hands-on testing and cost analysis revealed, that isn't always true.

An HP EliteDesk 800 G4 with 16GB RAM + 16GB Intel Optane memory performed system and application tasks so much more quickly than the 32GB RAM configuration did that a company could save more than \$3.9M on productivity improvements alone across 1,000 users over three years. When you factor in the Intel Optane configuration's lower price tag, the savings skyrocket to \$4,296,348, or more than \$4,000 per employee. Sometimes, you really can have it all.

- 1 Learn more about our testing and cost analysis in the [full report](#), and get all the details in the [science addendum](#) to the report.

Read the report at <http://facts.pt/pqv8ua2>



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