European Hospital
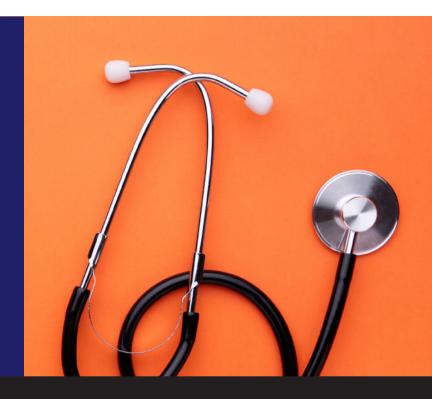
Saved $1.3M on infrastructure costs and improved performance during an Electronic Patient Records (EPR) upgrade

This European Healthcare Provider is one of the top clinical teaching hospitals in the Netherlands and has been serving the region for over 170 years. With over 4,000 employees and volunteers spanning multiple locations, they work closely with various healthcare partners within and outside the region.

Better Performance, Lower Costs

This European Hospital planned a major upgrade to its EPR application. As part of the process, they realized it was the perfect time to invest in a new virtual desktop infrastructure. The decision to move was meant to improve the overall end-user experience for employees and volunteers, providing an adequate runway to manage capacity and adapt as future applications and upgrades were planned.

The hospital chose potential solutions from established leaders, including Citrix. Despite having vendor sizing recommendations, the team had no consistent method to provide accurate user density and performance metrics—making it difficult to understand which service offering would best serve them now and in the future.

To make their migration project successful, the hospital deployed Login Enterprise to manage the capacity lifecycle and ensure their VDI environment operates at peak efficiency. In addition to making better and more defensible decisions, they benefitted from cost savings and eliminated overspending.

At a Glance

- **Industry**
  Healthcare Provider

- **Location**
  Europe

- **Challenge**
  Optimize price and performance during a significant application and infrastructure upgrade.

- **Impact**
  - Saved $1.3M in infrastructure costs.
  - Established benchmarks for future technology decisions.
  - Validated application performance improvements.
  - Improved end-user experience.

Imitating Real User Behavior

The hospital and EPR vendor had a strong understanding that the impact VDI has on an application depends on various factors, including the specific application, the virtual environment configuration, and the user's computing environment. Ensuring that the new environment resulted in a net positive improvement once fully implemented was of utmost importance.

Using Login Enterprise, the hospital and EPR vendor developed a custom workload that mimicked actual user behavior. The workload contained four actions that a hospital employee would routinely perform: launching the EPR application, logging into the EPR application, opening patient information, and viewing bed occupancy.

The default workload would become the basis for all capacity and performance analyses, eliminating the need for real users in any vendor evaluation. The resulting data produces consistent and repeatable measurements for performance and cost comparisons.

Comparing Vendor Options

Utilizing the EPR workload, the hospital established baseline metrics to quantify the performance impact when applied to their potential options. They ran an endpoint performance baseline with a local installation of the EPR application on a thick client and a different baseline with their existing hardware.

Now the hospital was ready to benchmark the infrastructure scenarios they had preselected as potential options. There were three primary scenarios; one was based on recommended best practices that required an additional system, and the other two were based on a single system approach.

Option 1:   Single system focused on core speed.
Option 2:   Single system focused on core count.
Option 3:   Best practice proposal requiring 2 systems.

Analyzing the Results

The results provided several insights that demonstrate concrete improvements in the environment. First, the thick client measurements were practically negligible compared to any virtual desktop options. It also showed that any solution delivered better performance than their current infrastructure— justifying the investment in the new server environment.

When it came to analyzing the results of their potential candidates, most measurements were quite similar. Not surprisingly, Option 3 was the fastest, given the additional hardware. Option 1 performed slightly slower but was only marginally. Option 2 had the slowest performance, illustrating that the hardware choice emphasizing many cores and threads was inadequate. Generally, it's more effective to focus on the core speed of the processors used in VDI selection.

Optimizing Price to Performance

Finally, the hospital compared performance to the overall cost. The hospital ultimately chose the best solution for their needs and budget – Option 1. While the best practice option provided the best overall performance, the hospital felt the small margin of improvement was insufficient to justify the price tag or the added expense necessary to maintain a more complex infrastructure. Option 2 was immediately dismissed, given that it was 18% more expensive and substantially slower. Option 1 ultimately provided the best price for performance.

Scenario	Performance	Cost	Option 1 Delta
Option 1 1 system, focus on core speed	Marginally Slower than Fastest	$1,000,000	🏅
Option 2 1 system, focus on count speed	Slowest	$1,180,000	$180,000
Option 3 2 systems, focus on core speed	Fastest	$2,300,000	$1,300,000

Making Smarter Decisions

At the start of the project, the hospital leaned toward the best practice proposal because they believed the performance benefits justified the price. Using Login Enterprise, the hospital saved $1.3 million compared to the original best practices proposal without losing quality.

This study demonstrates how real-life scenarios applied to potential vendor changes—whether on-premises or to the cloud—produce better price and performance outcomes and ensure the end-user experience of a new environment will be as good (or better) compared to the old environment.

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