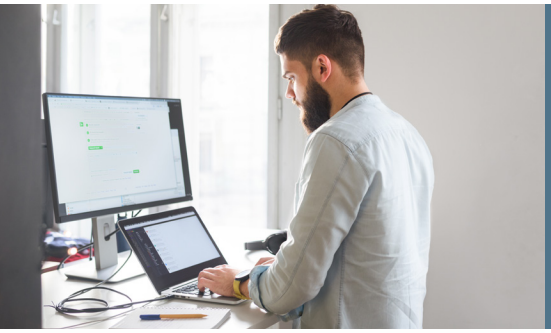

Using HCI to Lower the Cost of Virtual Desktop Infrastructure

The Challenge

To achieve a positive ROI, it's necessary to keep the overall costs of VDI under control. However, the traditional infrastructure used to host VDI systems is expensive to deploy, maintain, and scale.

The Solution

Hyperconverged Infrastructure (HCI) provides a more cost-effective architecture for hosting VDI. Organizations that deploy a high-quality HCI solution can achieve significant cost savings and an improved ROI over traditional infrastructure.

Key Benefits

HCI operates on less expensive industry-standard hardware

Simplified architecture makes HCI less costly to deploy, manage, and scale

Smaller IT footprint size equals data center cost savings

Since HCI deploys quickly and does not require a specialized IT staff for maintenance, it provides labor cost savings

HCI provides better, more robust support for IO-intensive VDI workloads and user productivity

Many companies are turning to virtual desktops as a means to provide their employees with easy access to work environments. Virtual Desktop Infrastructure (VDI) allows companies to consolidate critical data and applications in a centralized data center, which end users can then access from any location, using any type of device. But in spite of its many advantages, VDI carries numerous challenges and risks for organizations that use it.

One of the biggest problems with VDI is keeping overall costs under control. It can be a challenge to deploy virtual desktops in a way that provides the company with a significant return on investment (ROI).

The High Costs of Traditional Infrastructure

Many companies find their virtual desktop environment has a higher Total Cost of Ownership (TCO) than they anticipated. Often, these higher costs derive from the traditional infrastructure used to host the VDI environments.

Hardware Costs

Hardware could make up about 40-50% of the total cost of a VDI solution. The enterprise-grade servers and storage units used to host VDI are expensive compared to desktops, and the initial deployment requires a large capital investment in datacenter infrastructure.

Additionally, VDI being an IO dense workload, the storage infrastructure is typically over-provisioned to handle peak IO requirements, especially at large scales. All of this adds up to CAPEX as well as OPEX involved in operating the hardware.

Data Center Costs

VDI entails moving desktops from physical end-points which are outside of the datacenter, virtualized servers within the datacenter. This means additional datacenter space, with sufficient power and cooling capacity to keep servers and storage units operational. Space, power, and cooling requirements increase as the IT footprint scales up, which further increases data center costs.

Maintenance, Support and Licensing Costs

Moving to datacenter infrastructure means additional costs relating to maintaining, supporting and licensing all the hardware and software components within the infrastructure. This includes servers, storage, networking, virtualization, VDI delivery, OS software, any management and monitoring software, backup and DR software. Add to that the fact that many of these software and hardware products require specialized training for current IT staff.In addition, all of these costs typically will continue to rise as the IT footprint scales to accommodate more users.

Slower Productivity

Traditional infrastructure can struggle to handle the high-density, IO-intensive workloads of VDI. During high activity periods, the common pool of storage units can't handle the influx of random IO requests from thousands of virtual desktops. This results in latency on the VDI system, which can slow down end-user performance, reduce productivity, decrease the solution's ROI, and many times even result in project abandonment.

Not to mention, the latency on the VDI system can indirectly lead to higher hardware costs, as the company may end up buying additional storage units in an effort to mitigate bottlenecks and support higher IO activity.

How HCI Helps to Lower VDI Costs

Hyperconverged Infrastructure (HCI) provides a more cost-effective solution for hosting VDI. A recent survey of companies that deployed a high-quality HCI architecture to support a VDI system found that they saved an average of over $1 million in a three-year period. The survey identified significant cost savings areas, including:

Hardware Cost Avoidance Savings

HCI provides a simplified architecture for VDI by collapsing compute, storage, networking, and virtualization into modular, software-based building blocks. Infrastructure for VDI is easier to deploy, manage, and scale. Since HCI operates on less expensive industry-standard hardware, it provides significant cost avoidance savings over traditional hardware. HCI solutions can also be deployed on a variety of third-party hardware. This makes it easy to reuse existing server nodes with HCI, helping further avoid some of the hardware cost.

Furthermore, HCI solutions can utilize a wide range of storage resources including faster, low-latency NVMe flash storage. An HCI solution that can effectively and intelligently manage these various storage tiers to overcome IO bottlenecks provides substantially higher desktop density and helps slash total hardware footprint by up to 40%. That means even less hardware to deploy and manage..

Labor Cost Savings

On average, a high-quality Hyperconverged Infrastructure requires half the implementation and day-to-day management time of traditional infrastructure. Additional labor cost savings comes from HCI's improved resiliency, resulting in increased availability of the VDI system and a reduction in Help Desk work hours. Also, since the HCI architecture runs on industry-standard hardware, it can be managed by mid-level IT workers and does not require a specialized staff or additional training.

Predictable Scalability

The modular HCI architecture allows companies to manage their HCI system as pods. By designating a certain number of virtual desktops and nodes per pod (i.e. 1 pod = 500 virtual desktops = 4 nodes), the company can easily predict how many nodes they need to add as they scale to support VDI growth. This helps to keep hardware scaling costs under control since the company only has to buy as many new nodes as they require.

Superior User Experience

Modern HCI platforms provide a better, more robust way to host the IO-intensive workloads of VDI. Platforms that use their software-based intelligence to manage multiple storage tiers now common in modern server nodes can effectively eliminate IO bottlenecks and ensure consistent and superior user experience, helping boost VDI user productivity.

Conclusion

An HCI architecture provides numerous cost advantages for hosting VDI. HCI simplifies deployment, management, and scaling of infrastructure, and reduces hardware, data center, and maintenance costs. Additionally, companies should look for an HCI solution that utilizes faster storage tiers like NVMe flash and combines that with software intelligence to provide better densities and user experience. They should look for HCI solutions that scale non-disruptively and predictably while remaining simple to manage at large scales. An intelligent HCI solution with these attributes can help IT organizations battle the cost of VDI and help justify the ROI.

About Pivot3

Pivot3's intelligent infrastructure provides security, resilience and management simplicity at scale. Powered by the industry's only Intelligence Engine, Pivot3 automates the management of multiple, mixed application workloads, delivers industry-leading performance at scale, eliminates unplanned downtime and reduces the cost of traditional IT infrastructure by half or more. To learn more visit Pivot3.com

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