WHITE PAPER – EFFECTIVE FEBRUARY 2017

MEASURING THE BUSINESS VALUE OF HORIZON CLOUD WITH HOSTED INFRASTRUCTURE

vmware®

Measuring the Business Value of Horizon Cloud with Hosted Infrastructure

In recent years there has been a rapid move away from a purely physical desktop to Virtual Desktop Infrastructure (VDI). Breaking the link between access devices and virtual desktops in a data center results in a number of benefits, such as cost efficiency and transparency of access regardless of where the user is physically located.

This physical separation also increases the amount of work that can easily be shifted away from the local support staff. Insourcing and offshoring are more straightforward, as is outsourcing of the infrastructure components. A company can now choose a fully managed service for all of its desktop infrastructure.

VMware® offers Horizon™ Cloud with hosted infrastructure in this area. It can potentially offer savings for every organization, whether it is planning to expand its desktop infrastructure, provide for fluctuations in staff numbers or move its current environment to a third party provider.

As well as cost savings, there can be operational benefits when moving to a managed service. There is no longer any need to maintain full coverage of all technologies to expert level or manage the associated staff coverage, making it easier for the company to concentrate on its core business.

How Horizon Cloud with Hosted Infrastructure Can Help Your Company

Horizon Cloud with hosted infrastructure simplifies the delivery of cloud-hosted desktops and apps to any device without the hassle and cost of managing your own infrastructure. While all customers can potentially benefit, it is particularly suited to situations in which desktop infrastructure is required for a short period only and/or at short notice. Examples of which may include seasonal hiring, special projects and a company growing so quickly it cannot provide extended infrastructure as needed, or chooses not to do it all in house. Complementary infrastructure is provided outside the customer environment. There is therefore no need for the customer to provide additional servers for the virtual desktops or corresponding data center space.

Connectivity can be available anywhere, easing any problems associated with a remote or mobile workforce. VMware provides a service that can be specifically tailored to the customer's requirements. If the customer already has a well-developed desktop infrastructure, and capacity is being expanded or replaced, close liaison between vendor and customer representatives is required so that the cloud infrastructure will integrate seamlessly with existing infrastructure. To ensure success, there should be early and frequent involvement of desktop engineering, IT security and network teams, together with any third party suppliers of these services, such as a network service provider.

However, there are situations in which full integration with the core customer environment is not required or not desirable. For example, if a company wishes to hire a large number of temporary workers for specific tasks, data confidentiality considerations might dictate that these workers should not have access to the core network. Some smaller customers will have only a rudimentary infrastructure and may have not wish to integrate it with a new domain. For cases such as these, VMware recommends a feature of Horizon Cloud known as a local (or pilot) domain, a completely separate container, not connected to the customer's corporate domain or core infrastructure.

For the customer who decides to outsource all existing components completely, the existing environment can be copied to the pilot domain and the VPN, firewall, desktops etc. can be hosted from VMware Horizon Cloud with hosted infrastructure.

For more detail on implementation best practices see:
https://www.vmware.com/files/pdf/VMware-View-OptimizationGuideWindows7-EN.pdf

Reducing Infrastructure and Operational Costs with Horizon Cloud with Hosted Infrastructure

There are two principal areas in which Horizon Cloud with hosted infrastructure can eliminate costs: keeping the size of the infrastructure down and reducing the number of specialist IT staff. There are many companies whose user numbers fluctuate over time. This might be due to seasonal patterns of business, the cyclical nature of some industries or planned transformations requiring special projects and a consequent large number of staff who will not be needed once the project is complete. If the customer intends to cover the requirements of these additional staff using its own resources, considerable expense will be involved.

One traditional way to solve this problem is to make additional capacity available on a permanent basis. This requires increased capital expenditure, which could be better employed for business expansion or eliminated entirely, resulting in increased profits. Another way a customer could theoretically deal with this is to scale infrastructure up and down as required, incurring huge labor costs. In practice it's very difficult to achieve real gains, as both hardware and software cannot usually be obtained for short periods even if a rental model is used.

These higher costs can be avoided by use of Horizon Cloud with hosted infrastructure. Organizations can obtain additional capacity from VMware at a price significantly below what it would cost the customer to provide the service in house. As the examples below show, Horizon Cloud with hosted infrastructure can even be cost effective for customers with a steady level of business year round.

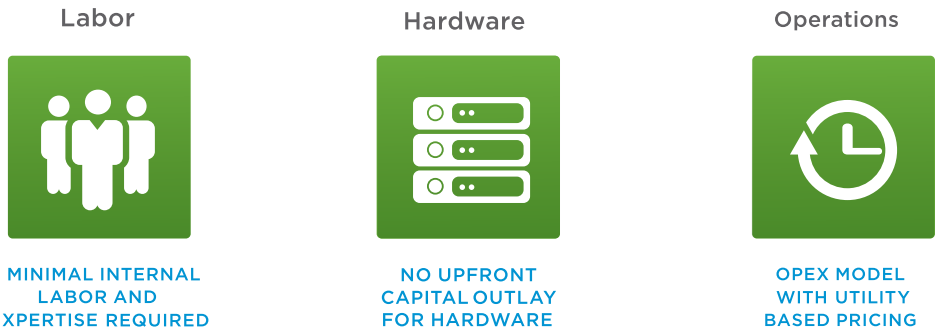
The idea that VMware can provide these services more in a more cost-effective manner than customers with their own efficient infrastructure teams may seem counter-intuitive. VMware achieves this in three ways:

- Economies of scale. VMware fulfils the needs of many customers and many fixed costs (such as large data centers) are shared.
- A better level of concurrency than most customers can achieve on their own. For example, a seasonal dip in one industry is offset by a seasonal surge in another.
- Concentration of specialist skills in VMware means the customer does not have to cover every technology to expert level with its own staff.

The last of these is of particular relevance to smaller companies. In a non-IT intensive business, analysts estimate the resources required to perform all IT tasks varies between 2% and 5% of all FTE. However, this includes IT work done by non-IT specialists and a better guide to the number of specialist IT staff in such an enterprise is usually around 100:1.

A company therefore needs to be very large before it can cover all specialist skills in house. In small to medium enterprises (SMEs), skills coverage might become particularly acute when covering sickness and vacation time. The company is faced with a choice between employing more staff than is ideal, leading to higher cost, or offering an inadequate level of service.

Using a managed service will overcome this. Virtual desktops and applications can be provided with a price and SLA to suit all customers. As well as lower costs, Horizon Cloud with hosted infrastructure also provides operational advantages. Eliminating problems of constantly changing demands on core infrastructure and staff leaves management free to concentrate on its core business.



Horizon Cloud with Hosted Infrastructure Costs and Example Configurations

The following practical examples show how different organizations would implement VMware Horizon Cloud with hosted infrastructure, together with estimated costs and compared to equivalent implementations built by the customer using physical desktop or on-premises VDI with hyper-converged infrastructure. The baseline is physical desktops, and the savings are in relation to that. The following basic data is used as input to the calculations:

- Monthly cost of data center space is $1K/rack
- Cost of power is $0.10/kWh
- Annual salary for support engineers is $75K, working 1920 hours per year with a 25% overhead for benefits and other costs
- Annual salary for supervisory staff and technical architects is $120K, working 1920 hours per year with a 25% overhead for benefits and other costs
- Cost calculations depend on the following factors, which are stated for each example:
- Number of users
  - Workforce fluctuation – the percentage change in the number of users over the course of a year. This will be high for seasonal business and low for a business which is steady state, with a new projects load evenly distributed throughout the year
  - Staff churn – number of employees joining and leaving on an annualized basis
  - Concurrency – the number of staff working at any one time
  - User mix – percentages of mobile users, office-based task workers and office-based knowledge workers

The method used to perform the cost calculations is explained in https://euc-roi.vmware.com/

Example 1 – A Winter Sport Tour Operator

In this example, the number of employees triples during the vacation booking season. There is a core of 200 employees, increasing to 600 during the busy period, of which only 10% are mobile users, with 20% knowledge and 70% task workers. Staff churn is 20% reflecting the high figure typical of the temporary workers making up the bulk of the workforce. Concurrency is 70%, given there will be times when most staff are working at the same time, even if there are early and late shifts. On an ongoing-basis, Horizon Cloud with hosted infrastructure is the least expensive, being 54% cheaper than physical infrastructure. Implementation of Horizon Cloud takes only nine weeks. For the customer to provide their own physical or virtual infrastructure would take 86 or 17 weeks resulting in 320 or 46 days of lost user productivity.

	PHYSICAL DESKTOPS AND LAPTOPS	ON-PREMISES HORIZON ON VXRAIL	HORIZON CLOUD (HOSTED)
User Devices	$140,269	$37,993	$37,993
User Software	$30,000	$44,175	$24,722
Data Center Infrastructure		$29,191	
Data Center Software		$80,160	
Data Center Space/ Facilities		$12,000	
Power and Cooling	$16,416	$3,216	$999
Labour Costs (Management/ Security/Admin)	$319,336	$79,468	$56,082
Service Provider Costs			$114,426
Project Costs	$29,727	$25,751	$18,506
Total CAPEX	$456,678	$167,738	$144,788
Annual CAPEX + Service Provider Costs	$170,269	$203,519	$177,141
Annual OPEX	$335,752	$82,684	$57,081
Total per Year	$506,021	$286,203	$234,222
Cost Per User Per Month	$70	$40	$33
Savings	Baseline	43%	54%
Time to Completion (weeks)	86	17	9
Lost User Productivity (days)	320	46	16

Example 2 – A Small Insurance Company Call Center

An insurance company wants to set up a 150 agent call center. There are no mobile users and the user base is overwhelmingly task workers (90%). This might represent a good use of a pilot domain, as it will be new and self-contained. Staff churn is a standard 10% and an allowance of 20% is made for fluctuation to cover seasonal variations in business. There will be two shifts, so concurrency is 60%, to allow for some workers to take over as the first shift ends. The cost of Horizon Cloud with hosted infrastructure is less than half that of physical desktops. It is also significantly cheaper than customer-built desktop and app virtualization, due to the small scale and low service provider cost of an environment such as this. This scenario again highlights Horizon Cloud's advantages in speed of implementation and consequent increased productivity. Horizon Cloud with hosted infrastructure can be implemented in seven weeks, compared to 11 weeks for the customer building their own virtual desktops and apps and 34 weeks if they use physical desktops.

	PHYSICAL DESKTOPS AND LAPTOPS	ON-PREMISES HORIZON ON VXRAIL	HORIZON CLOUD (HOSTED)
User Devices	$41,673	$8,698	$8,698
User Software	$9,000	$11,700	$3,585
Data Center Infrastructure		$29,191	
Data Center Software		$20,842	
Data Center Space/ Facilities		$12,000	
Power and Cooling	$5,184	$887	$247
Labour Costs (Management/ Security/Admin)	$92,285	$19,995	$14,111
Service Provider Costs			$31,294
Project Costs	$27,274	$24,367	$17,255
Total CAPEX	$141,264	$59,805	$36,855
Annual CAPEX + Service Provider Costs	$50,673	$82,430	$43,576
Annual OPEX	$97,469	$20,882	$14,358
Total per Year	$148,142	$103,312	$57,934
Cost Per User Per Month	$69	$48	$27
Savings	Baseline	30%	61%
Time to Completion (weeks)	34	11	7
Lost User Productivity (days)	98	14	5

Example 3 – A Manufacturer Of Generic Drugs

This represents an integrated plant of 5000 users, working around the clock. The business is very stable, as it relies on steady state and batch manufacturing processes. There are fewer knowledge workers than might be expected in a conventional research-oriented drug company. Staff churn is a standard 10% and fluctuation in staff numbers is only 5%. There are three shifts, with the day shift slightly larger, so concurrency is 45%. 5% of users are mobile (principally managers and senior technical staff), 15% are desk-based knowledge workers and 80% are task workers. Implementation of desktop and app virtualization solutions (whether on-premises or cloud-hosted) results in ongoing cost savings of > 65%, as the low concurrency level allows much more efficient use of resources. Despite the relatively large scale, a customer-implemented desktop and app virtualization solution costs more than Horizon Cloud, even when using VxRail hyper-converged infrastructure appliances. Time to completion is only 12 weeks, compared to 17-53 weeks for a customer implementation. This also translates into huge savings in lost user productivity during the project, as a result of the large user numbers.

	PHYSICAL DESKTOPS AND LAPTOPS	ON-PREMISES HORIZON ON VXRAIL	HORIZON CLOUD (HOSTED)
User Devices	$925,910	$194,072	$194,072
User Software	$262,550	$234,345	$133,290
Data Center Infrastructure		$119,191	
Data Center Software		$381,500	
Data Center Space/ Facilities		$12,000	
Power and Cooling	$147,442	$24,931	$5,899
Labour Costs (Management/ Security/Admin)	$2,743,530	$471,167	$332,509
Service Provider Costs			$605,093
Project Costs	$56,882	$41,077	$32,356
Total CAPEX	$3,060,808	$778,223	$755,273
Annual CAPEX + Service Provider Costs	$1,188,460	$941,107	$932,454
Annual OPEX	$2,890,972	$496,098	$338,408
Total per Year	$4,079,432	$1,437,205	$1,270,862
Cost Per User Per Month	$65	$23	$20
Savings	Baseline	65%	69%
Time to Completion (weeks)	53	17	12
Lost User Productivity (days)	2,875	406	144

Case Study – A Major Project for a Small Consultancy

Sudden increases in staff numbers can cause major headaches for small businesses. Aside from the inevitable problems associated with human side of hiring, the existing infrastructure and support staff will not usually be suitable for scaling up. The CEO of a software consultancy in the Midwest explains:

"We had grown the business to where we had around fifty employees – a core of twenty full time workers and up to thirty we could bring in on a temporary basis. As you can imagine, we didn't have a data center or fancy infrastructure. Everything was geared toward winning new business and getting the projects out. I put in a lot of effort building C-level contacts, and it paid off big when we got the chance to partner with a major vendor in the implementation of new software for a healthcare network. The vendor had no staff here, and the customer's CIO asked them to include us in the RFP, which was for customizing the software and rolling it out to users."

After they won the contract, the company faced many challenges, one of which was how to provide a working environment for so many new staff at short notice:

"The schedule called for delivery of the software in six months, followed by beta testing and phased rollout. We were going to need fifty programmers almost immediately, for periods of between three and nine months. Not only did we have nowhere to put them all, but we had no server or desktop capacity to handle that number of staff. Luckily we were already working with VMware. Our account manager soon found out about the new business and was eager to help us solve our problems."

"Key to our new requirements was the ability to access the desktop from anywhere, along with fast creation of a user environment. Desktop and app virtualization was obviously the way to go, but we had no expertise in this area, or any intention to acquire it with so many other demands on the staff. I was also concerned about the cash flow issue. We'd already have to make a lot of payments before seeing any revenue, and I didn't want to add to that with buying a whole bunch of new servers, even if we'd had anywhere to put them. For us, Horizon Cloud with hosted infrastructure represented not just a money saver when it came to providing desktops, but a way to get our new staff working much more quickly than if we'd built the infrastructure ourselves. When all our effort was targeted on software quality and delivery dates, the last thing we were interested in was system admin. Now I'm a big booster for Horizon Cloud. Using it, a company like ours can get more done, more cheaply, and concentrate on what we do best. I'd recommend anyone in our position to take a look."

Conclusion

Once a customer has made the choice to implement desktop and app virtualization, they face a choice whether to build it themselves or purchase a Cloud service. As the preceding examples show, Horizon Cloud with hosted infrastructure is often the more cost effective option, as well as offering an advantage in speed of implementation. Further benefits include the lack of necessity to maintain a full set of specialized support skills in house, and avoidance of problems associated with 24x7 coverage of these skills - this is all the responsibility of VMware. VMware's expertise in the area of virtual infrastructure therefore makes Horizon Cloud with hosted infrastructure a natural choice.

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