Thin Client Devices vs. Repurposed Desktops

Closed Loop Lifecycle Planning©—Thin client devices vs. repurposed desktops

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Executive Summary

The direction towards cloud computing and virtualization is now considered one of the key megatrends which will be shaping the client computing strategies of many organizations. Many subject matter experts have identified that 70% of large enterprises are performing pilots and proofs of concepts for both virtualization and the cloud.

As contrasted to past pilots and proofs of concept, the scaling of virtualized solutions appears to be occurring at a more rapid pace than previously.

As virtualization scales, one of the inquiries that many businesses have regarding the topic of virtualization is whether to acquire a true thin client device or to repurpose an existing desktop for access. Certainly there are positions to be taken in either determination.

Unlike previous years where virtualization is driven as an IT oriented initiative, today, the end user experience is often identified as a key metric for IT to be considered. The actual access device is no longer an afterthought, it is one of the key areas of interest to the organization.

In the past, virtualization was viewed in the context of an IT initiative, moving content off of the device hard drive and managing the content remotely. However, the end user now has a role to play in the determination of the strategy.

The consumerization of IT embraces virtualization and the cloud. End users desire an IT experience in a similar manner that they are accustomed to as consumers. The combination of the application and the access device plays a critical role in that end user experience.

In many organizations, the actual access device is "trivialized" under the belief that the end users simply "do not care". Today, it is clear that the end users do care and have a point of view. However, it is the opinion of *Closed Loop Lifecycle Planning©* that the actual access device is an important consideration and should be a part of the overall business case.

Closed Loop Lifecycle Planning© is the discipline developed and copyrighted by the author of this White Paper in assessing client computing. *Closed Loop Lifecycle Planning©* has delivered over 600+ customer white papers, including the Cost of Change, to 300 of the Fortune 500.

In research performed in writing *Closed Loop Lifecycle Planning©* it was determined that there are no right or wrong answers in matters of client lifecycle management, only conscious and unconscious decisions. Such is the case when examining the business case regarding whether to use a repurposed desktop or a thin client

The Economy

In a tight economy such as exits today, businesses should mitigate risk and complexity wherever and whenever possible. As a result of the tight economy, there is a tendency to extend the useful life of desktops.

In extending the useful life of desktops, including repurposing for virtualization, the idea is that there is little if any capital requirements. If a comparison between a net new thin client devices versus a repurposed desktop is solely focused on capital available for a net new device- than the discussion is simple and straightforward.

However, if the conservation is about optimal end user experience and true, overall cost (total cost of ownership), then the dialog might be different.

This economy suggests that the longer term view should be taken when considering IT strategies. The trade-offs between repurposed desktops versus thin clients represents one of those considerations where if viewed over a specific planning horizon, the determination might result in a different outcome.

Price versus Cost

In research performed in the creation of *Closed Loop Lifecycle Planning*© and in the HP TCO Snapshot Tool (as well as many other independent industry sources), acquisition price of product represents 10% to 15% of the actual cost of lifecycle.

This statistic is not intended to minimize acquisition price, since acquisition price is always a consideration, however, the price needs to be in the context of the overall cost model in place.

When comparing the TCO for repurposed desktops versus thin clients, the criteria for comparison should be a part of the consideration. If the comparison is only for capital, then the dialog could be a simpler one to conduct. If, however, the comparison is TCO, just as noted in the point of view of the economy, the outcome might be different.

End User Experience

The industry is in an era of the end user. End user experience is the new mantra and has developed into a key performance indicator for IT.

The method of access and the access device that an end user leverages in the enterprise has become a key to end user satisfaction. Aside from the quantitative considerations in comparing the repurposed desktops to thin clients, there is the more subjective point of view.

The end user experience might well be the driving factor in determining the choice if the economics are potentially equivalent. The access device is often how the end user perceives IT and the ease of accessing the information.

The Business Cases

This White Paper will examine both sides of the approach. First, the business case for repurposing desktops will be examined. Then, the business case for thin clients will be examined.

By discussing both sides of the approach, the reader can determine the optimal approach for their organization.

One of the key conclusions of *Closed Loop Lifecycle Planning*© is that there is no right or wrong answer to many of the client lifecycle management solutions, only conscious and unconscious decisions. The objective of this White Paper is to provide the basis for a conscious decision.

Virtualization

There is a portfolio of key initiatives in the market place that will fundamentally alter the landscape of IT. Among the so called megatrends include:

– The consumerization of IT
– Immersive experience
– Ubiquitous networking
– Cloud virtualization
– Mobility
– Big data
– Social media
– Emerging markets

Among all of these trends are the accompanying security and compliance discussions. For the dialog regarding thin clients versus repurposed desktops, the trend for virtualization is significant. According to many experts, most new software applications designed are to be focused on virtualization.

Application modernization, which in this context is defined as operating system agnostic, suggests that virtualization, either application virtualization or desktop virtualization is gaining traction.

The majority of Fortune 500 accounts are actively engaged in pilots and proofs of concepts for virtualization and the cloud.

The consequence of this strategy is that organizations can now choose how the end users can access the application portfolio.

Thin clients have long been associated directly with virtualization and that, of course, remains a solid linkage. Part of the question to be asked is whether the repurposed desktop is an interim strategy (if adopted) or the strategic direction.

Virtualization and cloud computing will clearly drive change to the IT organization. The consequences of the access device will have an impact on the services to be provided, the end user experience, and the future direction of IT.

Windows 10

Virtualization could play a key role in the overall Windows 10 strategy that every organization must consider.

Many organizations seek to leverage virtualization for those end users where the application deck or the desktop itself can be addressed. In doing so, the requirement for ongoing deskside support, local patch management and other lifecycle operations are basically changed.

For exploring repurposed desktops versus thin clients, this is important since it is about the applications and availability not the device in this Windows 10 scenario.

The Business Case for Repurposed Desktops

If an organization is migrating to a virtualized or a cloud infrastructure, there will be a conversation about the access device. In many scenarios the dialog will revolve around whether to acquire a thin client or repurpose a desktop. The decision to leverage a repurposed desktop or to engage with a thin client device depends upon several factors.

The considerations for repurposing a desktop for virtualization or cloud computing would include:

- Cost
- Sizing of the installed base
- User segmentation
- Legacy

Cost – Depreciation and Expense

In many organizations, the conversation is about capital expense (capex). If a desktop is acquired and depreciated or amortized over time, then there is the remaining depreciation balance to consider.

An alternative to address the remaining depreciation value is to simply reuse the existing device. This would require no incremental capital decision.

If the desktop is expensed rather than depreciated, the entrance cost would be nominal since the device is fully accounted for. In this model, the thinking is that at this point the desktop is a "sunk" cost.

If a business is moving toward virtualization, and the access device is to be a desktop, the position may be that the device is fully depreciated or expensed, and therefore has zero incremental acquisition cost/price associated with it. In this context, price and cost are usually viewed as interchangeable, which may be a part of the dilemma businesses are now facing.

If the acquisition price of a net new device is the sole criterion, then repurposing the desktop would seem to be a logical strategy. Assuming that the acquisition pricing of a desktop and a thin client device are approximately the same, then the repurposing of the desktop would be a cost avoidance strategy from a sourcing strategy in order to avoid spending capital dollars.

This is perhaps the crux of the business case for repurposing in that the requirement for a net new device is not clear, therefore the price is to be avoided.

Closed Loop Lifecycle Planning© differentiates cost avoidance and cost reduction. Cost avoidance is typically a one-time only impact financially, and frequently represents the cost of status quo, the cost of not changing.

Cost reduction, on the other hand, is a reduction in the recurring IT expenses. Recurring cost impacts the income statement, while cost avoidance is typically a balance sheet implication.

Sizing of the Installed Base

Many organizations have indicated that the scope and size of the enterprise dictates, to a degree, how the desktop installed would be addressed. The larger the existing size of the installed base, the greater the potential economic implications.

Many organizations determine that leveraging the existing footprint drives the behaviour. It might be more expeditious not to initiate change, since internally that might entail a level of scaling the conversation across multiple geographies and business units. The size of the installed base could be a part of the complexity in driving change.

It should be noted, that whether an enterprise repurposes desktops or embraces thin client devices, there is still work to be performed and that there will be change.

In many scenarios, it is thought that there is a path of least resistance, however, in both cases, the end user is impacted and the manner in which the device itself is considered is fundamentally changed.

User Segmentation

Closed Loop Lifecycle Planning© defines user segmentation as the optimal alignment based upon end user requirements, of device(s), cost, risk, service level, risk, and applications.

Closed Loop Lifecycle Planning© identifies the 10% Rule. The 10% Rule suggests that in user segmentation and related client computing initiatives, the installed base should be reviewed in 10% sizing in order to avoid creating a niche solution.

If 10% of the installed base is identified as the virtual segment, as an example, the disposition of the existing desktops could be considerable to justify not replacing devices. It is the scope and size of the installed base that may or may not suggest a set of economics that warrants the introduction of a new platform in terms of the access device, or to remain with what is already in place.

Legacy

Many organizations have lifecycle practices that are very mature, and the enterprise is at the advanced practice level in delivering the solution. In the case of repurposing desktops, many organizations might state that they are quite proficient in performing this work.

Change by its very nature can be unsettling, and having an existing approach that the organization is comfortable with might be enough to drive an IT strategy. The repurposing of desktops often falls in this type of scenario.

The Business Case for Thin Clients

The business case for thin clients would seem quite compelling when compared to the repurposing of existing desktops. However, compelling is "in the eye of the beholder".

If the dialog is about a "net new" device, and not about the overall cost or total cost of ownership, the conversation can be short.

The cost and overall set of economics would seem to be an issue that might vary from business to business and should be viewed in an objective, methodology driven approach. The sections that follow provide several of the key drivers for consideration.

Cost

One of the key findings of *Closed Loop Lifecycle Planning©* is that "*price does not equal cost*". Many organizations view cost as acquisition costs versus existing cost. It is easy to dismiss cost in favor of repurposing desktops, if a true cost perspective is not taken.

The cost argument for thin client devices versus a repurposed desktop can be broken down into various elements for consideration. The overall cost portfolio should be viewed in its entirety.

The elements of the cost perspective includes the following:

- Cost of preparing existing desktop to compare to net new thin client
- Sustainability
- Introduce self-enablement

These cost elements are discussed in more detail in the following sections.

Cost of Preparing Existing Desktop to Compare to Net New Thin Client

In examining the key drivers to compare repurposing desktops to thin clients, the overall set of economics should be documented at the account level. In *Closed Loop Lifecycle Planning©*, it has a bill of material defined that supports client computing.

If a desktop is repurposed, many of the lifecycle elements for support would be impacted, and all have cost implications. These elements include:

- Removal of hard drive
- Disposition of hard drive
- Update of asset management repository
- Ultimate disposal of desktop

Removal of Hard Drive

As a part of the repurpose of the desktop, it will be necessary to remove the hard drive from the device. This is the actual repurpose effort. The work to be performed includes several steps all of which require resources, time and cost. An example of the steps are identified below, which would need to be repeated for each of the desktops.

Step 1: Initiation of work to be performed by the help desk
Step 2: Schedule the work to be performed with end user and device
Step 3: De-install the hard drive
Step 4: Inventory the hard drive and determine how to inventory and cleanse/wipe the device

Disposition of Hard Drive

Once the desktop has the hard drive removed, there should be a defined ITIL© based solution to process the hard drive. Once the drive is wiped, then the drive should be securely disposed, or destroyed.

Update of the Asset Management Repository

As the desktop is modified, the asset management repository should be updated to reflect the new status. One of the questions to be addressed is whether the desktop would still be required to be asset managed.

The rationale is that USB drives, potential components could be added, and the asset management solution should be modified to reflect and manage that platform.

Because thin clients have no moving parts, the asset management requirements are quite nominal, and more like an inventory management process.

Ultimate Disposal of Desktop

Once the desktop has the drives removed and the useful life is over, then at the end of the lifecycle, the desktop is to be disposed. The residual value of the desktop is that it is highly probable that there is no remaining value since the device would be beyond 4 years old without a hard drive.

This would suggest either a recycle program or a cost associated with disposal. Often there is a goal of revenue sharing in disposing of desktops, which if the device is old(er) and without a disk drive, the potential is negligible.

A desktop does require a set of documentation for the deposition of the device for environmental determination and the hard disk destruction.

Sustainability

Sustainability can be defined in terms of power consumption both active and passive power management. Thin clients when compared to traditional desktops can deliver substantial power savings and improvement.

The savings become even more pronounced when the desktops are beyond 4 years. The comparison of thin clients to desktops could represent a range of $30 to $40 per device per month, depending upon settings and locations.

By the very nature of thin clients, this represents a repeatable annual cost counter measurement.

Introduce Self-Enablement

Many organizations struggle to accelerate self-enablement. The megatrends and the demographics will continue to drive new service levels including self-enablement.

Thin client devices are end user installable and can mitigate the desk side support expenses. If there is a desk side support call required, then the time of the support would be minimal.

"...but what if..."

When end users are asked why a desktop remains when virtualization is the delivered solution, in many cases the explanation is - "when (if) virtualization fails, I still have my desktop".

Removing the desktop from the installed base reinforces to the end user community that virtualization does not require a standalone desktop as the access device.

Scaling the Initiative

Depending upon the scope and size of an installed base, the impact of conversion from desktops to thin clients can approach a transformation type of project. If end users and IT view the repurpose of desktops and thin clients as transformative, the embracing of this change might be enhanced.

Observations

"Compelling is in the eye of the beholder."

On the surface, it would seem logical that migrating to a thin client solution and technology would be compelling for many of the reasons identified in this White Paper. The caveat is that every organization has its own set of economics that must be addressed.

If there is a lack of capital to acquire net new product, then repurposing desktops is the default strategy. However, as can be observed from the business cases presented in this White Paper, it should not be assumed that this is the best set of economics.

Thin client computing is as much of an emotional change as an operational change. The key message from end users is that many believe that the real rationale for repurposed desktops is that if virtualization does not deliver, then the desktops provide the backup.

Thinking like end users and addressing the anticipated behavior is the key factor in making the ultimate determination if all other factors are considered and weighed.

It is interesting that many of the virtualization projects become "stove piped". The teams focus on the applications and the application delivery methods, not on how the end user accesses the applications. As a result, another team typically is chartered with addressing the access device itself. In the opinion of *Closed Loop Lifecycle Planning©* this represents a gap in the overall strategy.

As a part of the due diligence in virtualization, the device that the end users will leverage is a critical part of the adoption strategy and the end user satisfaction. It might be easier to defer to another team, but the full scope of the project is to assure adoption and end user experience.

Appendix: Third-Party and Independent Research References

1. Bruce Michelson, *Closed Loop Lifecycle Planning*©—What is It and Why It Is Important to You (Ashland, OH: Bookmasters, 1999.) Bookmasters, 30 Amberwood Parkway, Ashland, OH 44805. ISBN 0-9667607-0-0. The terms *Closed Loop Lifecycle Planning*©, CLLP, and Appropriate Incumbent Behavior are copyrighted, 2010-2014.

2. *Closed Loop Lifecycle Planning*© *A Complete Guide To Managing Your PC Fleet*, by Bruce Michelson, Addison-Wesley publisher, division of Pearson Publishing, ISBN 978-0-32-1477149, 2010 and 2011.

Note: The sources used to compile data included industry-standard information, available HP Inc. (HP) information, and research independently performed in writing *Closed Loop Lifecycle Planning*© by Bruce Michelson. Available industry-standard TCO statistics were also used in preparation of this Thin Client versus Repurposed Desktop White Paper.