White paper

Optimizing Technology Refresh

Closed Loop Lifecycle Planning–Technology Refresh Cycle – Unique for 2013

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Table of contents

Technology Refresh Cycle – Unique for 2013

Executive Overview

Let's face it; a technology refresh cycle is not exactly the most exciting topic that IT prefers to discuss.

We in IT have been addressing the refresh of desktops, notebook PCs and servers for some time. Perhaps, however, that is the point. If this upcoming technology refresh cycle is similar to your last refresh cycle, then maybe it is time to revisit what we in IT need to consider when refreshing in this specific technology refresh cycle.

Many of the existing white papers regarding technology refresh cycles do not include the topics of the megatrends and the impact on this 2013 technology refresh cycle.

In this White Paper the objective is to provide a somewhat detailed dialog regarding technology refresh for client computing. Unlike previous technology refresh cycles, this particular cycle is occurring in the context of other significant trends in client computing.

The Economy

Regardless of your point of view, it is undisputable that this is a tight economy. The Great Recession will have a long lasting, lingering impact on the economy.

As a result of the tightening economy, many businesses delayed certain investments in IT. Many of these investments included:

- Deferring Windows 7 until the last possible time (perhaps hoping that 4/2014 would be moved)
- Not investing in software maintenance
- Addressing IT staffing
- Extending the useful life of desktops and notebook PCs
- Contingent and non-FTE labor increased in leverage

In essence, we in IT were "hunkering down" to weather the economic storm, in many cases out of necessity.

During this same time period, however, the IT marketplace did not remain status quo. The consumer market in mobility literally exploded on the scene and consumer buying habits have been fundamentally changed.

Expectations of the end user communities that IT supports, now has a different point of view than before.

Megatrends

Most subject matter experts, third party consultants, and IT industry watchers, concur that there are a number of game changing trends, referred to as megatrends, that will reshape It in the next 3 to 5 year (if not sooner and more immediate).

Whether the experts declare 5, 6, 8 or any figure for the megatrends, most concur in the topics and elements. These megatrends are significant since this technology refresh planning should include an adoption plan, or at least recognition of these megatrends. If not, then it is quite possible that there will be artificially created cost of change which will increase any future transformation.

These trends include:

- Consumerization of IT
- Ubiquitous networking
- Emerging markets
- Cloud and virtualization
- Social media
- Mobility
- Big data
- Display technology

A separate White Paper will be written on the megatrends and there is an on demand webcast addressing many of these topics hp.com/go/events.

Governance

For most businesses, the conversations about client computing governance occurred in the distant past. The governance for client/server technologies was likely written at least a decade ago.

Much of the technology that is being deployed today did not even exist 10 years ago. As a result, it is assumed that the existing governance is adequate for the upcoming technology refresh cycles today and in the future. The governance is likely not adequate.

According to the 2012 Ponemon Institute© report, in its Second Annual Cost of Cyber Crime Study, 2011 was the most aggressive cyber-attack era on record. It is in this context as well that governance needs to be revisited.

Think about the following context:

- Mobility and smartphones
- Mobile applications
- Networking (Wi-Fi)
- Tablet computing
- Gaming
- Social media
- Text messaging
- Instant messaging
- Home PC's

Just as in other lists, the number of new technologies and applications are considerable, and could certainly be expanded. There is a co-mingling of personal and business personas lending to the complexities of defining governance.

Governance is now a requirement of joining the corporate, lines of business, application leaders, human resources, compliance, networking, security, and others in a dialog about governance.

Closed Loop Lifecycle Planning© Methodology

The Closed Loop Lifecycle Planning© methodology is the approach copyrighted by this author in creating the bill of materials to support client computing. When looking at the 2013 technology refresh cycle, operationally each of these lifecycle elements should be considered.

This White Paper will drill down briefly into each of these areas. The lifecycle elements include:

- Hardware
- Software
- Staging and integration
- Moves, adds and changes
- Warranty and maintenance
- Help desk
- Asset management
- Project management
- Management tools
- Sustainability
- Disposition
- Technology refresh cycles
- Service delivery strategies
- Total cost of ownership

In most of the businesses today, there are significant cost reductions and cost avoidance to be considered. At the least, if these lifecycle elements are not addressed, IT will be sub-optimized.

Hardware

The hardware lifecycle element is perhaps the most challenging, although most of the time it is taken for granted. For this technology refresh cycle, it would not be fair to assume a "like for like" refresh. This refresh cycle must consider the megatrends.

This technology refresh cycle should revisit what end users require to do the work assigned. Assuming desktops to desktops and notebook PCs to notebook PCs may miss some of the requirements.

For example, if a company can retain a desktop for 5 years, then it might be appropriate to have the dialog about virtualizing the desktop. If an end user has multiple devices, it may be time to discuss companion devices.

User segmentation is one of the key methodologies and approaches to determine the requirements of the end users in this technology refresh cycle and beyond. Closed Loop Lifecycle Planning© defines user segmentation as the optimal alignment of end user requirements to the suite of access device(s), cost, risk, service level and applications.

For the 2013 technology refresh cycle in order to leverage the megatrends, a user segmentation approach may yield unique benefits.

Software

For this technology refresh cycle, it is all about the application deck and how they will work on Windows 7. Software remediation and software rationalization should be a part of this technology refresh cycle.

To embrace the megatrends, and in order to anticipate the trends for virtualization and the cloud, while remediating the software deck for Windows 7, it is an opportune time to analyze the effort to virtualize the application deck. The incremental effort to review the application deck is considerably less than generating another project to review the same application deck at a later time (where the work would likely be performed by a different team).

Analyzing the application deck once is clearly advantageous. A software rationalization report is almost always processes which represents an interesting point of view of the installed base.

This report, which most management tools can simply run provides the following information:

- Software manufacturer
- Software title
- Software version
- Run in descending order that criteria is met

Typical findings include:

- Multiple versions of software
- Different software, same functionality
- Personal preference software
- Local business unit software
- Games and non-business applications
- 80% of the total quantity 10 or less
- Significant quantity 1 and 2

The points of these findings are that even when businesses believe that they are locked down, the access to the on line capability result in software residing on devices that have concerns that could include:

- Licensing
- Spyware
- Malware
- Viruses

With the advent of mobility and the ease of use on the internet, the balance between business and persona personas becomes a bit blurred. This report might lend insight into the installed asset base.

Staging and integration

If the staging and integration is being performed in the same manner than the previous technology refresh cycle, then it is likely that there is an opportunity to improve the cost model.

Creating a gold disk image, or other locked down application deck as a part of the Windows 7 configuration is a solid strategy of course. The objective in the staging and integration is to reduce the number of times a device needs to be "touched".

The least touch alternative is also the least cost alternative. Closed Loop Lifecycle Planning© defines "touch" as an incremental handling of the desktop or notebook PC.

With this definition there are two alternatives that can and should reduce the number of "touches". If client devices are acquired direct, then have the OEM configure and image as much as possible in the manufacturing process.

The same holds true if a partner or reseller provides the configuration- have the partner do as much of the preparations as possible.

In many scenarios, the lines of business or perhaps the business itself perceives or believes there is a requirement to locally load applications or in some cases, remove whatever the partner or OEM provides and customizes the local imaging process.

This technology refresh cycle may be the one where businesses should challenge themselves and ask the question whether the requirement is really due to the complexity of the imaging, or whether it is more of a "comfort zone" or the "way we have always done the image".

Many businesses now consider the core image to include icons that when a device is connected to the network, the end users can access the loading of the software on the local device.

It is interesting to note that many businesses still have end users with Active Directory Privileges and Local Administrative Rights. Fundamentally this means that an end user has the ability to change and add software, settings and applications to the configurations. If this is the case, then why not more fully embrace the consumerization aspect of having an end user more involved with the staging and integration process as it is defined in this section. (The next section discusses deployment where this is even more of a consideration).

Moves, adds and changes (deployment)

Combining all of the deployment activities loses the context of the cost related to the actual work being performed. Deployment is a bit more complicated than most might think. For the considerations for this technology refresh cycle, we will look at deployment in several different ways than previous thinking.

Think of moves, adds, changes and deployments in the following context:

- Net new install
- Cascading
- Traditional MAC (move, adds, and changes)

Net New Install

The net new installation means precisely that- a new device is added to the client device fleet. The work performed is for the new device which would include the acquisition, staging and integration, imaging, and then the install of the device with the end user. Perhaps there is also a level of training or navigation that would occur. There would be a data migration of old to new device as well. In some cases this could take as long as 30 minutes to 90 minutes depending upon complexity and content. Lastly, there would be an end user acceptance.

The megatrends combined with the user segmentation logic have resulted in more self-service discussions amongst businesses. Self-service adoption remains somewhat low for most businesses.

This is interesting since the trend for BYO (Bring Your Own) devices suggest a self-service model. The conclusion is that perhaps as a precursor to BYO, adopting self-service would be an interim step in this technology refresh cycle.

Embracing this strategy would reduce IT costs while preparing for adoption of the megatrends and even freeing up funding to address the required toolsets.

The time to plan for a deployment of a net new device is typically a 2 to 3 hour proposition. If we assume the average cost per hour is $65; at 2 to 3 hours the cost to deploy the device approaches $130 to $195 per device. This does not include any downtime for the end user. With desktops acquisition pricing at $600 to $700 (you "mileage may vary"), the deployment itself could represent a third of the acquisition cost.

Given the maturing of end users, at least for notebook PCs and for Day Extenders/Road Warriors or related segments, self-deployment might be significant. This is the technology refresh cycle to leverage this concept.

Cascading

Cascading is the practice of re-deploying client technology. Whenever there is a net new device added to the PC fleet, there is a decision to be made about the existing device.

The costs to cascade seem on the surface to be prohibitive given the declining acquisition pricing of new technology. There is no such thing as a single cascade; a cascade typically results in at least 3 to 4 other, incremental transactions. At the end of the cascade is the older, least valuable (residual) desktop or notebook PC.

As a rule of thumb, the timeframe for a cascade is an 18 month window where there is enough remaining useful life to make a set of economics at least reasonable.

Here is an example of a typical cascade:

- Step 1 Net new device installed
- Step 2 Data migrated, PC de-installed
- Step 3 Old PC taken to secure area, inventoried, and cleansed
- Step 4 Old Pc re-imaged, inventoried
- Step 5 Old PC re-deployed
- Step 1 through 4 repeated

A single cascade results in at least 2 to 3 other cascades. At a cost of $65 per hour, with a 2 hour minimum, the costs for the various cascades exceeds the cost of a net new device.

When having this conversation it is important to remember that the conversation is typically about Capex vs. Opex and not really about old vs. new. It can be a brief conversation if the only criterion is to avoid Capex.

Warranty and Maintenance

Closed Loop Lifecycle Planning© has long advocated warranty, not maintenance. Extending the useful life beyond the OEM warranty windows creates the driver for the enterprise to enter the break/fix lifecycle operation.

Maintenance is anywhere from 2X to 2.5X the costs of warranty. This is quite logical when one thinks about it. Outside of the warranty window (and warranty is a sum zero propositions) the business now must:

- Acquire inventory
- Manage inventory
- Turn over inventory
- Assign staff to support
- Asset track
- Determine spares inventory levels

The list can go on but the point is that warranty is straightforward, while maintenance is not. Think about maintenance in another manner, does the IT department really want as a core competency to excel in supporting older technology?

This is another area where the megatrends might come into play. Technology refresh cycles may well become shorter than today's refresh cycles. Moreover, cloud and virtualization might change the approach. Having maintenance is a key element of the economics may be revisited in 2013.

Help Desk

The help desk is changing or is about to change in the future. End users in many cases now believe (and in certain cases are likely not far off the mark) that given their core competency with the consumerization of IT, deferring a call to a level 1 agent may not be optimal.

This technology refresh cycle may be an optimum time to introduce the advanced levels of self-help for mobility users in particular.

Chat, FAQ's, and other self-help technologies are main stream. As consumers, end users are not only familiar, but in many cases prefer to leverage these technologies.

The adoption of self-help has already crossed over in the consumer marketplace. Think about the airport kiosks in use, the ATM for banking, and the adoption of mobile applications for certain day to day activities by the consumer. To a degree, our end users are somewhat anticipating corporate IT to take the same direction, and may actually be somewhat confused why it is not occurring at a rapid pace.

From a cost perspective the potential could be dramatic. A helpdesk call depending upon the content and complexity could be in a per call range of $12-$25 per call.[1] Self-service can be measured in terms of single dollars per call. Of course, there would be a one-time only infrastructure cost to set up the practice levels.

This further points out the significance of this technology refresh cycle- if the infrastructure is to be established to provide self-help as an alternative service level, now is the timing, since consumerization, BYO and virtualization trends would suggest the requirement for such a service level in the near future.

Asset Management

Asset management for hardware and software has always been the most critical building block for client lifecycle management. All of the other lifecycle elements have a key dependency on asset management in order to optimize that lifecycle operation.

That has been one of the issues over time with asset management- the benefits may not seem so obvious to non-IT/lifecycle oriented teammates. As a result, like the training budgets, it has always been a challenge to secure appropriate level funding for asset management.

With all of the various initiatives woven into this technology refresh cycle, this cycle is one that the practices for hardware and software asset management should be strengthened.

This premise is for a variety of reasons:

1. Security requires it, you cannot manage data that you cannot locate
2. You cannot manage in a world of device diversity, information that cannot be tracked
3. Refresh requires specific identification
4. Software needs to be identified and rationalized
5. Megatrends must have a foundation to be built upon

1. Alinean and HP TCO ROI Tool, and InfoTech white paper and report "Steer Clear of Steep Help Desk Costs"

Project Management

Project Management

This technology refresh cycle and process should not be viewed as a standalone project. This refresh is highly inter-related to almost every other IT and business project in the enterprise.

For years, the refresh process stood alone and was focused merely on replacing old devices with new devices. This simply is not the case today. Today's conversation needs to be more user centric- what does the end user require to do their job?

Like for like replacement misses the point that the ways technology is used has changed during the timeframe that the current installed base has been implemented.

Management Tools

It is highly likely that the management tools that were in place when the desktops and notebook PCs were deployed 4 to 5 years ago may (or may not) be adequate for the new requirements. The requirements have changed based upon.

MDM (Mobile device management) was not as pervasive as this refresh cycle, nor is the advent of home offices.

Management tools require more focus on security as well as spyware, malware, andante-virus.

The asset management, patch management and security management all now somewhat bundled as a set of suites to address the current threat and regulatory requirements.

Sustainability

Sustainability is one of the strategies that are depicted on virtually all businesses websites. Every business defines the commitment to the environment.

This technology refresh is a sustainable refresh cycle. Older technology – desktops and notebook PCs- that are 4 years old or greater, simply consume much more power than the current counterpart. This is not to imply that there is anything out of the ordinary with the products, simply consider the U.S. Government standards EnergyStar.gov as an example.

Just comparing a 4 year old desktop to a current desktop could yield as much as $30 per year of power consumption. This is without any power management considerations. If the desktop were retained for 3 years as its useful life, the savings to be seen are 3 years X $30 or $90 over the 3 years. If a desktop acquisition price is $600, then the sustainability savings approaches 15% of the acquisition pricing.

The above commentary assumes that there is not a power management strategy in place. This is where sustainability and asset management do relate to each other. Managing the fleet of desktops and notebook PCs, Windows 7 has considerable power management settings that can effectively manage power consumption. Combined with the OEM power management schemes (such as HP Power Management) the power consumption can be further reduced.

There are also third party software manufacturers that deliver power management solutions that complement both the OEM and Windows 7 capabilities.

With all of this said, there is another $20 to $25 per device per year savings potential for power management.

The combined result of the impact of technology sustainability, Windows 7, OEM power management and potential third party, there is an opportunity to reduce the power consumption $50 to $55 annually per device or $150 to $165 over three year useful life. This represents almost one third of the acquisition costs.

While these figures are extraordinarily compelling, many businesses disregard these for the technology refresh cycle consideration. The rationale includes the following:

1. Savings for power consumption is not an IT budget line item but is a facility line item
2. Power consumption is a "soft cost", an indirect expense and is not part of the IT budget build up
3. If implementing the power management solutions requires any investment, then it is like asset management and not a priority

These arguments, and others like it, suggest that the commitment to sustainability is dependent upon other factors than the environmental impact.

Power management for client computing does not occur unless IT enables it as a part of the refresh process.

Disposition

When a desktop, notebook PC, tablet or any access device is decommissioned from service, there is a definitive process that should occur.

It should be assumed that the end of life of client devices is as critical a step in the overall lifecycle as any other element. End user devices that retain information may violate the regulatory and personal privacy laws just as a lack of asset management or encryption may impact the enterprise.

Asset management is critical for a variety of reasons at the end of life of a device. First, the repository should be relieved of the device and the software residing on the device should be harvested.

Then the device should be cleansed of all of the personal and business content that resides on the device. A DoD certified wipe is typically considered to be required.

Subsequently when the devices are retired, they can be recycled, demanufactured, or otherwise destroyed. Businesses and various localities require a certificate of destruction for the environmental aspect.

For the content a certificate is similarly required to validate that the contents will not find its way into the public domain.

For the device diversity and mobility that exists today, the disposition becomes more challenging and more important for personal security, protection of IP, and for identity protection.

Technology Refresh Cycles

One of the fundamental questions that are asked is – what is the best practice for useful life for desktops and notebook PCs, and tablets.

Closed Loop Lifecycle Planning© has concluded that there are no right or wrong answers only conscious and unconscious decisions. An answer for one business may not work for another business in another industry.

When discussing technology refresh cycles with businesses, it becomes very clear, very quickly if the discussion is truly about the refresh cycle. More often the discussion is about Capital versus Operational (Capex vs. Opex) budgets.

There is, of course, nothing wrong about this conversation; however, that conversation is not about refresh but a financial conversation about the sources and uses of working capital and the IT and lines of business budgeting.

For many years, this conversation clouded the technology refresh dialog and as a result, useful life was never really identified within a business.

If capital is the sole rationale, the useful life will almost certainly be extended. A "big bang refresh" will result if the useful life is extended to 5 years or beyond. A "big bang refresh" is a refresh that requires over 70% of the installed client devices to be replaced.

Due to the Great recession many businesses consciously made the decision to extend the useful life of desktops and notebook PCs and defer Windows 7 migrations. Now these businesses are facing a technology refresh cycle of scale since older chipsets and cannot optimally run Windows 7.

Having stated that premise up from, the following is some of the logic for useful lives:

• Desktops

Desktops useful life is typically in a range of 3 to 4 years. If the question is can a business extend the useful life beyond that period of time, the answer is –of course. 3 years is optimal since it combines the warranty windows typically provided and the residual value of the device. The chipsets within the device are within a reasonable period for operating system performance and application performance.

• Notebook PCs

Notebook PCs are all about battery life and form factor. The typical range for optimal useful life for notebook PCs is 3 years. However, Closed Loop Lifecycle Planning© concludes that the timing is moving closer towards a faster 30 months refresh. The rationale is that the battery life improvement and the chipset improvement are occurring annually to the point where a 2X factor is not unusual.

• Tablets (consumer)

Tablets are where conventional wisdom might not work as well in their consumer oriented technology. If the tablet technology is of a consumer grade, then the expected useful life should be considered at 10 to 24 months. Consumer products were not manufactured to withstand the rigors of the corporate computer model. More frequent technology refresh models will be required.

A Word about Upgrades

As a corollary to the discussion about Capex and Opex many businesses consider in field upgrades of devices. The idea seems to be that acquiring net new devices is more costly than merely adding more disk and memory to existing (older) devices.

Looking at this proposition more closely, the opposite seems to be true- the economics do not work in the favor of upgrades in the field. Again let us assume that the acquisition price of a desktop is $600 for a baseline example.

The following is the cost build up:

1. A project needs to be created to identify the devices requiring a field upgrade
2. Criteria needs to be established for upgrade versus net new
3. Disk and memory pricing need to be secured (assumed to be $100)
4. Desktop needs to be opened, new desk and memory added, potentially old disk and memory removed (assumed 2 hour event @ $65 per hour = $130)
5. Help desk ticket needs to be opened and closed for the incidents (assumed to be $20)
6. Old disk and memory need to be disposed
7. Asset management repository updated

A quick tally of the partial figures suggests that at least 50% of the price of a net new device is offset by upgrade costs. Adding in the energy management commentary form previous sections and upgrading seems to be a non-economic strategy to consider.

This is likely only a partial list and does not include the overhead for resources, end user downtime, and other factors. Moreover, adding more disk and memory to an older chipset may not result in the speeds and feeds expected for Windows 7.

The final point to be made is that adding more disk and memory to an older configuration might not extend that useful life any longer, implying that the device will still require replacement shortly.

Service Delivery Strategies

The lifecycle planning model must include a review of the service delivery strategies. This White Paper will not delve into the details other than to identify the various alternatives for a business to consider.

For client lifecycle management businesses can:

- In source
- Outsource
- Out task
- Shared service
- Hybrid
- Buy
- Lease
- Embedded lease

In Source

In sourcing suggests that the IT organization perform all of the lifecycle elements (the Closed Loop Lifecycle Planning© bill of material) in house.

Outsource

Outsourcing suggests that the entire bill of material to support client computing is perform by a third party. Typically an outsourcing arrangement includes the outsourcer acquiring the installed base of assets.

Out task

Out Task suggests that only specific lifecycle elements form the bill of material are delivered by a third party. In an out task relationship, the ownership of the assets are typically retained by the business.

Shared Service

Shared services are a service delivery model that combines various partners in a common bill of material to deliver lifecycle services. Each partner owns and is responsible for a specific service level agreement which is a part of a larger service level agreement.

Hybrid

The hybrid model is precisely what the name implies- a conscious co-mingling of service delivery strategies. The hybrid model is a customer model, likely global and complex and one that has multiple shareholders involved.

Buy

Buy versus lease is actually a service delivery decision. Buying desktops, notebook PCs, tablets, and other client devices raises the topics of useful life, service levels, refresh and other more strategic decisions. The cost of change is higher if assets are owned.

Determining if the assets are to be depreciated or expensed continues to be an issue that businesses address in the realm of client computing.

Lease

It should not be surprising that with technology refresh cycles moving so rapidly that leasing products provides a bit of agility to the business. Particularly on notebook PCs, leasing provides an opportunity to leverage the planned refresh cycle that comes with the financing model.

Another virtue of leasing is that the financial asset management can be leveraged. Every line item on a detailed Schedule A leasing document can be a line item into the asset management repository, improving the overall asset management practice level.

Embedded lease

Embedded leasing enhances the overall set of financials by including those lifecycle elements that can be treated as product attributes and then amortized just as the product. Such items as extended warranty, product replacement, peripherals, and so on can be appropriately combined so that the numbers of transactions are minimized.

Total Cost of Ownership (TCO)

TCO has been around client computing since the 1990s. Many businesses have leveraged TCO to baseline and determine the level of practices in the IT operations. It is likely safe to suggest that most of the Fortune 500 accounts have had TCO studies performed in the past, or know internally what the cost per device per month is fully loaded.

With consumerization of IT, the questions surrounding TCO seemed to have been placed in a different context. BYO as companion devices have a TCO associated with these devices, however, the traditional TCO logic does not seem to be applied. There will be a more though discussion about this topic in the upcoming White paper about BYO.

This technology refresh cycle should provide the business an opportunity to re-focus on the TCO and cost to provide client computing. The megatrends will require a level of investment. If the current state TCO is not known or fully understood, then the context of future considerations will become more difficult to quantify.

The Print Fleet

As complex as the technology refresh question for desktops, notebook PCs and tablets; the same question of what is the optimal refresh for the print fleet is often not considered at the same time of a client refresh cycle.

The assumption is that the refresh cycles of client devices and print are not related- but they are.

When thinking about user segmentation, there must be a similar thought to what end users requirements are for print.

Closed Loop Lifecycle Planning© defines user segmentation (repeating from an earlier section of this White Paper) as the optimal alignment of the suite of access device(s), cost, risk, service level, and applications driven by end user requirements.

Clearly one of the end user requirements (and should be considered as part of the access device suite) is the requirements for print. Regardless of whether the user segment is an Executive, Road Warrior, Day Extender, or other end user segment, there will be a print requirement.

The requirements can be defined in a variety of ways including:

- Printing
- Fax
- Scanning
- Single purpose or multi-function device
- Black and white
- Color
- Complexity of job
- Supplies

Again, just as the PC fleet, the print fleet needs to be aligned with the new end users. If, as an example, there is a segment for teleworkers, the requirements for home printing must be defined. The volume, complexity and security of the solutions need to be considered.

The determination of fit and purpose for the print fleet is as critical for the success of the end user as the access device (desktop, notebook PC, or tablet).

Print drivers must be aligned with the technologies and the refresh process established.

Just as the case with older desktops and notebook PCs, older printers will consume more power. Windows 7 and power management schemes are critical steps in addressing sustainability.

If one reviews the Closed Loop Lifecycle Planning© bill of materials for client devices, most, if not all of the lifecycle elements apply to the print fleet.

Many businesses, just as with the access devices," ride technology until it dies". Just as this strategy is an issue for PC's, it remains an issue for print, fax and scan strategies as well.

This technology refresh cycle is likely the opportune time to align the input and output side of the end user requirements to harmonize the economics.

The Display Fleet

To complete the portfolio for this coming technology refresh cycle, businesses need to be aware that the aging display fleet is possibly an acute problem to be addressed. If "ride it until it dies" applies to any technology, in many businesses the display fleet represents the basis of the argument.

It is not a mistake, nor self-serving, to identify display technology as a megatrend. Display technologies have become more defined, more immersive, that if end users segmentation is an initiative, the type and definition of displays are critical as any other portion of the access conversation.

Think about the displays 10 years ago, CRT's. Today, while the CRT is largely demised, there were businesses retaining these devices to the point that the weight, form factor and power consumption became so substantial that the technology refresh became clear.

Like many other access technologies, useful life is what you make it to be. Can a business get a longer lifecycle, of course? The question is- do you want to?

Displays are interesting for several points of view beyond the obvious function of the utility of viewing. Displays also are about desktop real estate, ergonomics, and depending upon the job requirements a key element of completing work assigned.

Many organizations simply deploy displays and wait until an end user request comes across or from the business unit. More often, displays are cascaded within an enterprise and ultimately with the various state and local regulations, there will be a cost to dispose of the older technology.

The New IT Organization

This technology refresh cycle may also have an unintended consequence for many organizations- a signal that a new IT structure and skill sets may be on the horizon.

Regardless of the point of view, the megatrends are impacting IT today. The role of mobility, social media, cloud and virtualization suggest that IT needs to have the skill sets prepared for more than the traditional desktop/notebook PC/tablet replacement cycle.

For IT, this suggests a revisiting of core competencies and strategies. For example, does mobile device management (MDM) become an increment to existing asset management for hardware and software, or is it part of another discipline.

Mobility, for that matter, is the strategy an access device under IT or a network utility under a different part of IT?

The Global Aspect

Client lifecycle management is greatly facilitated where there is density, centralized locations, and a single geography. Unfortunately, for most businesses that simply is not the case.

Every country, city, state, and other considerations often have their own unique sets of rules and regulations regarding client devices. In some cases these requirements revolves around who can perform the work on the various lifecycle elements. Whether required by practice or by relationships, these are serious approaches to be taken.

When looking at configuration, the degree of security and counter measures may also be required or restricted.

The networking infrastructure to support various alternatives whether the solution id Wi-Fi, VPN, or other networking bandwidth, it may not be reasonable to assume that there is adequate capacity to support the installed base. Such considerations are critical for the virtual and cloud solutions. If the data center is at or near capacity that could also be a limiting factor for alternatives.

The megatrend of emerging markets is such that it cannot be assumed that there is an IT infrastructure in place such as networking capabilities.

Global lifecycle management is not a “one size fits all’ proposition, and while perhaps not fully unique in each country and locale, currencies, taxes, labor rules, and other considerations makes that comparison of the TCO much more complicated.

While there will be consistencies in governance, the policies, processes, and procedures to achieve the governance will likely vary.

As globalization continues, the role of IT in establishing lifecycle parameters will also change. In the section preceding this, we discussed the new emerging IT organization. This organization is borne not only of technology converging, but also out of the management of diverse dives being managed in a diverse geographic setting.

In terms of global technology refresh the expertise required varies from vertical segment to vertical segment. The requirement to establish a cross functional project team is highly desirable.

Addendum

1. 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
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