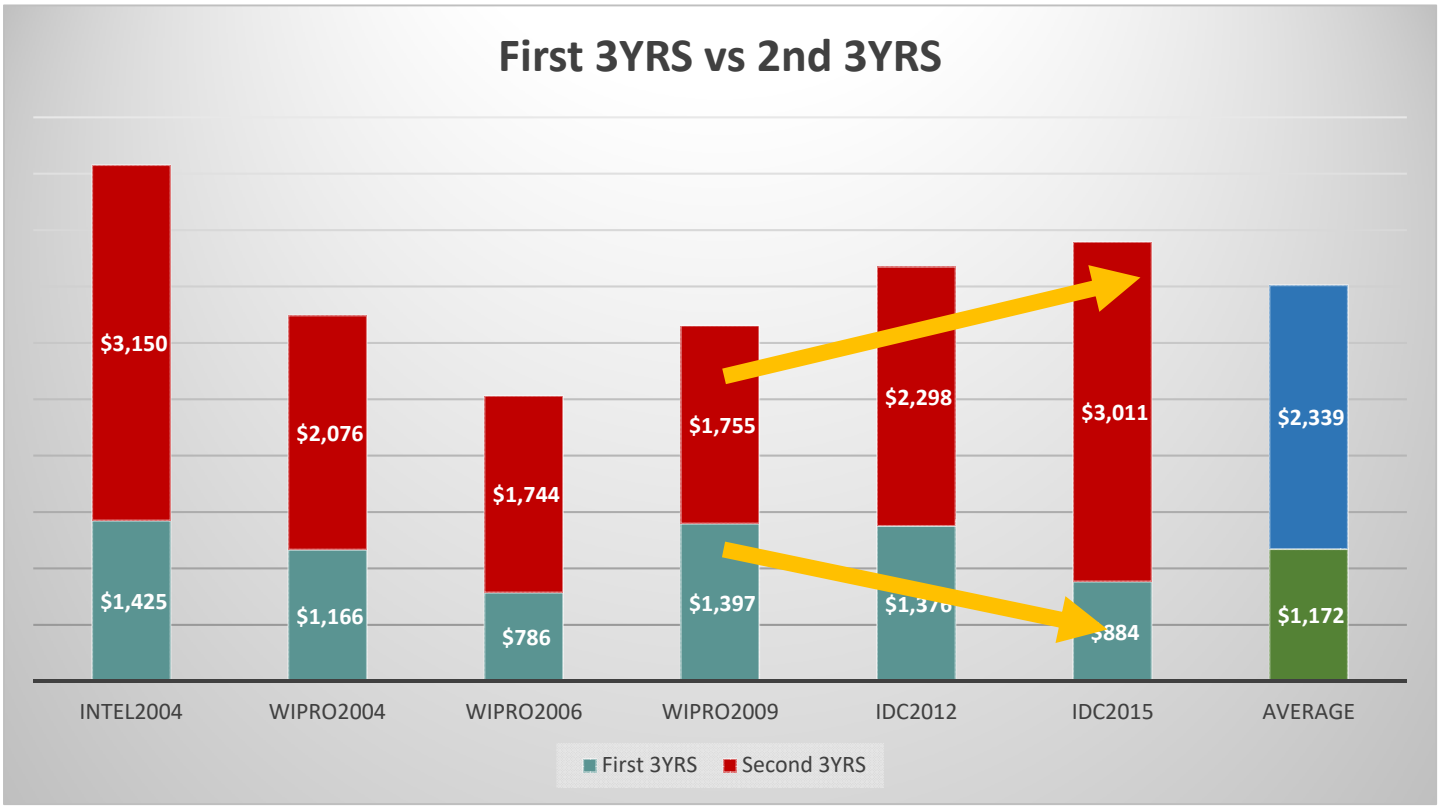
Operational Initiative A – Move to Shorter Cycle

Processes to Remediate Root Causes and to Isolate and Harvest Available Benefits

This is initiative uses an accepted TCO model (IDC, 2015) to identify costs that are potentially displaceable. This time-based cost model (increments in years) is augmented by deployment and procurement costs, then overlaid on top of an enterprise-scope asset lifecycle process. This is used to remediate the front-end processes and to identify 'trigger' points for detecting process variants and for enforcing compliance with IT standards.

The IDC model is somewhat simplified—and many think it to be understated—but serves well as representative of the 15 years of TCO studies, all indicating a refresh cycle of 2-3 years for laptops and 3-3.5 years for desktops.

TCO studies suggest that support for in-warranty endpoints has gotten LESS expensive in recent years, while support for out-of-warranty endpoints has gotten MORE so.



IT support calls for systems over 4 years old run over twice as long as those for 3-4 year old systems, and three times as long as those for 1-2 year systems. **This means that one support FTE can only support 100 old systems, but could support 200-300 in warranty systems – creating a significant labor savings opportunity.**

Industry studies over the past 15 years have documented again and again that the best time to refresh an endpoint asset is before it turns 4 years old.

Although there were no major TCO studies of endpoints done in the 2016-2017 timeframe, Consumer Reports gave statistics for laptop failure rates by the end of the 2nd year of ownership for HP, Dell, and Lenovo, for 2015 and winter 2017. The average failure rate INCREASED from 14% to 21% of units, which is an increase of 47.4%. This would strongly suggest that equipment is NOT getting more reliable.

DATE	GROUP	FOCUS	SOFT COSTS	RECOMMENDED REFRESH
Sep 2003	Giga	Standardization; costs and risks	No	3 years
Jan 2004	Intel	Very hard costs	No	3 years
Mid 2004	AT Kearny/Intel	Costs to provide outsourcing	Yes	3 year, forklift
Nov 2004	Forrester	Survey data	No	3 years
Late 2004	Wipro	Standardization	No	2-3 years
Dec 2005	Robert Francis Group	Very hard costs, plus NPV	No	3 years
Dec 2007	Gartner	Technology substrate	Yes	2-5 years (varies)
Mar 2009	Gartner	Better management	Yes	4-5 years (via exception)
Mar 2009	Gartner	Laptop repair costs	No	3 years (laptops)
May 2009	Intel	Notebook support costs	No	3-3.5 years (notebooks)
May 2009	Wipro	Age of units in installed base	No	3 years
Nov 2009	Square Trade	Consumer laptop repair rates	No	3 years; not stated
Mar 2010	Experture	Hard costs only; includes leasing	No	36-38 months
Jan 2011	Microsoft	PC vs. VDI	Yes	No more than 4 years
Early 2011	Intel/Grant Thornton	Productivity	Yes	2 years (laptops)
May 2012	IDC	XP/ WIN 7 support	Yes	3-3.2 years
Mar 2013	Gartner	Annual averages	Yes	No more than 4 years
Aug 2013	Gartner	Notebook TCO (adjustments)	Yes	3 years
Jan 2014	Intel	Productivity	Yes	Less than 3 years
Aug 2014	J. Gold Associates	User productivity vs. tech costs	Yes	2 years
Jan 2015	IDC	IT support costs	No	3 years
Mar 2015	Principled Technologies	Productivity	Yes	Less than 5 years
Sept 2015	Gartner	Use case-based lifespans	Yes	2-3+

DANGERS OF OVER-CONFIDENCE AND UNDER-COUNTING

None of these studies were 'theoretical' – they were all based on customer survey or measurement data—reflecting 'real world' environments. These studies constitute a large body of accumulated experience, and the IT executive would be wise to question any suggestion (by either IT or Finance personnel) that "*we are much better at this than the rest of the world*". Business plans that assert that they will not incur the significant costs, risks, and disadvantages of a slower refresh rate should be given extra scrutiny and should be required to produce historical evidence that they will be an exception. This is simply prudence and good risk management on the part of those who bear responsibility for IT investments.

There are many costs that are NOT included in these models (mostly impact of older systems on infrastructure management), and only a few include the labor cost of hardware incidents.

These TCO costs are being absorbed <u>somewhere</u> in the organization, and typically show up as:

- Invoices for replacement parts
- Post-warranty repair services or labor
- Extra contract labor in the support team
- Support resources consumed by aged systems
- Upgrades to older systems to keep them in-step with current applications
- Extra infrastructure resources needed for remediation of malware, network, and shared storage problems
- Extra developer resources for application incompatibilities
- Manual labor required for software asset management and audit compliance

These are FIXED costs for handing hardware repair incidents, whether in-warranty or not:

Help desk failure diagnostic (2 calls)	$	100
Move unit to repair site	$	93
Tech hands-on diagnostics	$	122
(Omitting variable cost of attempt to recover data)		
(Omitting variable cost of repair)		
Return to user site (after repair)	$	79
End-user set-up or restore desktop	$	124
Fixed Costs -- Out of Warranty	**$**	**518**
Return to warranty site for repair		$90
Fixed Costs -- IN Warranty	**$**	**608**

The serious problem of under-counting, due to 'shadow support'.

All IT organizations are aware of 'shadow IT support'. This is where the support requests are NOT sent into proper IT channels for help. Rather, end-users try to fix the problems themselves or ask somebody else (not in IT) for support.

These non-IT support efforts are very inefficient and often cause more problems than they attempt to solve. They are a source of non-standard modifications to endpoints, and deprive central IT of visibility into those problems—which they could address in a much better manner.

One measure of the extent of shadow support is—unfortunately—the GAP between industry TCO numbers and central IT's own assessment of their support costs. It is commonplace to hear an IT executive say that their TCO numbers are 25-50% LOWER than the TCO studies, but this actually is a measure of how much support is NOT being counted in their numbers—due to unsanctioned and un-reported shadow support. The TCO numbers 'don't lie'—it truly takes that much effort to manage endpoints correctly. Those costs are being borne somewhere in the organization, reducing productivity.

One practical way to reduce shadow support somewhat is to reduce the number of problems that give rise to that need for support. **A faster refresh cycle is one sure way to reduce the number of problems, and although it will be difficult to measure, the IT executive can be confident that this process ALONE will increase the productivity of the overall organization.**

Our sequence of remediation steps here follows the 'swamp and alligators' model:

Image	Action
First, we stop up all the visible inlets to the swamp so it doesn't get any bigger.	Immediately place lease framework in place, and move all existing in-process and near-term acquisitions into it; Check all active requisitions for repair parts and services, to see if for obsolete endpoints—and reroute to sourcing for new unit; Establish correspondence and process interconnection between the ITAM feed from Huntington and the ITSM CMDB (or other systems of record).; insert age-determination into call center scripts to identify systems that should be targeted for refresh ASAP.
Then we survey the swamp to see how big it is, how many alligators are in it, and the distribution of alligators.	Analyze trouble-tickets by business unit, age of unit, labor cost, downtime, type of resolution required; Analyze past history of invoices to OEMs (or repair partners) to assess frequency, cost of parts, cost of labor, estimate of internal processing labor, downtime—also segment by LOB, age, etc.; get estimates from other IT units on costs for supporting obsolete footprints (e.g. app dev, network support, storage admin, security).
We then place pumps around the swamp at strategic locations to start draining it.	Based on the analysis above, begin refresh interventions for those business units with the oldest and/or most problematic units to support. Cycle through these sites, measuring the change in support load (and the change in task mix for support personnel).
As areas dry up, the alligators move to deeper water, and we clear the dried areas of things that might cause later problems.	As each business group is refreshed, review their procurement practices and policies to verify or adjust them to reflect the new refresh cadence. Request sourcing to place alert-triggers at each request for exception processing.
Eventually, the alligators will start coming out, and we will trap/remove then one by one.	As the number of calls to support (due to obsolescence issues) diminish, we track the labor cost reductions, and re-align the support resources around the new installed base. Some support resources may become redundant and can be released (especially if contractors, temp labor, or outsourced service fees), re-allocated to other (higher) tasks; transferred to other P/Ls which could use some local IT support; re-trained for upcoming skill requirements (cost avoidance).
Then we will replant the land to produce 'smaller' problems in the future.	With greater uniformity in the installed base, the systems we place can have better manageability, better access to newer technology, and happier users. We will measure the changes in costs/calls/etc. as we go along.

So, How do we get started—to ensure maximum benefits?

This is not 'rocket science' nor labor consumptive*—but it requires a thoroughly experienced process partner, open-minded technology providers, and management will.

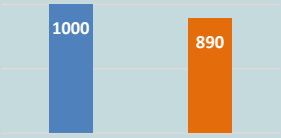
Here's the basic sample sequence and process steps (for the various stakeholders):

	Financial Mgt	Legal & Compliance	Procurement	IT
Task Set 1	MELA	NDA	Intercept in-process purchases: new units, repairs	Put age-detection steps in all call center and support processes
Task Set 2	All-parties: Go through the lifecycle task sheet--where leasing can impact costs			
	Decide on financial structures: FASB, IRS		Joint meetings with HTF Operations; on processes and ITAM/ITSM/CMDB data	
Task Set 3	Design KPI's Build Lease-line structures		Establish relationships with current OEM and services partners—define processes; decide on bundling migration services into monthly lease structures	
Task Set 4			Identify high-priority refresh pockets; define configs/quantities; place orders; implement	
Task Set 5	As larger units are identified for refresh, review budget and purchasing processes to find weak spots (process variants)		Begin analysis of historical purchase orders, to identify out-of-warranty repair costs	Begin analysis of historical trouble-tickets (and external service fees), to identify COSTS by age, for measurement and benchmarking
Task Set 6				
Task Set 7			Begin larger scale refreshes, measuring changes in support call load, and purchase request load (for repairs). Document call load workflow (for staff reallocation)	
Task Set 8	Measure KPI's			Realign labor resources; reclaim labor spent on support of older units

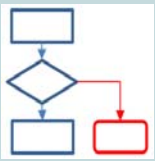
*For example, one of our average-efficiency clients manages 6,000 devices, organized on 66 lease schedules, valued at around $8.5M in investment with only 0.25 (one-quarter of an FTE).

Savings Accrual: Equipment & Parts

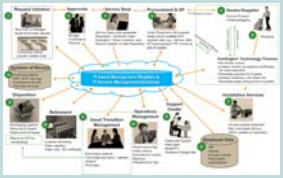
Use equity-based finance to trim 8-15% off equipment invoices. **Savings start immediately.**



Modify requisition process to identify requests for parts request for out-of-warranty units, and trigger review for replacement instead. **Savings accrue as requisitions are dropped.**

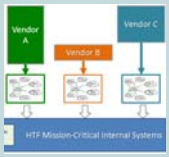


Tap partner for process expertise, for designing and building consensus for improvement. **Savings accrue as new units replace older units.**



Savings Accrual: IT Labor (and outsourced labor expense)

Use incoming multi-vendor asset data from partner, to feed into ITSM repository. Build unit-age identification into call scripts and logs. Trigger review as warranted. instead. **Savings accrue as load drops due to replacements.**



Modify response processes to trigger review on age out of policy. Identify, prioritize, and replace 'worst' units. **Savings accrue as replaced.**

Initiate review of trouble tickets, fees to external support partners, invoices for post-warranty parts buys. Identify, prioritize, and replace 'worst' units. **Savings accrue as load drops due to replacements.**

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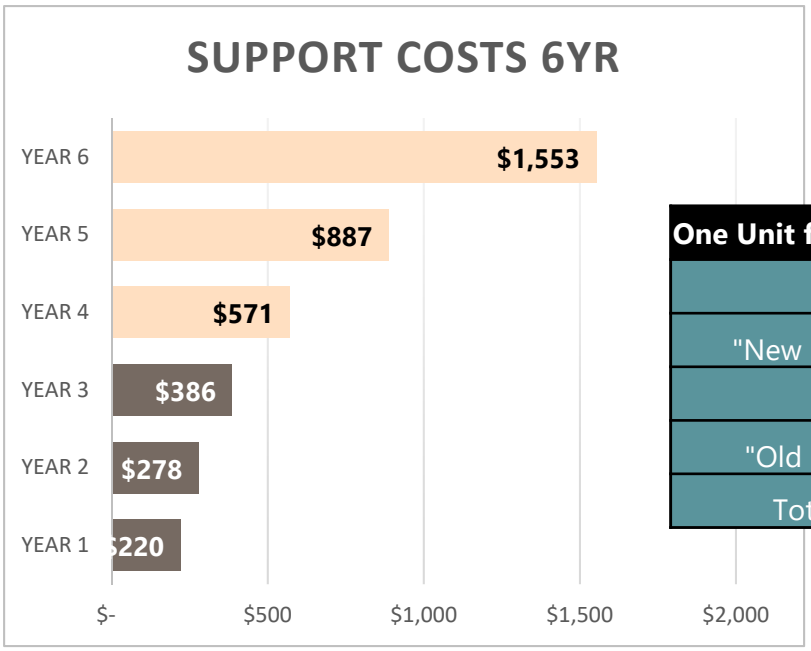
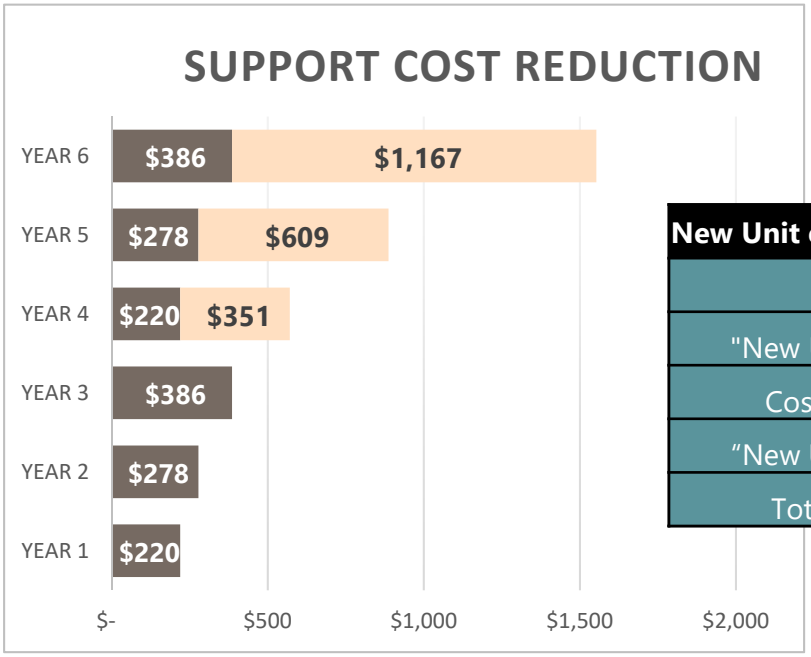
Initial Sizing using the IDC 2015 numbers:

FROM
This



One Unit for 6 Years		
Initial Buy	$	1,000
"New Unit" Support	$	884
(No Refresh)		
"Old Unit" Support	$	3,011
Total for 6 years:	$	4,895

TO
This



New Unit each 3 Years		
Initial Buy	$	1,000
"New Unit" Support	$	884
Cost of New Unit	$	1,000
"New Unit" Support	$	884
Total for 6 years:	$	3,768

Leasing adds savings each 3 Years	
Residual-Value savings	$220
Total Lifecycle Savings	$1,347
6yr savings as 'discount'	27.5%

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When applied to your employee count—at only 80% adoption:

	Your Situation	Your Opportunity	The Improvement Initiatives
A.	**END-POINT COMPUTING:** The majority of your end-user PCs or laptops generally stay in service for 6 years.	$ 10,668,240	Recover this amount of expense, by moving from a 6 year refresh to a 3 year refresh.

Operational Improvement Initiative: Data elements and Calculations

Moving from 6 year cycles to 3 year cycles

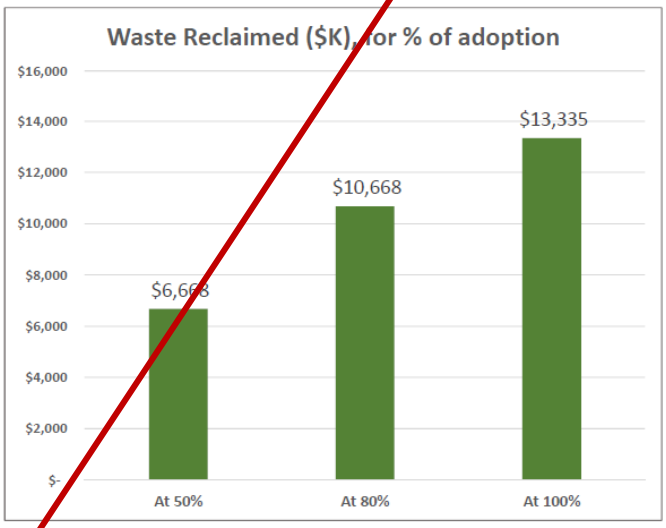
Employees:	165,000
Endpoint Estimate	9,900

Waste per Unit ($)
$1,347

Conversion Rate:	50%	80%	100%
Waste Reclaimed ($K)	6,667.7	10,668.2	13,335.3

INDUSTRY DATA

- Industry studies over the past 15 years have documented again and again that the best time to refresh an endpoint asset is before it turns 4 years old.
- Each year costs a little more to support than the prior year in the IT resources it consumes.
- In years 4, 5, and 6, the costs for IT support and parts go up significantly due to obsolescence. The result is more failures and more required upgrades—just to keep the assets operational.



Leasing adds savings each 3 Years	
Residual-Value savings	$220
Total Lifecycle Savings	$1,347
6yr savings as 'discount'	27.5%

Savings are higher if adoption is higher, and if units are only 5 years old (instead of 6), the savings are a bit lower.

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