



PC BEST PRACTICES

Proactive PC Replacement Offers Insurance Company \$4.6 Million in Potential Savings

Situation: A Diverse Population of Aging Clients

Intel® Solution Services, a worldwide professional services organization specializing in distributed solutions and data center infrastructure, performed business client assessment work for a \$3 billion insurance company¹ that had more than 100 locations. The company did not follow a regular, proactive refresh cycle, and its client base included thousands of aging PCs (five years or older) running Windows* 95. The company replaced these systems only as they failed. As a result, the client environment contained more than 20 different hardware platforms and over 100 software images. The Information Technology (IT) organization was just in the process of deploying remote desktop support, control and push software.

These practices created serious problems for users, IT staff and the company as a whole:

- IT impact.** With a large number of failing systems, a highly diverse environment and no remote control capabilities, it was difficult for the company to troubleshoot and resolve problems when they occurred. When software problems occurred, technicians had to talk users at remote sites through resolving the problem over the phone—a frustrating experience for users and IT alike. IT staff spent a great deal of time in crisis mode, rushing to troubleshoot problems and replace failed systems instead of performing more proactive, higher value activities. Since systems were replaced on an as-needed basis, IT was unable to achieve the economies of scale that come from quantity ordering and a more orderly deployment. Each time a system failed, the company had to undergo a lengthy process that took anywhere from 23–49 hours of staff time spread over a period of up to 37.5 days (see Figure 1).
- User impact.** The company's employees experienced frequent downtime. Many users worked in small sales offices and couldn't just walk to the help desk or have a technician sent out. Often, remote users would have to ship a broken system back and wait for a temporary system to be cross-shipped for use while the machine was being repaired. When PCs finally failed outright, users would go for up to three days without a usable machine and up to 37.5 days without access to certain data and applications (see Figure 1). Employee productivity and morale suffered from both the high levels of downtime and the inadequate performance of the older systems.
- Company impact.** The company spent unnecessary millions on support and deployment costs that it could have put to much better uses. In addition, using a legacy, unsupported operating system (OS) exposed the company to significant security risks, since Microsoft is no longer creating security patches for new threats and the third-party anti-virus software the company uses no longer supports the OS. The older machines and OS were unable to run new applications, limiting the company's ability to deploy innovative solutions that could help it operate more efficiently and enhance customer service.

FIGURE 1. CUSTOMER'S PC REPLACEMENT ACTIVITIES

Activity	Duration (days)	Best-Case Effort (person hours)	Worst-Case Effort (person hours)
User system becomes unusable			
Trouble ticket opened	.5	1	1
Root cause identified as HW failure	1–3	2 (simple diagnosis)	16 (extensive troubleshooting)
Get manager approval to purchase new PC	.5	1	1
Fill out form to get vendor quote	.5	1	1
Take form to purchasing	.5	1	1
Purchasing opens PO	1–2	4	4
Machine is ordered	.5	2	2
Machine arrives at customer site	7–21		
Machine is installed and configured	1–3	6 (smooth install)	12 (new SW image required for HW)
Machine is repackaged and sent to user	1–5	1 (user is local)	3 (PC must be shipped)
User sets up new PC and migrates data	1	4	8
Total	14.5–37.5 days	23 person hours	49 person hours

Users might be without a usable machine for two to three days and without access to certain data and applications for up to 37.5 days.

¹Customer wishes to remain anonymous.

Recommendations

After assessing the insurance company's client infrastructure and practices, Intel Solution Services recommended industry best practices that call for creating standard software images and proactively replacing its aging clients to remove unsupported operating systems, simplify the environment, and obtain economies and efficiencies of scale in its deployment of new systems. Table 1 contrasts the company's current practices with these best practices and lists both the problems caused by the current practices and the benefits provided by the industry best practices.

TABLE 1. APPLYING BEST PRACTICES AT A LARGE INSURANCE COMPANY

Company Practice	Results	Best Practices Recommendations	Impact
PCs replaced when hardware breaks (>5 years)	<ul style="list-style-type: none"> Excessive user downtime Negative productivity impact from slower machines and legacy applications Widely heterogeneous environment that is difficult to manage Excessive support costs Added costs for priority shipping and handling 	<ul style="list-style-type: none"> Proactively replace PCs on a three-year lifecycle 	<ul style="list-style-type: none"> Reduces complexity in the environment Increases reliability and uptime Enhances productivity Improves business agility
PCs replaced in small batches at irregular intervals	<ul style="list-style-type: none"> Excessive deployment costs Difficult to budget 	<ul style="list-style-type: none"> Plan for an annual, phased PC replacement 	<ul style="list-style-type: none"> Enables adoption of stable platform roadmap Allows economies of scale Allows predictable budget
20+ hardware platforms deployed	<ul style="list-style-type: none"> Added complexity in the environment Difficulties in troubleshooting and supporting the environment Large number of core software images 	<ul style="list-style-type: none"> Maintain fewer than 10 standard hardware platforms at any given time Follow stable platform roadmap 	<ul style="list-style-type: none"> Simplifies the environment Enhances troubleshooting, maintenance and support Reduces number of required software images
100+ standard core software images	<ul style="list-style-type: none"> Added complexity in deploying security fixes, updates, etc. 	<ul style="list-style-type: none"> Consolidate to fewer than 10 standard core software images 	<ul style="list-style-type: none"> Increases uptime by making the environment more robust and easier to support Increases IT's agility in responding to emergency "hotfixes" and patches
Deploying Windows* 95	<ul style="list-style-type: none"> Severe security risks from unsupported legacy OS 	<ul style="list-style-type: none"> Move to latest or next-latest operating systems Implement additional security protection best practices 	<ul style="list-style-type: none"> Increases information security protection Reduces user downtime
Remote user ships system back for support if phone support is insufficient	<ul style="list-style-type: none"> High costs (time and money) to ship system to headquarters Excessive downtime 	<ul style="list-style-type: none"> Enable remote desktop support and remote control 	<ul style="list-style-type: none"> Lowers downtime Increases IT and end-user productivity

Financial Impact

Intel Solution Services performed a financial analysis demonstrating that a phased, proactive approach to replacing the company's Windows 95 clients could produce \$4.6 million in savings over three years in client replacement activities, support costs and productivity gains. Intel consultants found the company could achieve these TCO reductions and productivity gains for approximately the same \$2 million annual cash outlay it currently spends on client hardware.

The proposed PC replacement process, shown in Figure 2, would reduce the IT staff time to deploy a new machine from a high of 49 hours per machine under current practices to less than 9.5 hours per machine. This would save the company \$1.2 million over three years. A review of the company's help desk logs showed that 40 percent of all trouble tickets were related to the Windows 95 clients. Removing these machines would allow the company to reduce its client support costs by 20 percent, saving \$250,000 over a three-year period.

Intel Solution Services proposed two alternatives for handling the client refresh:

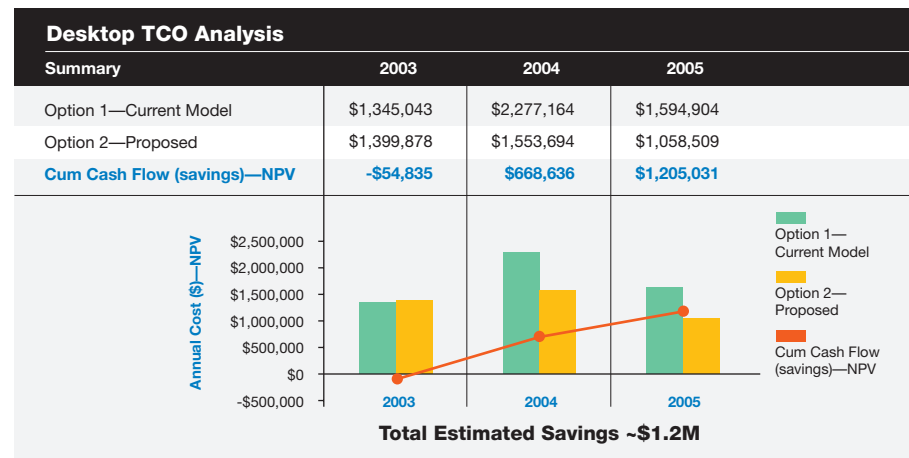
- Alternative A (Figure 3) replaces both desktops and monitors over the next three years. This approach yields TCO reductions of approximately \$1.2 million.
- Alternative B (Figure 4) replaces the desktop only over the next two years. This approach removes the legacy machines more quickly and produces greater TCO savings—around \$1.7 million.

FIGURE 2. PROPOSED PC REPLACEMENT CYCLE²

	Activity	Duration (days)	Effort (person hours)
one time	Standard software image created	1	4
	SW image validated on HW	2	8
cyclical	Identify 500 target users	5	4
	Fill out form to get vendor quote	1	2
	Take form to purchasing	1	1
	Purchasing opens PO	3-5	4
	Machines are ordered	1	2
	Machines arrive at customer site		
	Machines are installed and configured	10	480
	Machines are repackaged and sent to users	5	150
	User sets up new PC and migrates data	1	8 (x 500 users)
	Total		30-32 days
Summary			
Current Model: 23-49 hours/PC			
Proposed Model: 9.31 hours/PC			

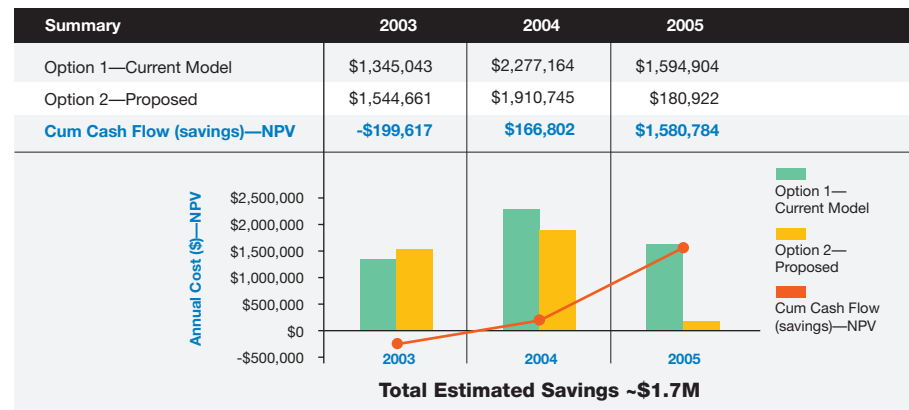
Proactive, phased replacement is less labor intensive and gets a new system to the user more quickly and cost effectively.

FIGURE 3. ALTERNATIVE A FINANCIAL ANALYSIS



Replacing desktops and monitors over the next three years yields TCO savings of approximately \$1.2 million.

FIGURE 4. ALTERNATIVE B FINANCIAL ANALYSIS



Replacing only the desktops over the next two years yields TCO savings of \$1.7 million and removes the problematic clients more rapidly.

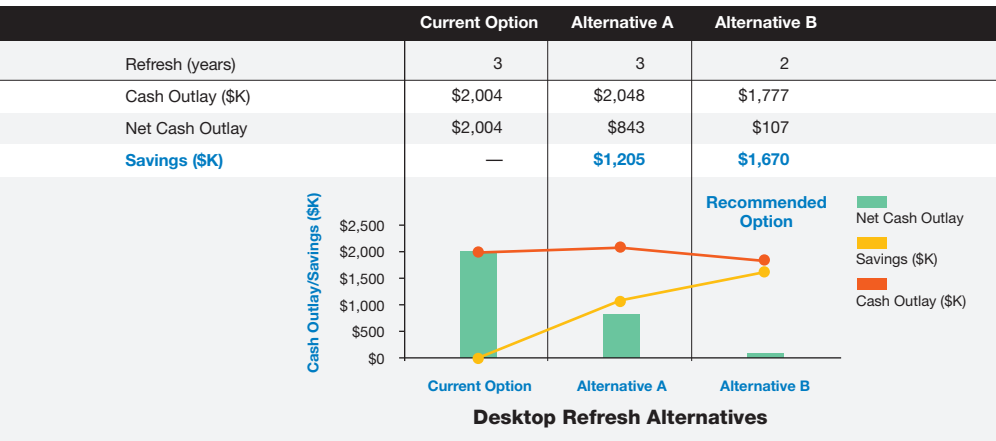
² Assumes six technicians can configure and install 50 machines daily. An outsourcer could use an installation deploy to configure and install many more machines per day.

Final Word: PC Best Practices Make a Difference

Summarizing the two approaches (Figure 5), Intel consultants identified TCO reductions of \$1.2 to \$1.7 million the company could achieve by implementing client best practices and using a phased, proactive approach to replace its Windows 95 client base—for about what it is currently spending on client hardware replacements. These changes will also bring end-user productivity savings estimated at 30 minutes per week, yielding potential savings of \$3 million per year. However, these “soft” savings were not included in the return on investment calculations. The payback period, excluding implementation costs, is 12 months or less for both approaches.

As of this writing, the insurance company is evaluating the two alternatives and moving to implement client best practices, as well as other IT changes that will bring added savings and make the company more efficient and effective.

FIGURE 5. COMPARING THE TWO ALTERNATIVES



Both alternatives produce significant TCO savings for around what the company is currently spending on hardware replacement costs.

Are you making the most of your PC base?

Client best practices can reduce operating costs and increase your PCs' business value. If you need assistance analyzing your client base and implementing best practices, Intel Solution Services can help.

To learn more about working with Intel Solution Services visit:

<http://www.intel.com/internetservices/intelsolutionservices/>

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Part number: 252281-001