

Reduce your TCO with automated workspace management

WHITEPAPER

TABLE OF CONTENT:

Executive summary.....3.

Locked down and well-managed desktops.....4.

Best practices to reduce your TCO.....4.

RES Software products.....4.

How RES Software product help to reduce your TCO.....5.

 1. *Standardize on a single operating system*6.

 2. *User can only install software sanctioned by IT*.....6.

 3. *Centrally managed PC firewall*7.

 4. *Users can only change PC settings that do not compromise reliability or security*.....7.

 5. *Automated software distribution*.....7.

Conclusion.....8.

EXECUTIVE SUMMARY

Today the total cost of ownership (TCO) for PCs on an annual basis is \$5,867 per unmanaged desktop¹ and \$9,224 per unmanaged notebook¹. No surprise, then, that organizations large and small have made the reduction of PC TCO a top priority, specifically since on average 35% of an organization's IT budget is being spent on managing Windows desktops and notebooks. Reducing the TCO of desktops and laptops through improved manageability and automation will be the top priority for most IT organizations today.

Leading analyst firms agree in their studies that the best way to reduce a PC TCO is to lockdown the machine. Locking down PCs, however, limits the changes that can be made to the base operating system and prevents the installation of unauthorized software on the computer as well as block access of unwanted applications. A report by Gartner for example says, "Locking down users could deliver an overall TCO reduction of 45% more than unmanaged notebooks."²

However, the challenge with locking down desktops and notebooks is the limitations it imposes on the end-user. In conventional desktop computing environments, a locked down computer severely limits the end-user's ability to use a software application's entire set of features, including customization, add-ons, applying updates and intercommunication with other applications. This results in limited functionality and ultimately impacts the end-user's productivity.

The result is a constant tug of war between IT management wanting to reduce PC TCO through locking down computers on the one hand and on the other hand the effect on end-user productivity. In their report on the TCO of PCs, Mark Margevicius and Michael Silver recognize his issue, "Lockdown is not viable for many organizations because many users cannot work within the constraints of a locked-down PC..."³

This white paper examines how to use automated workspace management products to reduce PC TCO by at least \$197 per PC per year while maintaining end-user productivity.

LOCKED DOWN AND WELL-MANAGED DESKTOPS

Gartner has conducted several studies on reducing the TCO of desktops and notebook computers. They created four scenarios, applying different levels of PC management and TCO to each scenario⁴:

- 1. Base — This is a wide-open scenario. Users can install applications and change settings, using few or no management tools.
- 2. Somewhat managed — Some management tools, but light on process and policy.
- 3. Moderately managed — Tools and good processes and policies, but users can install software and change at least some settings.
- 4. Locked down and well managed — Liberal use of tools, established processes and policies in place, and users are locked down and cannot install software or change critical settings.

Based on these scenarios, Gartner has developed an analysis that shows the TCO of desktops and notebooks and the savings that can be obtained when improving the manageability in each scenario.

Moving from a base unmanaged configuration to a locked-down, well-managed environment can dramatically improve the TCO of both desktops and notebook computers.

The next table shows the percentage reduction of TCO indicating that when moving to a locked-down environment, corporations can reduce their TCO of notebook computers by as much as 45%.⁴

For companies large and small, moving to a locked-down and well-managed situation is an important step in realizing a significant reduction in their annual TCO. And locking-down computers offers other benefits including increased security, reliability and performance.

BEST PRACTICES TO REDUCE YOUR TCO

In order to reduce Windows desktop costs, IDC evaluated many potential best practices and identified a top-three to help you reduce your total cost of ownership⁵:

1. *Standard desktop strategy*
Deploying a standardized desktop by minimizing hardware and software configurations.
2. *Centrally managed PC settings and configuration*
Keeping deployed PCs standardized by preventing users from making changes that compromise security, reliability and the application portfolio.
3. *Comprehensive PC security*
Proactively addressing security with antivirus, antispymware, patching, and quarantine.

The remainder of the paper goes into greater detail, mapping to specific RES Software technologies that support the best practices listed above.

RES SOFTWARE PRODUCTS

RES Software is the leading provider of User Workspace Management software. Since 1999, more than 2,500 customers worldwide have lowered their TCO, improved security and increased their productivity as a direct result of using our products.

RES PowerFuse composes and manages personalized and secure workspaces for end-users. Workspaces are decoupled from the underlying IT infrastructure and contain access to applications, data, printers and personalization settings. Unlike roaming profiles, it is dynamically composed, based on the company's security regulations and on the end-user's context, including end-user ID, location of the end-user, time of day and the type of computer and platform being used.

Desktops vs. Notebook TCO: Different Users Mix	DESKTOPS				NOTEBOOKS: DAY EXTENDERS				NOTEBOOKS: TRAVELING WORKERS			
	Base	Somewhat managed	Moderately managed	Locked down and well managed	Base	Somewhat managed	Moderately managed	Locked down and well managed	Base	Somewhat managed	Moderately managed	Locked down and well managed
Hardware & Software	\$1,312	\$1,293	\$1,271	\$1,226	\$1,515	\$1,495	\$1,472	\$1,425	\$1,525	\$1,505	\$1,482	\$1,435
IT Ops. Labor	690	639	572	438	1,045	961	861	661	1,092	1003	899	879
Admin. Labor	216	215	214	210	263	263	261	259	282	281	280	276
Direct Costs	\$2,218	\$2,147	\$2,056	\$1,874	\$2,823	\$2,719	\$2,594	\$2,344	\$2,899	\$2,790	\$2,660	\$2,590
End User Costs	\$3,649	\$3,122	\$2,594	\$1,539	\$6,400	\$5,473	\$4,545	\$2,689	\$7,023	\$6,004	\$4,983	\$4,400
TCO	\$5,867	\$5,269	\$4,650	\$3,413	\$9,224	\$8,192	\$7,139	\$5,033	\$9,923	\$8,793	\$7,643	\$7,030

Source: Gartner (March 2008)



IT, the way you need it

Desktop vs. Notebook TCO Reduction	DESKTOPS				NOTEBOOKS: DAY EXTENDERS				NOTEBOOKS: TRAVELING WORKERS			
	Base	Somewhat Managed	Moderately Managed	Locked down	Base	Somewhat Managed	Moderately Managed	Locked down	Base	Somewhat Managed	Moderately Managed	Locked down
TCO	\$5,867	\$5,269	\$4,650	\$3,413	\$9,224	\$8,192	7,139	\$5,033	\$9,923	\$8,793	\$7,643	\$7,030
Reduction (%) going to locked-down	42%	35%	27%	0%	45%	39%	29%	0%	29%	20%	8%	0%

Source: Gartner

Using RES PowerFuse, organizations can take a standardized desktop and apply all the user's aspects when the user accesses it. Such user aspects include single and grouped changes in anything from application access, preferences, profile and home directory content, to network printers, registry settings, policies, database connections and e-mail configuration for thousands of standardized desktops. This unique concept allows the user to remain productive while reducing TCO through standardization.

RES Wisdom run book automation for Windows software enables IT professionals to deliver any set of changes to Microsoft Windows environments and automates provisioning of IT resources. RES Wisdom makes changes easy, offering a uniform solution to routine but complex tasks. Labor intensive changes that normally take hours can be completed in seconds.

Using both RES PowerFuse and RES Wisdom, organizations can significantly reduce their TCO while increasing both end-user and IT-staff productivity.

HOW RES SOFTWARE PRODUCT HELP TO REDUCE YOUR TCO

Based on the best practices listed previously, RES Software products contribute towards lowering your PC TCO in the following five specific areas:

IDC BEST PRACTICES FOR LOWERING TCO ⁵	SPECIFIC AREAS
Standard desktop strategy	1. Standardize on a single operating system
Centrally managed PC settings and configuration	2. User can only install software sanctioned by IT 3. Centrally managed PC firewall 4. Users can only change PC settings that do not compromise reliability or security
Comprehensive PC security	5. Automated software distribution

We will look at each of these five areas individually and discuss how RES PowerFuse user workspace management and RES Wisdom run book automation software help organizations reduce their desktop and laptop TCO.

1. Standardize on a single operating system

Savings using
RES Software:
**\$52 on labor costs
per PC per year**
(based on IDC figures)

Organizations that standardize on a single operating system save IT labor costs compared to those that run multiple systems. This is largely because image maintenance costs will be significantly lower with a single operating system.

Images are not static. Once deployed there are changes that need to be made to an image. These changes include e.g. patches and updates to ensure security and reliability.

In addition, the end-user will make all sorts of individual customizations in what is referred to as “personalization”. Particularly when you allow users to access their desktop from multiple locations, IT has to take into consideration the personalization and security settings of the end-users. These settings include a very large number of elements including browser settings, desktop settings, application settings, printer settings, personal data, environment variables, personal email profiles and essentially any individually customizable element that enables them to accomplish their assigned job in a comfortable setting. IT cannot disregard these unique and personal configurations as they increase the amount of help-desk calls and consequently the TCO.

In order to reduce image maintenance costs beyond just standardizing on a single operating system, organizations need to implement two important approaches:

- Automatically update an image after distribution. Once an image is deployed, automatically record the entire set of changes made to a particular PC. The moment the image is redeployed, all changes to the original image will automatically be redeployed as well. RES Wisdom run book automation can deliver exactly this. A run book automation product like RES Wisdom automatically records all changes made and replicates them at every image redeployment.
- Decouple the user settings from the underlying application delivery method and the desktop operating system and have the user setting delivered independently.

Using RES PowerFuse organizations can take a standardized desktop image and apply all aspects of the user to that desktop when the user accesses it. RES PowerFuse composes and manages personalized and secure workspaces for end-users that are decoupled from the standardized desktop or laptop image.

2. User can only install software sanctioned by IT

Savings using
RES Software:
**\$50 on labor costs
per PC per year**
(based on IDC figures)

Of course users need applications on a desktop to perform their job. However, if users are capable of installing new software themselves, they may install software that jeopardizes the stability and reliability of the desktop. By installing unsupported software on an unlocked PC, a user can cause a problem that can take significantly longer and cost more to resolve than the time it takes to elevate a user temporarily to administrator status.

Another issue is that users may install software without the appropriate license. This is not only a violation of company policy, but also threatens IT Governance because risk is not controlled.

IT needs to ensure that a user cannot install software unless this software is sanctioned by IT. However if a user's PC is overly restricted, it could increase the cost of serving the user. Some users have business needs to install their own applications but do not have the ability to do so successfully. Those users will cost more to support because they will call the help desk more frequently to intervene and install applications for them. Not only will help desk call volume be higher, but the users will be less productive while waiting for the support they require.

IT should classify all end-users, and create policies to describe which rights and support levels different types of users require on their machines. Users should be able to request an approved application that will be delivered automatically to their desktop or laptop. This is precisely what the automated user workspace delivers, based on RES Wisdom run book automation and RES PowerFuse user workspace management.

3. Centrally managed PC firewall

Savings using
RES Software:
**\$39 on labor costs
per PC per year**
(based on IDC figures)

Centrally managing a PC firewall demonstrates that an organization has a comprehensive security program. And a security program helps in two ways to lower the TCO of a Windows

PC: it prevents a desktop from being hacked, so reducing helpdesk calls and it prevents administrators spending time resolving the issue. On the other hand when an attack takes place an administrator can change the settings to make sure that the attack is isolated. Once isolated the administrator is able to focus on the problem resolution, and then undo any changes made; all from one single location.

However, in a shared infrastructure, a firewall at Operating System level will most likely result in user requirement conflicts as needs for connections to back-end services vary. What is required is a centrally manageable firewall at user session level. This has the same benefits as a centrally managed firewall, but it also facilitates user productivity. RES PowerFuse includes IP Connections Security which prevents unauthorized applications from communicating directly with other applications and/or services running on remote computers.

4. Users can only change PC settings that do not compromise reliability or security

Savings using
RES Software:
**\$30 on labor costs
per PC per year**
(based on IDC figures)

Limiting changes to PC settings that do not compromise reliability or security contribute in two ways to lowering your TCO. If a user cannot make changes to his PC, the chances of a user causing a failure will

be reduced, resulting in fewer calls to the helpdesk. If, despite these measures, the user does report a failure, the time taken to resolve it will most likely be minimal as the desktop has a standard configuration.

However, limiting changes to PC settings is difficult to implement with today's mobile workforce. If an end-user works on a laptop, you might want to allow him to make more changes when he is out of the office than when he is working on a company desktop. Then, when the user is back in the office, you might want to restrict access to certain settings.

Access to certain settings should not only depend on the user, but also on the device used and its location. In order to realize this, the user settings need to be decoupled from the operating system. RES PowerFuse user workspace management decouples the user settings from the underlying application and desktop delivery technique. It dynamically composes a workspace based on the company's security regulations and on the end-user's context, including end-user ID, location of the end-user, time of day, the type of computer and the platform being used.

RES Wisdom run book automation can automate any changes the user may require, resulting in a rapid response to user questions and helping towards the adoption of a locked down desktop.

5. Automated software distribution

Savings using
RES Software:
**\$30 on labor costs
per PC per year**
(based on IDC figures)

Automation allows IT to deliver applications and patches without the interaction of IT personnel. This results in the quicker deployment of applications and patches but also has an impact on

the quality of service delivered. When using automation, each desktop is installed in exactly the same manner, which results in a predictable outcome of the deployment. This will cut down service desk calls, but also will decrease problem resolution time when calls are made.

CONCLUSION

Organizations large and small should prioritize the adoption of technologies that increase standardization, decouple personalization setting from the application delivery mechanism, centralize management and extend the level of automation for IT operational changes. RES Software automated workspace management products overcome the classic struggle of reducing PC TCO by locking down the computer while maintaining end-user productivity. RES Software's unique technologies contribute to lowering PC TCO in the following five major areas:

- 1. standardize on a single operating system*
- 2. user can only install software sanctioned by IT*
- 3. centrally managed PC firewall*
- 4. users can only change PC settings that do not compromise reliability or security*
- 5. automated software distribution*

Based on IDC figures, implementing RES Software automated workspace management solutions will reduce your TCO by \$197 per PC per year. In addition, RES Software automated workspace management will help to improve security and reduce complexity in a changing desktop delivery market. For more information, please refer to the white papers: "RES Software and security" and "How to create true value from virtualization" at www.ressoftware.com.

1 Desktop Total Cost of Ownership: 2008 Update, Michael A. Silver, Federica Troni, Mark A. Margevicius - Gartner, January 24, 2008

2 Notebook Total Cost of Ownership: 2008 Update, Federica Troni, Gartner, February 20, 2008

3 TCO Comparison of PCs with Server-Based Computing, Mark Margevicius, Michael Silver, Gartner, June 15, 2006

4 Toolkit Best Practice: TCO Comparison of Desktops vs. Notebooks, 2008 Update, Federica Troni, Gartner, March 18, 2008

5 Optimizing Infrastructure: The Relationship Between IT Labor Costs and Best Practices for Managing the Windows Desktop, Al Gillen, Randy Perry, Frederick W. Broussard, Deana Dowling – IDC, October 2006

RES Software is the leading provider of User Workspace Management software. Since 1999 we have enabled our more than 2,500 customers worldwide to compose and manage personalized and secure workspaces for their end users. Our Workspace Management products bridge the gap between traditional desktop management, thin clients, and virtual desktops. The business benefits our customers have realized by using our products include a lower TCO, broader security and an increased productivity. RES Software is a global company with nine offices across Europe and the U.S. RES Software products are exclusively delivered through a network of certified partners.

More information: www.ressoftware.com

