

Optimize Your Cost to Migrate to Windows 10 Using Gartner's Cost Model

Published: 05 October 2016 **ID:** G00311546

Analyst(s): Michael A. Silver, Stephen Kleynhans

Summary

Our migration cost model shows that the endpoint computing manager for the typical 2,500 user organization may need to budget as much as \$445 per seat to move to Windows 10 or could spend nearly \$200 less, depending on the migration processes employed.

Overview

Key Findings

The typical cost to migrate a PC to Windows 10 will run \$256 to \$445 per device.

Key determinants to migration cost are:

- The number of applications your organization needs to test

- How well-managed your organization's PCs are

- Whether you plan a wipe and reload or an in-place upgrade

- How automated your organization's migration process is

Migrating only as PCs are replaced will cost only \$155 to \$242, not including money that would be spent buying and deploying the new PCs that would have been purchased even if the migration was not done. However, there will be additional coexistence costs that are not included in the model.

An in-place upgrade could cost \$80 per PC less than wiping and reloading, assuming the PCs don't need a significant amount of clean-up before the migration begins.

Recommendations

- Use our migration cost model, customized for your environment, to budget your migration costs.

- Improve migration processes before starting.

- Analyze PCs and users, and decide which will be best-suited for in-place upgrades.

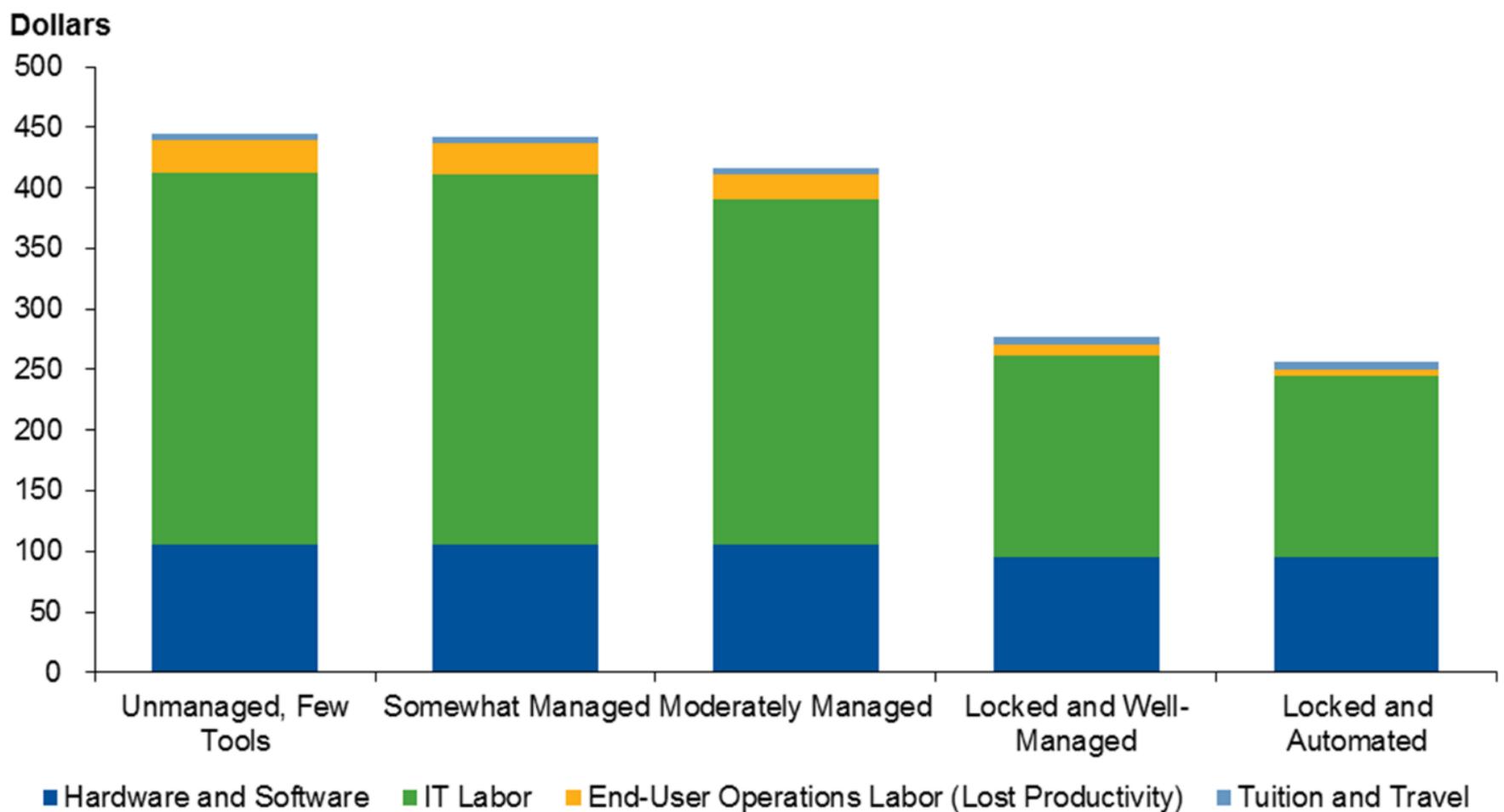
- Create processes for deploying future Windows updates as you are planning the Windows 10 migration to take advantage of information gathered about applications.

Analysis

The migration to Windows 10 is a critical project for most organizations. At this writing, there are about 3.5 years left until the end of Windows 7 support and many organizations started the move to Windows 10 earlier than they started other migrations, to help ensure they will not need to pay Microsoft for Custom Support once Windows 7 is retired. Organizations that don't believe they will see significant benefit from Windows are largely planning to move as they replace PCs, which will take longer and incur higher support costs, but will be less expensive for the migration itself. Other organizations are planning on upgrading existing Windows 7 devices to Windows 10 either to reap benefits, to maintain a homogeneous OS across their environment or to ensure they are off Windows 7 long before support from Microsoft ends.

Our migration cost model shows that typical migration costs will run \$256 to \$445 per device (see Figure 1), but costs could be higher or lower than our typical range depending on environmental complexity, PC management tools and processes, and migration methods being used. The costs and figures in this research are derived from "Toolkit: Windows 10 Migration Cost Model," which allows IT leaders to customize the model for their organization. Here, we present examples from that research.

Figure 1. Typical Migration Cost Range, Cost per Device



Source: Gartner (October 2016)

The cost summary for the locked and well-managed migration modeled in Figure 1 is shown in Figure 2.

Figure 2. Cost Summary for Typical Locked and Well-Managed Migration

Cost to Move to Windows 10		
----------------------------	--	--

Cost Analysis	Hours	Cost
Hardware and Software	n/a	\$ 237,100
IT Labor	7,350	377,296
End-User Operations Labor (Lost Productivity)	290	11,885
Tuition and Travel	n/a	14,000
Total	7,640	\$ 640,282
Hardware Costs Attributed to Normal PC refresh (Not Included Above)		\$ 287,500
Labor Costs Attributed to Normal PC Refresh (Not Included Above)		\$ 14,355
Hardware and Software	n/a	\$ 95
IT Labor	2.9	151
End-User Operations Labor	0.1	5
Tuition and Travel	n/a	6
Total per User	3.1	\$ 256
Hardware and Software	n/a	37.0%
IT Labor	96.2%	58.9%
End-User Operations Labor	3.8%	1.9%
Tuition and Travel	n/a	2.2%
	100.0%	100.0%

Cost Analysis	Hours	Cost
Enterprise Fixed Costs	4,228	\$ 285,355
Individual Variable Costs	3,013	117,827
Hardware and Software	n/a	237,100
Total	7,242	\$ 640,282
Hardware Costs Attributed to Normal PC Refresh (Not Included Above)		\$ 287,500
Labor Costs Attributed to Normal PC Refresh (Not Included Above)	399	\$ 14,355
Enterprise Fixed Costs	58%	45%
Individual Variable Costs	42%	18%
Hardware and Software	n/a	37%

Source: Gartner (October 2016)

The Framework

As with all Gartner cost models, we are publishing a framework and sample numbers, but the framework and assumptions should not be used as presented. We invite organizations to customize our framework and the costs within them to meet their needs and more accurately analyze their environments. Our model includes three sections – enterprise fixed costs, individual variable costs, and hardware and software (see Note 1).

How Costs Vary

The cost to migrate to Windows 10 will depend on several things:

How many applications does your organization plan to test for compatibility and vendor support with Windows 10?

What devices are you planning to implement with Windows 10 – only new ones, or existing ones running Windows 7 or 8 as well? Will existing devices need hardware upgrades or BIOS changes to effectively run Windows 10 with the features your organization desires?

Will your organization upgrade Windows 7 PCs in place, preserving users' applications and data, or will it wipe, load and restore applications and data, which will be more labor-intensive?

How automated is your organization's migration process?

How Many Applications Does Your Organization Need to Test for Compatibility and Vendor Support With Windows 10?

Application support research and compatibility testing are, to some extent, fixed costs, in that they do not vary directly based on the number of PCs or users that need to be migrated. The time and cost to understand vendor support and perform compatibility testing, however, will vary depending on how many applications – and especially how many business-critical applications – are involved. In regulated industries like healthcare and pharmaceuticals, these costs may be significantly higher than in the typical manufacturing organization, and they may be ongoing as Microsoft releases updates to Windows.

The typical organization has one application for every 10 to 20 users, and more than 40% of the typical organization's applications still require Windows. Rationalizing applications is always a good idea to reduce this cost, but application rationalization itself can take significant time and money. Requiring business units, departments or end users to take on this task won't reduce cost overall, (and may increase it), but can shift the cost out of the IT budget.

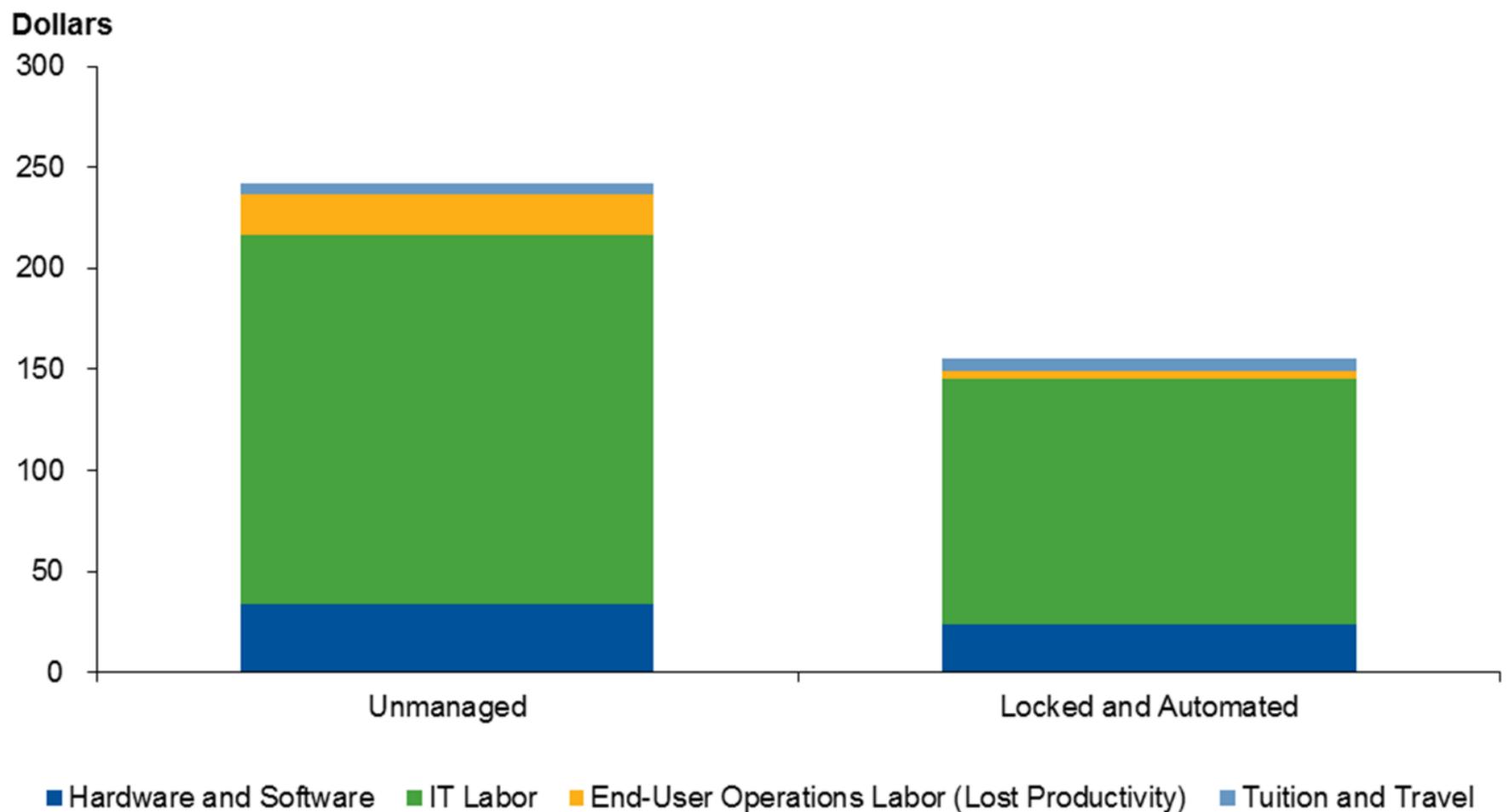
In the sample 2,500-device organization we use in our model, we assume 200 packaged applications and 50 custom written ones. We assume that all applications work on Windows 7, and a blended testing schedule that includes 35% requiring only one hour to test for compatibility (find on list, install app, do basic testing), 30% requiring two hours to test, 10% requiring four hours to test, 15% requiring eight hours to test and 10% requiring 16 hours to test.

Endpoint computing managers, along with the CIO and business managers, must assess risk and decide if all their applications need to be formally checked for compatibility before the migration, or if users can be involved in pilot testing instead. If the task is shifted to the users, there will be a productivity cost incurred by users who are not doing their regular jobs while they do the testing. Once Windows 10 is deployed, we expect most organizations will shift testing of applications with Windows updates from IT to end-user piloting.

What Devices Are You Planning to Implement With Windows 10 – Only New Ones, or Existing Ones Running Windows 7 or 8 as Well? Will Existing Devices Need Hardware Upgrades or BIOS Changes to Effectively Run Windows 10 With the Features Your Organization Desires?

If a new device is being purchased anyway, the cost to image the device and move the users' files will be incurred whether they deploy Windows 7 or Windows 10; we do not charge these costs to the project. Upgrading as hardware is replaced will be the least expensive way to perform a migration (see Figure 3), but it will take the longest and the organization will incur additional costs to support a mixed environment over the three to four years of the extended mixed environment. PCs not slated to be replaced by January 2020 are not good candidates for a migration by hardware attrition. For most organizations, this will include many desktop PCs, which often have a five- or six-year life cycle, and notebooks recently deployed with Windows 7.

Figure 3. Windows 10 Migration Costs, Through Hardware Attrition Only; Hardware and Labor *Not* Charged to Project



Source: Gartner (October 2016)

In some cases, a new PC may be purchased ahead of schedule to accommodate the new OS or some new security features. In these cases, we do charge the cost of the hardware and labor to the migration.

Similarly, if a PC will get a hardware upgrade or needs to be reconfigured to run Windows 10 features like Credential Guard, the cost of the project will increase. If a configuration change is made, it also usually precludes an in-place upgrade.

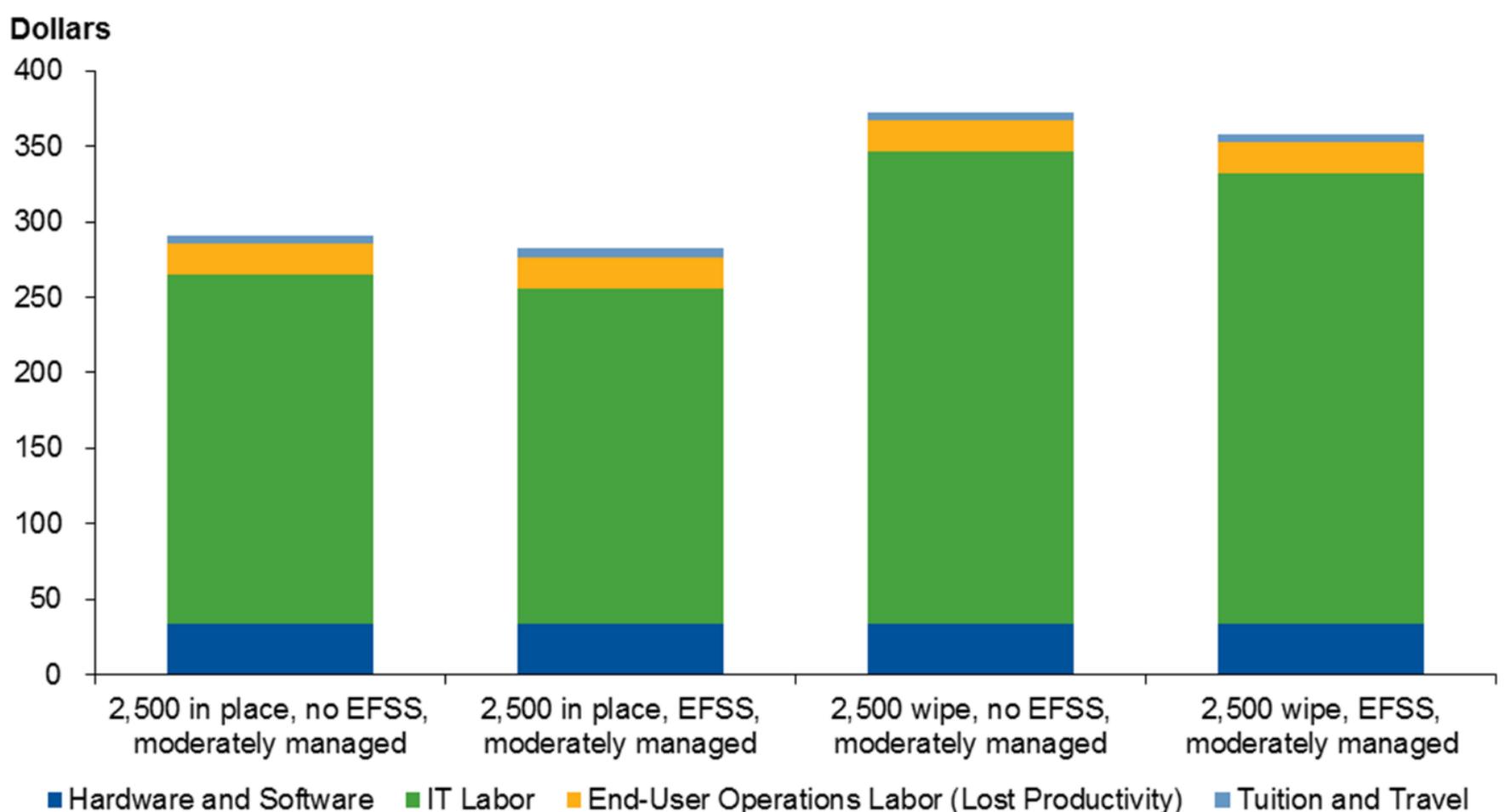
Although we include the cost to prepare hardware for Device Guard and Credential Guard, our model does not consider the cost to implement Device Guard, which can be very involved and expensive, because it may require signing applications and ensuring that every application required by users is known. Credential Guard is relatively easy to activate once the hardware is configured.

Will Your Organization Upgrade Windows 7 PCs in Place, Preserving Users' Applications and Data, or Will It Wipe, Load and Restore Applications and Data, Which Will Be More Labor-Intensive?

For the past few OS iterations, it has not been possible for organizations to do an in-place upgrade, which significantly increases the cost of the migration because all data and applications must be removed and reinstalled. With Windows 10, Microsoft has spent a significant amount of time improving the in-place upgrade experience to reduce the cost of upgrades and remove an obstacle to migration. Microsoft's in-place upgrade process does not simply upgrade OS files; it also extracts existing applications it is aware of and wraps them up to be automatically reinstalled on the clean Windows 10 build it installs. While this means that malware and other junk are less likely to be moved to the Windows 10 instance, it also means that there could be applications that aren't moved or that are installed incorrectly because the reinstallation will depend on how well an application followed Microsoft's rules for installation and advertising its presence. We have not heard significant complaints from clients that Microsoft has routinely failed to reinstall applications properly, but we have heard that organizations that are trying to clean up their PCs prior to an in-place upgrade and uninstall applications that are no longer needed are spending almost as much time doing so as doing a clean wipe and reinstall of Windows 10 and all applications.

Wiping and reloading will almost always provide the user with a better experience than an in-place upgrade. Further, organizations using enterprise file synchronization and sharing (EFSS) solutions no longer have to worry about moving data during wipe and reload, because the data will repopulate with minimal technician intervention. Figure 4 shows the differences in cost between in-place upgrades (with a nominal amount of clean up) and wipe, reload and restoring users' applications and data.

Figure 4. In-Place Versus Wipe and Reload Migration Costs



How Automated Is Your Organization's Migration Process?

We consider five levels of management and automation in our model, and organizations should change our assumptions and costs to match their own situation. The five levels are unmanaged, somewhat managed, moderately managed, locked and well managed, and locked and automated:

An unmanaged environment has few management tools used and mostly manual management, and users can install applications and change settings.

A somewhat managed environment reflects some use of management tools, but is light on process and policy.

A moderately managed environment is one where the organization has tools and good processes and policies, but users can install software and change some settings.

In locked and well-managed environments, the organization has management tools, processes and policies, and the users cannot install software or change critical settings.

Some organizations have successfully fully automated their environments for PC deployment.

Wiping and reloading a PC can be as cost-effective as an in-place upgrade depending on the tools and processes the organization uses to do the job. And, of course, if the wiped and reloaded PC is more stable and reliable, there will be future cost savings as well. But it is also much more difficult to fully automate a wipe and reload implementation.

Our model estimates that in-place upgrades will require between 0.7 hour and 2.25 hours per technician per PC. Organizations that plan on spending more time on system clean-up before the upgrade should add additional hours (see Figure 5).

Figure 5. Existing PCs, In-Place Upgrade — Gartner Suggested/Example Hours

	Unmanaged, Few Tools	Somewhat Managed	Moderately Managed	Locked and Well-Managed	Locked and Automated
Existing Device Cleanup	1	0.75	0.5	0.1	0.1
Hardware Upgrade of Existing PC (Where Applicable)	0.5	0.5	0.5	0.5	0.5
Restore and Test	0.75	0.75	0.5	0.25	0.1
Total IT Hours per Device	2.25	2	1.5	0.85	0.7
Number of PCs Migrated per Day per Technician With These Assumptions	3.56	4.00	5.33	9.41	11.43
End-User Time	0.5	0.5	0.5	0.1	0.1

For wipe and reload scenarios, our model considers a range of management and deployment methodologies, from manual to well-managed and automated. In an unmanaged environment with manual processes, we estimate 4.35 hours of technician time will be required per PC if

just the OS must be upgraded, and 5.1 hours if hardware needs to be added and the BIOS reconfigured (see Figure 6). In comparison, a well-managed and automated environment could require only half of a technician hour to wipe, reload and restore Windows 10, and 1.75 hours per PC if a hardware upgrade and BIOS reconfiguration are required. If the user's files are on an EFSS product, we reduce the amount of time the technician will spend to set up and test the data transfer.

Figure 6. Existing PCs, Wipe, Reload and Restore — Example Hours

	Unmanaged, Few Tools	Somewhat Managed	Moderately Managed	Locked and Well-Managed	Locked and Automated
Existing Device Cleanup	0.25	0.25	0.25	0.1	0.1
Backup and Installation Preparation	0.35	0.35	0.25	0.25	0.25
Hardware Upgrade of Existing PC (Where Applicable)	0.5	0.5	0.5	0.5	0.5
Reconfigure BIOS for UEFI CG/DG (Where Applicable)	0.5	0.5	0.5	0.5	0.5
Upgrade Hardware and Reconfigure BIOS (Where Applicable)	0.75	0.75	0.75	0.75	0.75
Reimage Existing PC	0.5	0.5	0.25	0.25	0.1
Role-Based Application Installation	3	2.5	2	0.5	0.1
Restore and Test	0.75	0.75	0.5	0.25	0.1
Total IT Hours per Device					
Windows 10 Only	2.35	2.35	2.25	2.10	2.10
Number of PCs per Day Migrated per Technician With These Assumptions	3.40	3.40	3.56	3.81	3.81
Windows 10 and Hardware Upgrade	5.35	4.85	3.75	1.85	1.15
Number of PCs per Day Migrated per Technician With These Assumptions	1.50	1.65	2.13	4.32	6.96
Windows 10 and BIOS Config	5.35	4.85	3.75	1.85	1.15
Number of PCs per Day Migrated per Technician With These Assumptions	1.50	1.65	2.13	4.32	6.96
Windows 10, Hardware Upgrade, BIOS Config	5.60	5.10	4.00	2.10	1.40
Number of PCs per Day Migrated per Technician With These Assumptions	1.43	1.57	2.00	3.81	5.71

Source: Gartner (October 2016)

The estimated time to configure a new PC is depicted in Figure 7.

Figure 7. New PCs — Example Hours

	Unmanaged, Few Tools	Somewhat Managed	Moderately Managed	Locked and Well-Managed	Locked and Automated
Backup and Installation Preparation	0.35	0.35	0.25	0.25	0.25
Deliver, Install/Alter OS Image on New PC	1	1	0.5	0.1	0.1
Role-based Application Installation	3	2.5	2	0.5	0.1
Restore and Test	0.75	0.75	0.5	0.25	0.1
Total IT Hours per Device	5.1	4.6	3.25	1.1	0.55
Number of PCs per Day Migrated per Technician With These Assumptions	1.57	1.74	2.46	7.27	14.55
End-User Time	0.5	0.5	0.5	0.1	0.1

Source: Gartner (October 2016)

Technician salaries are shown in Figure 8, with a 33% burden added. This likely reflects salaries in most urban parts of the U.S. and Western Europe. Organizations should replace our hourly rates with their own. Organizations that are trying to estimate the cost for a service provider to do the migration should assume a lower number of hours, but may need to multiply the hourly rates by two or more to reflect service provider rates.

Figure 8. Technician and User Salaries

Salaries (Annual, Unburdened Cost)	Annual Unburdened Salary	Hourly Burdened Cost
Entry-Level Technician	\$ 51,040	\$ 36
Midlevel Technician	\$ 72,345	\$ 51
Lead Technician	\$ 94,605	\$ 67

User Mix and Salaries (Burdened Hourly Cost)	% Users	Annual Unburdened Salary	Hourly Burdened Cost
Data Entry Users	5%	\$ 27,825	\$ 20
Structured Task Workers	74%	50,085	\$ 35
Knowledge Workers	20%	89,040	\$ 63
High-Performance Users	1%	166,950	\$ 118
		Average	\$ 41

Source: Gartner (October 2016)

Other General Assumptions

Our model assumes 2,500 users in a campus environment. Organizations should add costs for travel, if that is necessary. Our typical clients have about one application for every 10 users, on average, so we are assuming 200 packaged applications and 50 homegrown applications in the environment. The input sheet is shown in Figure 9, and in the Toolkit version of this

research (see "Toolkit: Windows 10 Migration Cost Model"), users can easily change many of our assumptions (cells with a yellow background). Figure 10 shows the detailed tasks, hours and costs, which also may be altered to customize the model for your organization.

Figure 9. Windows 10 Migration Cost Model Inputs

Will you move to your new version of Windows only on new PCs (by attrition) or also on existing ones (forklift)? Answer the questions below to describe your plans.

Make sure to fill in all values below.

How many PCs will get Windows 10 with new PC hardware as part of your regular hardware refresh program? (We will not include the cost of these PCs or the cost of OS installation.)

	Notebook PCs	Desktop PCs
625	250	375

How many PCs will be replaced earlier than planned to accelerate introduction of Windows 10? (We will include the cost of these PCs and labor.)

100	75	25
-----	----	----

How many existing PCs will be upgraded to Windows 10 and what else will they need?

How will they be upgraded?

Windows 10 upgrade, add hardware (SSD, RAM, etc.), reconfigure BIOS to UEFI to support Credential Guard/Device Guard

1075	Wipe and reload
------	-----------------

Windows 10 upgrade, reconfigure BIOS to UEFI to support Credential Guard/Device Guard

400	Wipe and reload
-----	-----------------

Windows 10 upgrade, add hardware (SSD, RAM, etc.)

100	In place
-----	----------

Windows 10 upgrade (software only)

200	Wipe and reload
-----	-----------------

Total number of existing PCs you're upgrading

1775

Total number of PCs you will be replacing and upgrading

2500

Does your PC management product need to be upgraded to manage Windows 10?

No Upgrade Needed

Number of management servers/sites to be upgraded

7

On average, how well-managed are your PCs?

Locked and Automated

Do users store their files on an EFSS or cloud storage product?

No

Make sure to fill in all values below.

Enter data here about your PC and application installed base. Leave a "?" to use our defaults (cells to the right), or change them as you like. Change back to ? To reinstate Gartner defaults.

Number of PCs (carried down from above)

2500

Total number of custom-developed PC applications

?

50

Number of custom applications requiring repair

?

1

Total number of packaged applications in the enterprise

?

100

Approximate number of packaged applications that will need to be upgraded to run on Windows 10

?

1

Average cost of application upgrades per application

\$ 100

Approximate number of packaged applications that can't be upgraded and must be replaced to run on Windows 10

?

0

Average cost of new applications per application

\$ 200

Cost of a new notebook PC

\$700

Cost of a new desktop PC

\$300

Average number of packaged applications per PC

10

Varieties of hardware to test

2

How many Windows 10 licenses will you purchase?

200

Cost per license

173

How many PCs will get a hardware upgrade (RAM, storage, etc.)?

1175

Average cost for hardware per PC

100

Percentage of users requiring new PCs

29%

Percentage of users requiring upgraded hardware

47%

Source: Gartner (October 2016)

Figure 10. Details Page of Windows 10 Migration Cost Model

Please change any yellow cell to more accurately reflect your requirements.
 Check the comments in the cell to understand how we arrived at our estimate.

	Migration Cost to Windows 10		
	Hourly Rate	Hours	Cost
Enterprise Fixed Costs			
Project Plan			
Audit	\$ 36	42	\$ 1,505
Needs/Hardware/Software Cost Assessment	51	50	2,559
Application Testing and Remediation	67	623	41,663
Packaged Application Replacement	67	-	-
Tier 2 and Tier 3 Training			
Tier 3 Training	67	64	4,283
Tier 3 Tuition			4,000
Tier 2 Training	51	160	8,189
Tier 2 Tuition			10,000
Application Development and Selection — See Below			
System Integration/Build Image/Prototype	67	300	20,078
Application Repackaging	67	403	26,985
Document System	67	240	16,063
Help Desk Training			
Develop Help Desk Class	51	80	4,094
Help Desk Staff Training (10 to 15 People)	36	144	5,200
Trainer	51	80	4,094
Hardware Acquisition	51	61	3,112
Software Acquisition	51	32	1,638
Management Product Upgrade Planning	70	-	-
Management Product Upgrade Implementation	50	-	-
Create New Processes to Test and Deploy Updates	70	450	31,500
Ongoing Project Management	67	1,500	100,392
Total Enterprise Fixed Costs		4,228	\$ 285,355
Average Enterprise Fixed Cost per User			\$ 114
Individual Variable Costs			
		Hours	
Planning			
Assessment	\$ 51	125	\$ 6,398
Scheduling	51	125	6,398
Communications	67	125	8,366
Training	50	-	-
Postimplementation Support	36	100	3,600
Variable Planning Costs			\$ 24,761
Implementation			
Wipe and Reload			
Windows 10 Only	\$ 36	130	4,694
Windows 10 and Hardware Upgrade	36	0	-
Windows 10 and BIOS Config.	36	460	16,610
Windows 10, Hardware Upgrade, BIOS Config.	36	1505	54,343
Existing PCs, In-Place Upgrade			
Windows 10 Only	36	0	-
Windows 10 and Hardware Upgrade	36	70	2,520
New PCs	36	398.75	14,355
User Training			-
Self-Support/Informal Training/Downtime	41	290	11,885
Postimplementation Help Desk Increase	36	83.47	3,014
Variable Deployment Costs			\$ 107,421
Total Individual Variable Costs		3,412	\$ 132,182
Average Variable Cost per User			\$ 53
Hardware and Software Costs (Variable)			
New PC Hardware, Early Refresh, Charged to Project			\$ 60,000
PC Hardware Upgrade		\$ 100	117,500
Operating System License		173	34,600
New and Upgraded Packaged Apps.		10	25,000
Security and Management Software Upgrade		50	-
Notebook Shipping (if Applicable)			
Estimated Travel Cost (Total for the Project)			
Total Hardware and Software Costs			\$ 237,100
Average Hardware/Software Cost per User			\$ 95
Project Total for 2,500 Users (Not Including App. Dev.)			\$ 654,637
Cost per User			\$ 262
			\$ 287,500

Source: Gartner (October 2016)

Note 1

Cost Categories

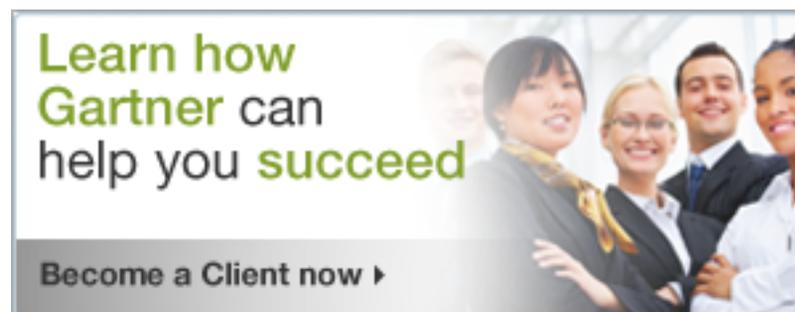
Enterprise fixed costs include most preparation and project management tasks. The costs are not exactly "fixed," as they will vary based on how many applications are required and how complex the project is, but they don't vary directly based on the number of PCs that need to be migrated. These costs typically represent 40% to 60% of the total project cost and are critical to the project running smoothly. We also suggest that organizations rethink their update processes during preparation for the migration, because Microsoft plans to release updates to Windows 10 every few months (see "How to Deal With Windows 10 Accelerated Updates on PCs"). We budget a minimum of 300 hours for our sample organization to create new testing and update processes.

Individual variable costs include the cost to examine each device to understand the user's requirements and the cost to actually upgrade the device. We do not include the cost to migrate a PC if it would be replaced with a new one during normal PC refresh.

Hardware and software includes upgrades to applications required to run on Windows 10, upgrades to Windows 10 itself (we do not include Software Assurance payments), and new hardware or upgrades done specifically to support Windows 10. We do not include the cost of a new PC if it is part of a scheduled PC refresh.

The cost to fix in-house-developed applications is not included and could be considered a fourth category.

Another way of looking at the cost categories is in terms of direct costs and indirect costs. Direct costs are cash outlays from the budget. These include hardware, software, IT labor, training and travel costs. Indirect costs mostly represent lost productivity – the time users spend away from their jobs in support of technology. This includes the time users spend in training, informally learning about their new system, trying to make their new system look like the old one or time without their PC. Many organizations are more concerned with direct costs, but if indirect costs are too high, user satisfaction will suffer. Organizations need to find the right amount of direct costs to keep indirect costs (lost productivity) at a reasonable level. We classify indirect costs as "end-user operations" in our cost summaries and graphs.



(https://www.gartner.com/technology/contact/become-a-client.jsp?cm_sp=bac_-_reprint_-_banner)

© 2016 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. or its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. If you are authorized to access this publication, your use of it is subject to the

Usage Guidelines for Gartner Services (/technology/about/policies/usage_guidelines.jsp) posted on gartner.com. The information contained in this publication has been obtained from sources believed to be reliable. Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information. This publication consists of the opinions of Gartner's research organization and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice. Gartner provides information technology research and advisory services to a wide range of technology consumers, manufacturers and sellers, and may have client relationships with, and derive revenues from, companies discussed herein. Although Gartner research may include a discussion of related legal issues, Gartner does not provide legal advice or services and its research should not be construed or used as such. Gartner is a public company, and its shareholders may include firms and funds that have financial interests in entities covered in Gartner research. Gartner's Board of Directors may include senior managers of these firms or funds. Gartner research is produced independently by its research organization without input or influence from these firms, funds or their managers. For further information on the independence and integrity of Gartner research, see "Guiding Principles on Independence and Objectivity. (/technology/about/ombudsman/omb_guide2.jsp)"

About (<http://www.gartner.com/technology/about.jsp>)

Careers (<http://www.gartner.com/technology/careers/>)

Newsroom (<http://www.gartner.com/newsroom/>)

Policies (http://www.gartner.com/technology/about/policies/guidelines_ov.jsp)

Privacy (<https://www.gartner.com/privacy>)

Site Index (<http://www.gartner.com/technology/site-index.jsp>)

IT Glossary (<http://www.gartner.com/it-glossary/>)

Contact Gartner (http://www.gartner.com/technology/contact/contact_gartner.jsp)