The Total Economic Impact™ Of VMware Workspace ONE For Windows 10

Cost Savings And Business Benefits Enabled By VMware Workspace ONE For Windows 10 Laptops And Desktops

FORRESTER®

Table Of Contents

Project Director:
Sean Owens

FORRESTER®

Benefits And Costs

IT admin time savings:
$2.1 million

End-user productivity:
$2.0 million

Reduced enterprise security risk:
$318,000

Executive Summary

VMware commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying its VMware Workspace ONE™ Unified Endpoint Management solution powered by AirWatch, particularly to manage Windows 10 devices across a distributed workforce. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Workspace ONE for an organization's Windows 10 modern management transformation initiative to reduce security risks, improve desktop management processes, reduce costs, and improve employee efficiency. Workspace ONE delivers greater mobility to employees by managing Windows 10 desktop and laptop devices using a cloud-based, modern management architecture — like the methods adopted by IT to manage mobile phones — with anywhere access, always up-to-date operational data, all while adhering to strict corporate security and management standards.

To better understand the benefits, costs, risks, and longer-term opportunities associated with Workspace ONE, Forrester interviewed three organizations that have used Workspace ONE to manage their portfolio of enterprise-managed devices including laptops and desktops running Windows 10. These organizations use Workspace ONE to simplify management of Windows 10 laptops, desktops, and tablet devices and provide secure, up-to-date devices to employees — including highly mobile users that may not connect to the office network for weeks or months at a time.

Prior to the current solution, organizations provided employees Windows laptops and desktops managed with traditional PC lifecycle management (PCLM) solutions; however, using a different solution hindered their ability to consistently and effectively manage highly mobile users. This limited further organizationwide adoption of Windows 10 and mobile devices.

With Workspace ONE, organizations were able to unify Windows 10 management with mobile device management to deliver: 1) powerful computing experiences; 2) a standard set of useful applications; and 3) the right level of management and security. The director of technology solutions at a nonprofit said, "It freed up people who would have spent many, many more hours configuring devices to be able to help in other areas."

Key Findings

By implementing Workspace ONE, the organizations have reduced Windows 10 device management and onboarding costs for their remote workforce and avoided millions of dollars in operational expenses through their modern management transformation initiatives.

Quantified benefits. The following three-year, risk-adjusted, present value (PV) quantified benefits are based on a 12,000-employee composite organization and representative of those experienced by the companies interviewed:

› **Application delivery and deployment time savings of $1.3 million.** IT admins can save significant time responding to end-user application deployment requests with more end-user self-service. The composite organization estimates the work time to deliver core applications to employees has reduced from 2 hours to just over 10 minutes.

FORRESTER®

ROI
139%

Benefits PV
$4.7 million

NPV
$2.7 million

Payback
7 months

› **Reduced help desk and support costs related to desktop security and management adding up to more than $331,000 in savings.** The composite organization used enhanced Windows 10 patch and update management functionality to improve security and overall management. For calls related to Windows 10 desktops and laptops, there are fewer related to the security and management of desktop; and of those calls that still happen, fewer are escalated to Tier 2 support or higher, particularly enabled by improved and timely patch and update deployment to devices even outside the network. For the composite organization, calls related to desktop security and management have reduced 10%, and the number of those calls escalated to Tier 2 or higher have reduced 46%.

› **End-user efficiency has improved through less time spent on support calls and more faster application installation requests, adding up to nearly $2.0 million in savings**. End users benefit from more efficient security support, e.g., application requests — particularly in the time it takes from application request to installation. The composite organization estimates that employees save a total of 10,200 to 28,100 hours per year, and the time from application request to delivery has been reduced from 20 days down to three days.

› **Reduced PC setup cost savings of nearly $452,000.** Device management admins can also save time on PC setups for new and re-assigned employees. For the composite organization, the onboarding of an employee's device, apps, and content before Workspace ONE was estimated to take an hour. Now, the composite organization can use preconfigured scripts, delivered through QR codes, to decrease onboarding time to 5 minutes.

› **Lower enterprise security risk, adding up to more than $318,000 in savings.** Enhanced Windows 10 patch and update management helps reduce or avoid the risk of a major security event such as a zero-day event or data breach that could cost the business millions in business and resource costs.

› **Cellphone data overage cost savings of more than $272,000.** Mobility managers can use Workspace ONE to better monitor and control data overage charges that accrue when employees tether mobile devices to PCs or use a 4G LTE-enabled PC in the field. The composite organization estimates several hundred employees use their phone data plan for business and end up going over their limit. While some overages are approved and necessary, it is estimated that 80% of data overages can be avoided with better reporting, monitoring, and notifications available in Workspace ONE — whether for mobile phones tethered to devices or data-enabled Windows 10 laptops and desktops.

Unquantified benefits. The interviewed organizations have identified the following additional benefits that are not yet quantified:

› Organizations expect significant other day-to-day IT management savings from implementing Workspace ONE. However, beyond the specific tasks detailed above, they have not yet seen additional benefits that might allow them to avoid future hires, reallocate desktop management technicians to more higher-value roles, or reduce the time spent on managing policy for Windows 10 devices. They do expect to see benefits in this area, perhaps by the third year of the analysis.
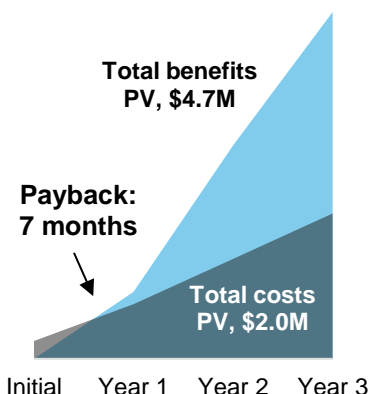
FORRESTER®

› Quantified end-user productivity benefits focus on the time saved by avoiding unnecessary or long help desk calls and application requests. This is not the only productivity benefit of Workspace ONE that workers reported. Employees who access office resources on a more secure and well-managed device (whether using a home computer, working remotely, or on a mobile device) can save additional time in day-to-day work activities.

› One organization implemented Workspace ONE with Content Locker to manage both devices and content efficiently and securely, and saw benefits in reduced printing costs, more IT management cost savings, and more employee productivity benefits.

Costs. The interviewed organizations experienced the following risk-adjusted PV costs:

› **Implementation costs of about $457,000 in the Initial period and again in Year 1.** These are initial costs related to the implementation of Workspace ONE over the deployment period; the organization spent the Initial period planning the first wave of deployment; remaining employees were included during the first year.

› **Ongoing licensing and organization resource costs of $1.5 million.** These are the annual costs related to licensing and supporting Workspace ONE, as well as a small amount of resource time required to manage any incremental task time related to Workspace ONE (such as increased range of security and management settings).

The analysis points to three-year present-value (PV) benefits of $4.7 million and three-year costs of $2.0 million (PV). The Workspace ONE solution net present value (NPV) for a composite organization was $2.7 million with an ROI of 139% and a payback period of seven months.

Financial Summary
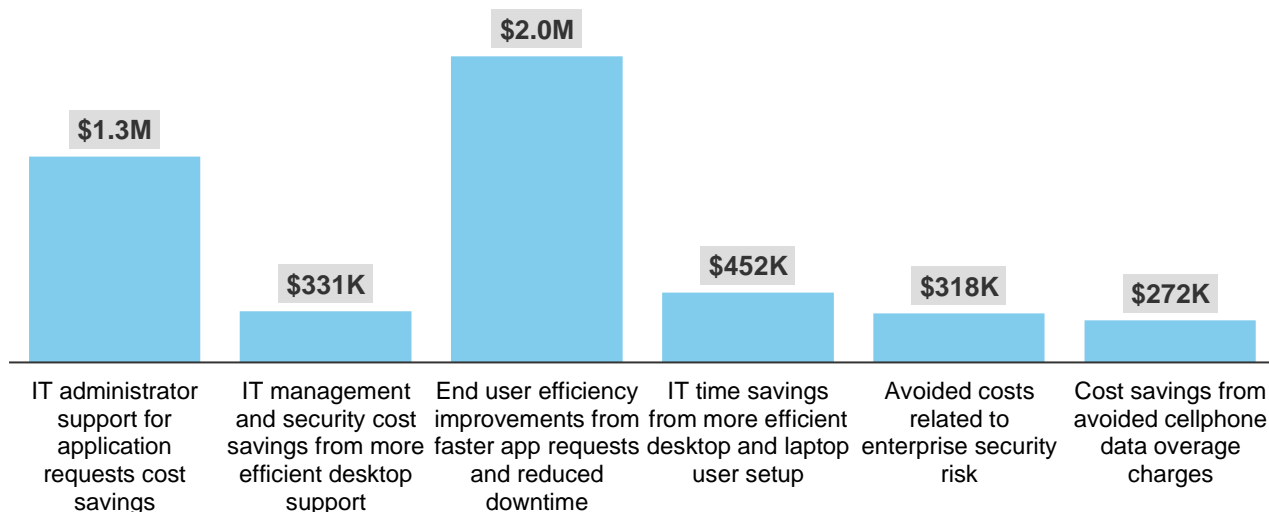
Total benefits PV, $4.7M

Payback: 7 months

Total costs PV, $2.0M

Initial   Year 1   Year 2   Year 3

Benefits (Three-Year)

$1.3M	$331K	$2.0M	$452K	$318K	$272K
IT administrator support for application requests cost savings	IT management and security cost savings from more efficient desktop support	End user efficiency improvements from faster app requests and reduced downtime	IT time savings from more efficient desktop and laptop user setup	Avoided costs related to enterprise security risk	Cost savings from avoided cellphone data overage charges

FORRESTER®

TEI Framework And Methodology

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing VMware Workspace ONE.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that VMware Workspace ONE can have on an organization:

DUE DILIGENCE
Interviewed VMware stakeholders and Forrester analysts to gather data relative to Workspace ONE.

CUSTOMER INTERVIEWS
Interviewed three organizations using Workspace ONE to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION
Designed a composite organization based on characteristics of the interviewed organizations.

FINANCIAL MODEL FRAMEWORK
Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewed organizations.

CASE STUDY
Employed four fundamental elements of TEI in modeling VMware Workspace ONE's impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

> The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by VMware and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in VMware Workspace ONE.

VMware reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.

VMware provided the customer names for the interviews but did not participate in the interviews.

FORRESTER®

The Workspace ONE Customer Journey

BEFORE AND AFTER THE WORKSPACE ONE INVESTMENT

Interviewed Organizations

For this study, Forrester conducted three interviews with VMware Workspace ONE customers. Interviewed customers include the following:

ORGANIZATION FOCUS	REGION	INTERVIEWEE	NUMBER OF DEVICES
Public sector science agency	Headquartered in Europe	Program manager	20,000 desktops and laptops, 7,500 managed phones
Nonprofit	Headquartered in the United States	Director of technology solutions	5,000 desktops and laptops, 1,000 managed phones
Transportation	Headquartered in the United States	Flight operations manager and director of desktop services	9,000 Windows 10 tablet devices with Content Locker included in solution

Key Challenges

Organizations had previously approached endpoint management from two different directions: API-based mobile device management (MDM) and PC lifecycle management (PCLM) using Active Directory and group policy objects (GPO). This approach led IT inefficiency due to multiple management solutions and out-of-date operating systems (OSes) for employees who spend weeks or months away from the office:

› All interviewed organizations identified issues — or at least the risk of issues — with desktops and laptops used by mobile or remote workers outside of the company premises. These employees would spend days, weeks, or even months away from the office — connected to the internet but not to the company network as they get their day-to-day work done, with perhaps only the occasional VPN connection. Update penetration might be one-half of desktops and laptops one month later, meaning that many devices didn't have the latest antivirus signature files, the latest operating system updates, and even the latest zero-day patches after a significant security breach or event. The director of technology solutions at a nonprofit explained, "If we sent out a penetration report after a week, it might be 50% because half of our devices hadn't connected to the VPN since we pushed out the last update."

› All interviewed organizations saw these issues impact the desktop management team as well as all end users. Delays meant more issues and questions, which meant desktop managers and support technicians spent more time fixing problems and dealing with potential security holes. And each of these problems meant that end-user time was impacted as well, leading to downtime and productivity losses. "The goal was to simplify the IT for users," said the program manager at a science agency.

› The nonprofit organization sends many employees into the field; often to remote locations with little or no Wi-Fi access. They end up relying on cellphones for communication and internet access (including as a tethered connection for laptops and desktops). Using cellphone data

> "If we sent out a penetration report after a week, it might be 50% because half of our devices hadn't connected to the VPN."
>
> *Director of technology solutions, nonprofit*

> "The goal was to simplify the IT for users."
>
> *Program manager, science agency*

FORRESTER®

connections as the primary internet access led to data overage charges.

› The airline and science agency both had significant issues with application delivery: application requests were ad hoc, the time from request to delivery could be as long as one month, and the effort to manage the process was too high.

Solution Requirements

The interviewed organizations searched for a solution that could:

› Manage mobile and PC endpoints from a single console.

› Ensure timely security and update delivery and installation to all devices, even laptops and desktops outside the office network.

› Speed up the application request and delivery process.

› Help avoid costs with better monitoring and reporting of key processes, such as cellphone data use.

Organizations identified Workspace ONE as the most cost-effective solution with the greatest benefits, that could deliver secure, well-managed, and powerful Windows 10 laptops and desktops. The organizations have or are in the process of upgrading all laptops and desktops to Windows 10 while deploying Workspace ONE as the mobile and PC standard.

Key Results

The interviews revealed that key results from the Workspace ONE investment include:

› **IT management time savings related to faster app delivery and reduction of help desk calls.** By leveraging Workspace ONE for managing Windows 10: 1) organizations have fewer support calls; 2) updates are fully deployed more quickly; 3) and application installation requests are much more efficient. In particular, application requests have seen significant improvements in request cycle time and effort required to request an application and to deliver the request. "We have seen some real improvements in terms of problem solving with Workspace ONE and Windows 10," said the flight operations manager at an airline, "Workspace ONE allows us to target delivery of content and manage the devices securely."

› **Lower security risks.** Workspace ONE can help desktop managers more quickly deploy updates and security patches by connecting and managing PCs whether they are in the office or outside the network. This ability reduces the risk of security breaches, thereby leading to fewer security support calls and a greatly reduced, or avoided, risk of zero-day events. The director of technology solutions at a nonprofit explained: "We're able to generate the reports we need immediately for management and audit purposes. For issues like Spectre and Meltdown we were able to able to check to see which devices were updated and manage exceptions quickly."

> "We have seen some real improvements in terms of problem solving with Workspace ONE and Windows 10."
>
> *Flight operations manager, airline*

> "We're able to generate the reports we need immediately for management and audit purposes. For issues like Spectre and Meltdown we were able to able to check to see which devices were updated and manage exceptions quickly."
>
> *Director of technology solutions, nonprofit*

FORRESTER®

› **More efficient end users.** The end user needs to make time to work with the support team or wait while they work on their desktop or laptop. Avoided calls and faster application requests means employees save time. The program manager at a science agency explained: "Before, we had a lot of different processes to ask for a new application. We unified the different processes and now a user can find all the applications that he or she may need for work through the catalog of applications in the Workspace ONE portal."

› **Lower telecommunications costs.** For example, Workspace ONE can monitor cellular data usage. The director of technology solutions at a nonprofit said, "It's going to allow us to save a whole lot of money because we're able to issue alerts and warnings," and they can send these warnings to users and managers when a phone or mobile-enabled laptop is near its limit. Employee behavior changes and of course turning off data access can lead to reduced overage costs.

Composite Organization

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization is representative of the three companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The composite organization that Forrester synthesized from the customer interviews has the following characteristics:

Description. An organization with 12,000 employees, many of which spend a significant amount of time working from home, travelling, and even visiting remote locations. The desktop support staff is about 10 people and supports 14,000 desktop and laptop devices. The organization is a public sector agency with an annual budget of $2.5 billion, though consider this as descriptive flavor as most of the IT and end-user scenarios, benefits, and cost savings apply to a traditional revenue-based business as well.

Deployment. In the first year, 6,000 desktops were deployed with Windows 10 and Workspace ONE. By year two, Workspace ONE and Windows 10 had been installed on all desktops and laptops.

"Before, we had a lot of different processes to ask for a new application. We unified the different processes and now a user can find all the applications that he or she may need for work through the catalog of applications in the Workspace ONE portal."

Program manager, science agency

Key assumptions
12,000 employees
14,000 desktops
Two-year deployment

FORRESTER®

Analysis Of Benefits

QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	IT administrator support for application requests cost savings	$260,707	$671,517	$716,943	$1,649,167	$1,330,629
Btr	IT management and security cost savings from more efficient desktop support	$64,895	$167,153	$178,460	$410,507	$331,217
Ctr	End user efficiency improvements from faster app requests and reduced downtime	$387,904	$999,147	$1,066,736	$2,453,787	$1,979,836
Dtr	IT time savings from more efficient desktop and laptop user setup	$142,251	$273,006	$129,103	$544,360	$451,941
Etr	Avoided costs related to enterprise security risk	$85,050	$144,788	$161,494	$391,331	$318,310
Ftr	Cost savings from avoided cellphone data overage charges	$53,317	$137,333	$146,635	$337,285	$272,138
	Total benefits (risk-adjusted)	**$994,124**	**$2,392,943**	**$2,399,371**	**$5,786,437**	**$4,684,071**

Reduced IT Cost To Support Application Installation With Workspace ONE

Workspace ONE already manages the standard application portfolio covering the Windows 10 applications that all employees or large groups of employees use — including spreadsheets presentation and document editors; data tools for the finance or research teams; CRM for sales and marketing, etc. However, the organization has a set of more than 200 additional applications, some of which are only available via request.

The initial deployment of these applications was a highly manual and unmanaged procedure — often individual departments would have their own process steps and requirements that would pull IT resources away from other important tasks. It could take up to a month to review the application request, check licensing, route for the request for review and approval, and then deploy the app. The program manager of a science agency explained: "Previously, it took us more than a month to go through the different processes, the development, the packaging, etc. Now, it takes just a few days and the user can have the application."

The IT department expects to see continued improvement in the second and third year as it completed deployment to all laptops and desktops.

The composite organization estimates:

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of nearly $4.7 million.

Prior application request IT time:
2 hours

Current application request IT time:
12 minutes

FORRESTER®

› In the first year, 6,600 desktops and laptops will have Windows 10 installed and be managed by Workspace ONE. By the second year, all desktops and laptops will be included.

› Before Workspace ONE, application requests required about 2 hours of IT time, per request. With Workspace ONE, application requests now only take a little more than 10 minutes, resulting in a total reduction of up to nearly 23,000 hours in a year.

Reviewing benefits with a conservative eye is a key part of Forrester's TEI methodology. To account for the risk of potentially overestimated application requests or the time-to-deliver each request, Forrester adjusted this benefit downward by 5%, yielding annual benefits of $274,428 in Year 1, $706,860 in Year 2, and $754,677 in Year 3, for a three-year risk-adjusted total PV of more than $1.3 million.

> Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

**Reduced IT Cost To Support Application Installation With Workspace ONE: Calculation Table**						
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Windows 10 desktops and laptops managed with Workspace ONE		6,600	17,000	18,150
A2	Mobile devices managed with Workspace ONE		7,500	8,000	9,000
A3	Nonstandard application requests each year (that can be impacted by Workspace ONE)	A1*(2/3)	4,620	11,900	12,705
A4	Application request cycle time before Workspace ONE (days)		20	20	20
A5	Application request cycle time with Workspace ONE (days)		3	3	3
A6	Application request IT administrator time before Workspace ONE (hours per request)		2.0	2.0	2.0
A7	Application request IT administrator time with Workspace ONE (hours per request)		0.2	0.2	0.2
A8	Cycle time savings with Workspace ONE (days per request)	A4-A5	17	17	17
A9	Application request IT admin time savings with Workspace ONE (hours per request)	A6-A7	1.8	1.8	1.8
A10	Application request IT admin time savings with Workspace ONE (total hours)	A3*A9	8,316	21,420	22,869
A11	Desktop technician fully burdened average hourly rate		$33	$33	$33
At	Reduced IT cost to support application installation with Workspace ONE	A10*A11	$274,428	$706,860	$754,677
	Risk adjustment	↓5%			
Atr	**Reduced IT cost to support application installation with Workspace ONE (risk-adjusted)**		**$260,707**	**$671,517**	**$716,943**

Cost Savings From More Efficient Tier 1 Service Desk Support

With Workspace ONE managing Windows 10 PCs, the organization has seen fewer help desk calls related to desktop security or management issues, and the calls that are made are resolved more quickly, without

FORRESTER®

escalation to Tier 2 or higher. Better application delivery, up-to-date management of PCs, and efficient patch deployment means fewer and easier-to-resolve calls to the help desk. "It allows our service desk to resolve tickets on first-call resolution," said the director of technology solutions at a nonprofit.

Before Workspace ONE, organizations identified several issues:

› Updates and patches were not installed in a timely manner, particularly for employees that worked remotely. The director of technology solutions at a nonprofit explained, "Our update penetration report after a week might only be 50% because those devices haven't connected to the network. Today all that is required is an internet connection, and they're going to get their update."

› Longer application request cycles meant employees would often call in to ask for an update.

› And any other IT inefficiency opened opportunities for users to call if they've been waiting long enough.

Cost Savings From More Efficient Tier 1 Service Desk Support: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Total number of help desk calls each year related to desktop management before Workspace ONE	A1	6,600	17,000	18,150
B2	Total number of help desk calls each year related to desktop management after Workspace ONE	A1*70%	4,620	11,900	12,705
B3	Help desk calls reduced with Workspace ONE	B1-B2	1,980	5,100	5,445
B4	Percentage of calls escalated to Tier 2 or higher before Workspace ONE		25%	25%	25%
B5	Percentage of calls escalated to Tier 2 or higher with Workspace ONE		15%	15%	15%
B6	Average time of Tier 1 call (minutes)		10	10	10
B7	Average time of Tier 2 call (minutes)	B6*4	50	50	50
B8	Total time saved per year (hours)	(B2*(B5*B7+(1-B5)*B6)+B3*(B4*B7+(1-B4)*B6))/60	1,892	4,873	5,203
B9	Cost of Tier 1 call		$20	$20	$20
B10	Cost of Tier 2 call or higher		$50	$50	$50
Bt	Cost savings from more efficient tier 1 service desk support	B2*(B4-B5)*(B10-B9)+B3*((1-B4)*B9+B4*B10)	$68,310	$175,950	$187,853
	Risk adjustment	↓5%			
Btr	**Cost savings from more efficient tier 1 service desk support (risk-adjusted)**		**$64,895**	**$167,153**	**$178,460**

Organizational estimates and assumptions include:

› One help desk call is made per year per device.

FORRESTER®

> Twenty-five percent of these calls escalate to Tier 2 support or higher, which costs at least $30 more per call resolution than issues resolved in the first call (which would all be Tier 1 calls).

> A ten-percentage-point reduction in help desk calls from those users with devices managed with Workspace ONE, with better desktop and laptop management and monitoring using the over-the-air desktop management features that Workspace ONE provides. Organizations can restrict Wi-Fi connection types or disable the camera. WSO management capabilities for Windows 10 extends beyond full MDM model with support for core traditional PC management functions — including GPOs, BIOs and firmware configuration, Win32 app management, and etc.

> Fewer security issues take place whether inside or outside the office, and the remaining calls are handled much more efficiently. Only 15% of (an already reduced number of) calls are now escalated to Tier 2. That reduction in total Tier 2 calls before Workspace ONE compared to after is 58%.

> Complete patch deployment (100%) is delivered much more quickly than before.

The help desk supports all types of users with all types of issues — this can be hard to categorize and track. In order to allow for overestimated expectations of the number of help desk calls related to desktop support, and the number that require higher-end service, a 5% risk adjustment has been applied. The risk adjusted benefits are $64,895 in Year 1, $167,153 in Year 2, and $178,460 in Year 3, adding up to a three-year risk-adjusted total PV of more than $331,000.

End-User Efficiency With Fewer Security Issues And Faster App Requests

In addition to the app installation cost savings for IT administrators, employees receive similar benefits by utilizing the self-service app request and deployment features of Workspace ONE. With Workspace ONE's improved management capabilities for Windows 10 devices, employees spend less time dealing with application requests and applications are installed much sooner than before.

For the science agency, the time it takes for an application request to go from initial ask to completed installation has shrunk, with self-service requesting, automated approval routing, and access to a secure application catalog that can release approved applications for installation. The program manager at a science agency explained, "Previously, it took us more than a month to go through the different processes, the development, the packaging, etc. Now, it takes just a few days and the user can have the application."

For the airline, the flight operations manager highlighted issues with app deployment and updates without a constant connection: "There was no progress indicator; there was nothing to tell them that they even connected. Pilots would contact us saying, 'It's been 2 hours and I still haven't seen my app,' only to search and find it was installed without them knowing it." This created a lot of unnecessary confusion and wasted time for both pilots and support techs. With Workspace ONE, the self-service application catalog can be accessed at any time, whether connected to the company network or in a remote location and provides better status information for users.

"It freed up people who would have spent many, many more hours configuring devices to be able to help in other areas."

Director of technology solutions, nonprofit

FORRESTER®

The organization estimates it receives a little less than one application request for each device (e.g., the number of desktops and laptops managed by Workspace ONE). Before, each request would take weeks and required effort and/or led to downtime — both of which add up to about 4 hours per employee per request. With Workspace ONE managing Windows 10 PCs, the number of requests remain the same but take much less time to complete (now less than 1 hour). "It freed up people who would have spent many, many more hours configuring devices to be able to help in other areas," said the director of technology solutions at a nonprofit.

Additionally, end users were impacted by other support requests and security issues — each call to the help desk that took IT time (measured in the previous section) also took end-user time — estimated to be about twice the IT time, including additional time lost by the user, time spent trying to fix it themselves, etc. Now, fewer calls and calls with faster time-to-resolve means more efficient end users.

Note that for broad employee productivity benefits, Forrester applies a standard 50% factor to allow that not every minute saved is used directly for work-related tasks.

This benefit includes a small risk adjustment because the time savings or number of employees impacted may be overestimated, or more support calls may be received for new issues related to Workspace ONE and Windows 10.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding $387,904 in Year 1, $999,147 in Year 2, and $1,066,736 in Year 3, which add up to a three-year risk-adjusted total PV of nearly $2 million.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
**End-User Efficiency With Fewer Security Issues And Faster App Requests: Calculation Table**
C1	Application request time saved, per year (from Table A)	A10*200%	16,632	42,840	45,738
C2	End-user security and support downtime avoided (from Table B)	B8*200%	3,784	9,747	10,406
C3	Average business user fully burdened average hourly rate		$40	$40	$40
C4	Percentage of work time saved that is used for work-related tasks		50%	50%	50%
Ct	End-user efficiency with fewer security issues and faster app requests	(C1+C2)*C3*C4	$408,320	$1,051,733	$1,122,880
	Risk adjustment	↓5%			
Ctr	**End-user efficiency with fewer security issues and faster app requests (risk-adjusted)**		**$387,904**	**$999,147**	**$1,066,736**

IT Time Savings From More Efficient User Setup

The nonprofit was able to simplify PC management by automating the initial enrollment and configuration of the Windows 10 devices. The director of technology solutions at a nonprofit explained: "For volunteer-use laptops, we created a single QR code. Instead of typing in an entire email address and whatnot, they were able to unbox the device, scan the

FORRESTER®

QR code, and it would be enrolled in Workspace ONE. Based on the QR code, the home screen and applications were automatically configured."

Before Workspace ONE, the organization saw that:

› Net new PCs, or PCs that changed users, would take as much as one hour of desktop manager time to set up and configure.

› These setup tasks are required for all new PCs.

› Some PCs counted as "managed by Workspace ONE" are employee personal devices; since these would not have been allowed before Workspace ONE, these are not included in the time savings benefit.

› Additionally, it is estimated that 10% of all PCs change hands each year at least once, meaning user and application setup need to be repeated.

With Workspace ONE, the organization can complete setup in as little as 5 minutes.

To allow for overestimated expectations of the number of device setups or the time it takes to complete, a 5% risk adjustment has been applied. The risk adjusted benefits are $142,251 in Year 1, $273,006 in Year 2, and $129,103 in Year 3, adding up to a three-year risk-adjusted total PV of nearly $452,000.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
D1	Number of device setups required per year	A1*75%	4,950	9,500	4,493
D2	Work time required to complete setup before (minutes)		60	60	60
D3	Work time required to complete setup with Workspace ONE (minutes)		5	5	5
D4	Desktop technician hours saved per year	D1*(D2-D3)/60	4,538	8,708	4,118
D5	Desktop technician fully burdened average hourly rate	A11	$33	$33	$33
Dt	IT time savings from more efficient user setup	D4*D5	$149,738	$287,375	$135,898
	Risk adjustment	↓5%			
Dtr	**IT time savings from more efficient user setup (risk-adjusted)**		**$142,251**	**$273,006**	**$129,103**

IT Time Savings From More Efficient User Setup: Calculation Table

Avoided Costs Related to Enterprise Security Risk

With Workspace ONE, admins have greater visibility to PCs under management, even those that are outside of the office. Improved patch deployment and better control over mobile hardware not only reduces help desk and end-user impact, but also reduces risk for the whole business. For example, better security protection can help avoid zero-day issues. Even if desktops and laptops in the organization are affected by an event like Spectre or Meltdown, better management and auditing can help identify, quarantine, and repair or replace devices. Even internal issues such as a lost laptop can be handled quickly and effectively with device encryption and remote wipe to avoid a major — even catastrophic — confidential data exposure.

As a result, employees not only benefit from additional features that operating-system upgrades bring, but IT admins are confident that the

FORRESTER®

devices have the latest security patches and hardware-level protections that decrease the risk of major, zero-day security events and data leakage opportunities, which could represent significant costs. Organizations could be faced with large regulatory fines, the need to hire additional auditors, missing a competitive opportunity, or having to deal with a PR crisis. The Ponemon Institute publishes an annual report on the impact of security that includes these and other considerations, and for an organization the size and focus as the composite organization, the cost of a major security event could be millions.[1] Furthermore, their analysis estimates a 10% chance of a security breach happening in any given year.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
**Avoided Costs Related to Enterprise Security Risk: Calculation Table**					
E1	Estimated cost of a major security breach		$2,700,000	$2,925,000	$3,262,500
E2	Estimated chance of a major security event (within a year)		10%	10%	10%
E3	Estimated annual risk exposure before Workspace ONE	E1*E2	$270,000	$292,500	$326,250
E4	Reduction in risk exposure with Workspace ONE		35%	55%	55%
Et	Avoided costs related to enterprise security risk	E3*E4	$94,500	$160,875	$179,438
	Risk adjustment	↓10%			
Etr	**Avoided costs related to enterprise security risk (risk-adjusted)**		**$85,050**	**$144,788**	**$161,494**

With Workspace ONE, the composite organization estimates that it has reduced its security risk exposure by 35% in the first year and 55% in later years.

As this benefit covers a broad timeframe and is only an estimate of what the organization would have to pay to remediate a major security issue, chances of an event occurring and the amount an event may cost could be greatly over or underestimated. To take a conservative approach, Forrester adjusted this benefit downward by 10%, yielding $85,050 in Year 1, $144,788 in Year 2, and $161,494 in Year 3, adding up to a three-year present value of more than $318,000.

Cost Savings From Avoided Telecommunications Overage

Workspace ONE manages a variety of devices, including phones and tablets that often come with cellular data connections. Workspace ONE can manage, track, and alert users of this information, much like the tracking and reporting on patch and update progress for Windows 10 laptops and desktops.

While all interviewed organizations reported large groups of highly mobile employees, the nonprofit also mentioned that their mobile users may be sent to locations with little or no broadband or wireless access, such as a remote country, a local park, street corner, or a vacant lot. As a result, they often have to rely on cellphone data connections tethered to their Windows 10 device to look up information and communicate with others. However, it's easy to exceed data usage limits, and interviewees said they had paid significant overage charges as a result.

With Workspace ONE, the organization can monitor and report on data

FORRESTER®

usage. The director of technology solutions at a nonprofit explained, "We're able to issue alerts and warnings like, 'You've used 50% of your data for the month,' and then at 75% we send a similar message to a user and copy his or her supervisor." Costs can be reduced not just through hard data limits, but by changing employee behavior to use data more conscientiously, and to identify devices that don't use data as much and could be downgraded to a cheaper plan.

Cost Savings From Avoided Telecommunications Overage: Calculation Table					
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
F1	Number of highly mobile devices	A1*33%	2,178	5,610	5,990
F2	Percentage of employees that go over data plan, per month		15%	15%	15%
F3	Cost of data plan overages, on average		$20	$20	$20
F4	Percentage of data overages avoided with better monitoring and alerting with Workspace ONE		80%	80%	80%
Ft	Cost savings from avoided telecommunications overage	F1*F2*F3*F4*12	$62,726	$161,568	$172,512
	Risk adjustment	↓15%			
Ftr	**Cost savings from avoided telecommunications overage (risk-adjusted)**		**$53,317**	**$137,333**	**$146,635**

With Workspace ONE the composite organization estimates:

› That each month 15% of highly mobile employees go over the data plan limits, resulting in overage charges.

› Those overages cost about $20 per device per month.

› And 80% of those overages can be eliminated with Workspace ONE. Note, this could be higher — even 100% — but it's expected that some users may simply miss or ignore the alerts (if hard data limits are not applied).

As this benefit includes necessary employee behavior changes for many employees, the expected improvement could be greatly over or underestimated. To take a conservative approach, Forrester adjusted this benefit downward by 15%, yielding $53,317 saved in Year 1, $137,333 in Year 2, and $146,635 in Year 3, adding up to a three-year risk-adjusted total PV of more than $272,000.

Unquantified Benefits

In addition to the quantified benefits detailed above, some additional benefits have been identified but are not yet measured:

› Organizations expect significant other day-to-day IT management savings from implementing Workspace ONE. However, beyond the specific tasks detailed above, they have not yet seen additional benefits that might allow them to avoid future hires or reallocate desktop management technicians to more valuable roles, due to simplification of PCLM.

  • However, they do expect to see this benefit more in the coming years as they begin to unify their approach to device management. Based on an average fully burdened desktop salary of $75,000, avoiding two hires would mean a benefit of $150,000 per year, plus the avoided costs of recruiting,

Desktop management efficiency leads to avoided future hires previously needed to meet expected growth.

Expanded solution benefits that include Content Locker lead to cost savings.

FORRESTER®

estimated to be $20,000 to $30,000 or more per hire. The program manager of a science agency explained: "The goal is to simplify and to have the same policy-like approach for phones, laptops, desktops or other devices. With Workspace ONE we can have a unified approach."

- While many organizations may already see greater IT management efficiency, that can mean the team won't need to add more people or could even transfer or promote some people to other roles, not every organization sees these benefits right away. Windows OS APIs for MDM support are continually being added or improved, which means some organizations have not been able to completely move away from traditional desktop management approaches. Forrester expects that Workspace ONE will help here, though these benefits are not quantified.

- If the organization sees IT efficiency benefits that can lead to avoided hires before the end of the three-year analysis period, that would impact ROI significantly. For example, if in the third year the organization can avoid the salary and hiring costs for two desktop technicians (adding up to about $200,000 of avoided costs), the ROI could increase more than 10 percentage points.

› Additionally, all other employees should experience even more efficiency gains than measured above from reduced help desk calls and faster application requests. Workspace ONE allows the organization greater confidence in device management and security, which for the interviewed organizations has led to more mobile-enabled work. Some employees are already mobile and are now able to get more done, some are now able to work remotely or even from their (Workspace ONE managed) home laptop or desktop. These and other examples lead to more time savings and also likely greater employee satisfaction.

› For one organization, the airline, in addition to Workspace ONE device management, Content Locker was included in the solution to securely deliver documents and information to their pilots and flight attendant who may never set foot in an office. The airline expects to see significant benefits in reduced printing costs, more IT management cost savings and employee productivity benefits, and even fuel consumption savings (through carrying less paper).

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement Workspace ONE and later realize additional uses and business opportunities.

The nonprofit and science agency may consider integrating Workspace ONE with other VMware solutions, such as virtualization and/or content management and security, which come with tools to help with deployment and integration in a Workspace ONE environment.

All three organizations can realize additional benefits by expanding their use of Workspace ONE beyond the initial scope. For example:

> Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so.

FORRESTER®

- › Improved experience for employees, due to an expansion of device choice options for employees, such as Chromebooks, iOS, and Android devices, all of Workspace ONE can manage.

- › Decreased device management platform costs, due to continued standardization efforts that occur as organizations consolidate management of all operating systems under Workspace ONE and retire end-of-life legacy systems.

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

FORRESTER®

Analysis Of Costs

QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Gtr	Ongoing costs	$0	$306,420	$743,550	$816,405	$1,866,375	$1,506,445
Htr	Implementation costs	$239,400	$239,400	$0	$0	$478,800	$457,036
	Total costs (risk-adjusted)	**$239,400**	**$545,820**	**$743,550**	**$816,405**	**$2,345,175**	**$1,963,481**

Ongoing Costs

Annual costs for Workspace ONE include service licensing, and some additional time dedicated to new Workspace ONE-specific tasks.

Along with implementation is the ongoing cost of supporting Windows 10 devices managed by Workspace ONE. Since desktop support is an ongoing IT task, only the time required for brand-new tasks associated with Workspace ONE with Windows 10 is included. While benefits already include significant reductions in IT task time, there are still a few new tasks that need to be planned for. For example, IT admins will spend some time configuring the updated Windows 10 API within the Workspace ONE policy engine, leading to some incremental costs in that new area.

Estimated subscription licensing costs for Workspace ONE are also included. These estimates are based on publicly available information from the Workspace ONE website though, as VMware typically provides midmarket and enterprise customers a license discount, a conservative discount has been applied here. The license costs are also based on a mix of license type – some are licensed per-user, some are per-device to reflect that many users may have one device that needs Workspace ONE licensing while some have more than one (such as a laptop and a desktop, or a desktop and a home device that still requires a Workspace ONE agent for the employee to use it to access work resources). This is meant to reflect the experience of the interviewed organizations and is not meant to be any indication of official pricing for VMware solutions; talk to your VMware representative for that.

> The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of less than $935,000.

> Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Ongoing Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
G1	Workspace ONE licensing			$291,420	$728,550	$801,405
G2	New Workspace ONE management resource time			$15,000	$15,000	$15,000
Gt	Ongoing costs	G1+G2	$0	$306,420	$743,550	$816,405
	Risk adjustment	0%				
Gtr	**Ongoing costs (risk-adjusted)**		**$0**	**$306,420**	**$743,550**	**$816,405**

FORRESTER®

The annual costs for Workspace ONE licensing and management are based on public costs (with adjustments described above), so a risk-adjustment factor of 0% is applied. The risk-adjusted present-value of annual costs is about $1.5 million.

Implementation Costs

Upfront costs for Workspace ONE included planning and implementation of the Workspace ONE solution as well as upgrading the operating system to Windows 10 on some PCs (though for most PCs, it was assumed that all Windows 10 deployment costs were accounted for — as well as the many benefits enabled by Windows 10 which are included in its own Windows 10 deployment initiative and business case).

The deployment across all PCs was expected to be complete by the beginning of Year 2 — meaning that all IT managers and end users were able to begin to take advantage of the benefits then. However, that meant that the implementation work had to happen first. To provide a simple and more conservative approach to modeling, implementation costs were added in the Initial and Year 1 investment periods, corresponding to the benefits that can be reaped starting with the smaller Year 1 deployment and growing in years 2 and 3.

The implementation costs for Workspace ONE added up to about $239,000 for the Initial period and in Year 1, including a small risk-adjustment factor to allow for higher-than-expected subscription or resource costs. The risk-adjusted present-value of implementation costs is about $457,000.

Year 1: 6,000 deployed
Year 2: full deployment

Implementation Costs: Calculation Table						
REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
H1	Implementation time (weeks)		30	30		
H2	Number of desktop engineers and other IT resources involved in implementation		5	5		
H3	Percent of time spent on implementation		100%	100%		
H4	Desktop engineer fully burdened average hourly rate		$38	$38		
Ht	Implementation costs	H1*40*H2*H3*H4	$228,000	$228,000	$0	$0
	Risk adjustment	↑10%	☐			
Htr	Implementation costs (risk-adjusted)		$239,400	$239,400	$0	$0

FORRESTER®

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)
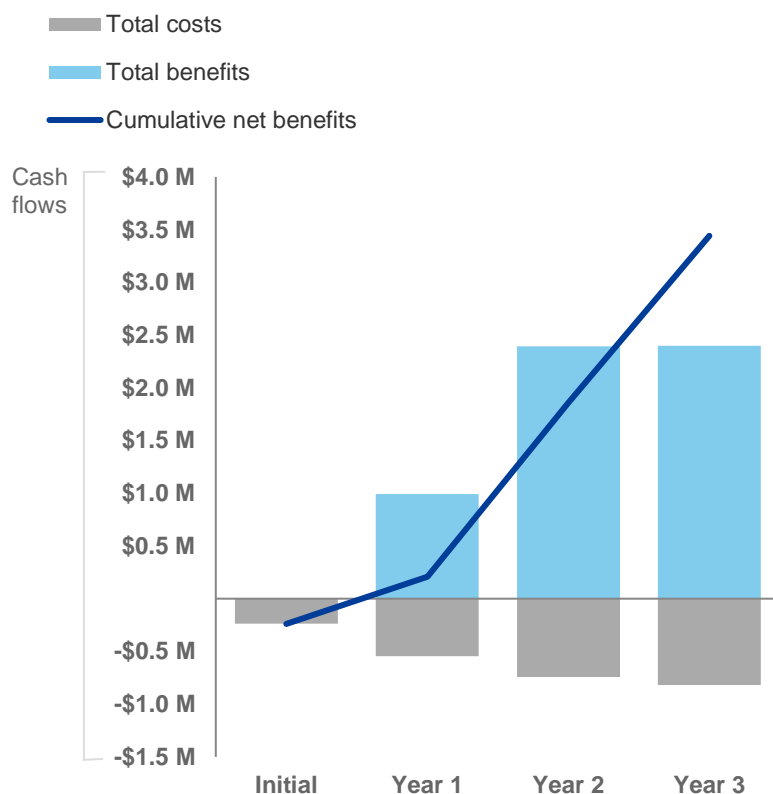
The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($239,400)	($545,820)	($743,550)	($816,405)	($2,345,175)	($1,963,481)
Total benefits	$0	$994,124	$2,392,943	$2,399,371	$5,786,437	$4,684,071
Net benefits	**($239,400)**	**$448,304**	**$1,649,393**	**$1,582,966**	**$3,441,262**	**$2,720,590**
ROI						139%
Payback period						7.0

FORRESTER®

VMware Workspace ONE: Overview

The following information is provided by VMware. Forrester has not validated any claims and does not endorse VMware or its offerings.

VMware Workspace ONE is a comprehensive enterprise mobility platform built to manage any endpoint including smartphones, tablets, laptops, rugged, printers, wearables, and internet-of-things (Io)T devices across all major operating systems in a single management console throughout the entire device life cycle. With a mobile cloud architecture, Workspace ONE is designed to scale as business initiatives evolve.

Workspace ONE seamlessly unifies the technologies of identity, native apps, and device management to remove the friction of disparate systems. With a multilayered security approach across the user, endpoint, app, data, and network, Workspace ONE provides complete protection of corporate data and intelligent access controls, compliance monitoring, and threat detection.

The Workspace ONE apps suite enables mobile productivity and collaboration with consumer simple and integrated business apps such as Boxer, Browser, Content Locker, and Socialcast that unlock mobile micromoments and drive digital transformation.

For more information on Workspace ONE, visit https://www.vmware.com/products/workspace-one.html.

FORRESTER®

Appendix A: Total Economic Impact

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

Present value (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

Net present value (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

Return on investment (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

Discount rate

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

Payback period

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

FORRESTER®

Appendix B: Endnotes

[1] Source: "2017 Cost of Data Breach Study: United States," Ponemon Institute, June 13, 2017 (https://www.ponemon.org/library/2017-cost-of-data-breach-study-united-states).

FORRESTER®